

**Online counselling for problem gambling: An analysis of client and session
characteristics**

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BBSc., BSc (Hons)

Thesis submitted to meet the requirements for the Degree of

Doctor of Philosophy

Eastern Health Clinical School

Faculty of Medicine, Nursing and Health Science

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August 2014

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Abstract

Increasingly, help and support are being delivered online for highly stigmatised disorders such as problem gambling. Although popular in terms of rate of uptake, there has been very limited investigation into who attends online counselling, why they attend, or the mechanisms of online counselling. Through five empirical studies using both quantitative and qualitative approaches, this thesis investigates the characteristics, readiness to change and motivations of individuals choosing online over other options. It then explores the mechanisms of online counselling in terms of the content of a counselling session and the character of the client-counsellor interaction. Online counselling participants were most often younger than 40 years of age, more often male and also gambled online. These participants reported high readiness to change but low confidence to manage a gambling urge. Approximately half of participants sought an intervention outside of a crisis situation. Primary motivations for using online counselling, rather than another counselling modality, were related to anonymity, convenience, ease of access and a preference for writing over talking. Participants reported positive session evaluations and immediate improvement in confidence and distress following a single online session. These findings indicate online counselling is attracting a new cohort of treatment seekers who report positive experiences of this new modality. To further advance the field, the effectiveness of a single online counselling session delivered in community settings and the mechanisms (e.g., interaction between client and counsellor, content of sessions) of online counselling need to be further understood. Targeted interventions that are delivered by a clinician have the potential to make a major contribution towards reducing the impact of problem gambling. Future online counselling enhancements could include interventions matched to client motivations for help-seeking and readiness to change.

General Declaration

In accordance with Monash University Doctorate Regulation 17.2 Doctor of Philosophy and Research Master's regulations the following declarations are made:

I hereby declare that this thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

This thesis includes one review and five original papers published or submitted in peer reviewed journals. The core theme of the thesis is the utility of online counselling for problem gambling. The ideas, development and writing up of all the papers in the thesis were the principal responsibility of myself, the candidate, working within the Eastern Health Clinical School under the supervision of Professor Dan Lubman, Associate Professor Nicki Dowling and Professor Alun Jackson.

The inclusion of co-authors reflects the fact that the work came from active collaboration between researchers and acknowledges input into team-based research.

In the case of Chapters 1, 3, 4, 5, 6 and 7, my contribution to the work involved the following:

Thesis chapter	Publication title	Publication status	Nature and extent of candidate's contribution
1	Problem gambling: Aetiology, identification and management	Published	Review of literature, manuscript synthesis and preparation
3	Characteristics of gamblers using a national online counselling service for problem gambling.	Published	Review of literature, data collection and analysis, manuscript synthesis and preparation
4	Subtyping based on readiness and confidence: The identification of help-seeking profiles for gamblers accessing web-based counselling	Revise and resubmit	Review of literature, data cleaning and oversight of analysis, manuscript synthesis and preparation
5	Online counselling for problem gambling: Exploring motivations and recommendations.	In press	Review of literature, data cleaning and analysis, manuscript synthesis and preparation
6	Single session web-based counselling: A thematic analysis of content from the	Published	Review of literature, data collection and shared data analysis, manuscript

	perspective of the client		synthesis and preparation
7	Improved outcomes following a single session web-based intervention for problem gambling: The importance of session depth and smoothness	Submitted	Review of literature, data collection and analysis, manuscript synthesis and preparation

I have renumbered sections of submitted or published papers in order to generate a consistent presentation within the thesis.

Signed:



Date:

26/8/14

Publications and conference proceedings during candidature

This thesis constitutes manuscripts published, accepted or submitted to academic journals (in the order to which they appear in this thesis):

Rodda, S. N. & Lubman, D. I. & Latage, K. (2012). Problem gambling: Aetiology, identification and management. *Australian Family Physician*, 41(9), 726-729.

Rodda, S. N. & Lubman, D. I. (2014). Characteristics of gamblers using a national online counselling service for problem gambling. *Journal of Gambling Studies*, 30, 277-289.

Rodda, S. N., Lubman, D. I., Iyer, R. & Dowling, N. (2014). Subtyping based on readiness and confidence: The identification of help-seeking profiles for gamblers accessing web-based counselling. *Addiction* (in revision)

Rodda, S. N., Lubman, D. I., Dowling, N., Bough, A. & Jackson, A. C. (2013). Online counselling for problem gambling: Exploring motivations and recommendations. *Journal of Medical Internet Research*, 15, e99.

Rodda, S. N., Lubman, D. I., Cheetham, A. & Dowling, N. (2014). Single session web-based counselling: A thematic analysis of content from the perspective of the client. *British Journal of Guidance and Counselling*. In press.

Rodda, S., Lubman, D. I., Dowling, N. & Jackson, A. C. (2014). Improved outcomes following a single session web-based intervention for problem gambling: The importance of session depth and smoothness. *Journal of Counselling Psychology* (submitted for review).

Parts of this thesis were presented at local and international conferences and symposiums:

- Rodda, S. (2011). *Uptake, experiences and challenges of an online counselling service for gambling*. Problem gambling foundation: Auckland, NZ.
- Rodda, S., Dowling, N. & Jackson, A. (2011). *Gambling Help Online: Program engagement and client characteristics*. Presented at the 2011 National Association of Gambling Studies Conference. Gold Coast, Australia.
- Rodda, S., Dowling, N. & Jackson, A. (2011). *Online Chat and Email Support for Gambling: Client Characteristics*. Poster presentation at the International Society for Research on internet Interventions, Fifth Research Meeting – Sydney, Australia.
- Rodda, S., Dowling, N. & Jackson, A. (2011). *Is Gambling Help Online attracting a new cohort of treatment seekers?* Invited presented for Department of Justice, RGAW: The new Game: Emerging Technology and Responsible Gambling. Melbourne, Victoria.
- Rodda, S. & Lubman, D. I. (2011). *Who seeks help for what and why?* Presented at the International Think Tank on Gambling Research, Policy and Practice – Melbourne Regional Meeting, 30-31.
- Rodda, S., Lubman, D., Dowling, N., Bough, A. & Jackson, A. (2012). *Reasons gamblers choose and recommend online counselling*. Presented at the 2012 National Association of Gambling Studies Conference. Launceston, Australia.
- Rodda, S. & Lubman, D. I. (2012). *Submission to the senate inquiry into prevention and treatment of problem gambling*, Turning Point Alcohol and Drug Centre, Melbourne, Australia.
- Rodda, S. N., Lubman, D. I., Dowling, N. & Jackson, A. (2013). *Real time chat interventions reduce distress and increases confidence to manage problem gambling*. Paper presented at the International Society for Research in Internet Interventions, Chicago.¹
- Rodda, S. N., Lubman, D. I., Dowling, N. & Jackson, A. (2013). *Why gamblers choose online: Implications for service delivery*. Invited workshops for the NSW statewide forum, Responsible Gambling Fund: Problem gambling counsellor conference: Sydney, Australia.

¹ Supported by 2012 Frank Murphy Travelling Scholarship, Turning Point Alcohol and Drug Centre.

- Rodda, S. N., Lubman, D. I., Dowling, N. & Jackson, A. (2013). *The Impact of Web-Based Counselling on Readiness and Distress Associated with Problem Gambling*. Paper presented at the 23rd Annual Conference of the National Association for Gambling Studies, Sydney, Australia.²
- Rodda, S. N., Lubman, D. I. & Dowling, N. (2014). *Remote Counselling workshop*, provided for the Professional Development Centre, Victorian Responsible Gambling Foundation, Melbourne, Australia.
- Rodda, S. N., Lubman, D. I., Dowling, N. & Jackson, A. (2014). *Web-based counselling for problem gambling: Do traditional therapeutic models still apply?* Paper presented at the 5th International Gambling Conference, Auckland, New Zealand.
- Rodda, S. N. (2014). *The effectiveness of e-therapy for problem gambling*. Invited keynote for the NSW statewide forum, Responsible Gambling Fund: Problem gambling counsellor conference: Sydney, Australia.
- Rodda, S. N., Lubman, D. I. & Dowling, N. (2014). *The impact of technology on delivery of clinical service*. Presentation to the Responsible Gambling Fund, Board of Trustees, Sydney, NSW.

² 2013 Best student paper at the 23rd Annual Conference of the National Association for Gambling Studies, Sydney, Australia.

In addition to thesis manuscripts, there were additional publications during candidature:

- Dowling, N., Rodda, S. N., Lubman, D. I. & Jackson, A. C. (2014). The impacts of problem gambling on concerned significant others accessing web-based counselling. *Addictive Behaviors, 39*, 1253–1257.
- Rodda, S. Harney, A. & Lubman, D. I. (2011). Information and communication technologies in reducing alcohol and other drug-related harms. *Prevention Research Quarterly, 14*, 1-16
- Rodda, S. N., Hing, N. & Lubman, D. I. (2014). Improved outcomes following contact with a gambling helpline: The impact of gender on barriers and facilitators. *International Gambling Studies* (ahead of print), 1-12.
- Rodda, S. & Lubman, D. (2012). Ready to change: A scheduled telephone-counselling program for problem gambling. *Australasian Psychiatry, 20*(4), 338-342.
- Rodda, S. N. & Lubman, D. I. (2012). Preoccupation, Gambling and the DSM-V. *Journal of Gambling Issues*, iFirst Article, 1-2.
- Rodda, S. N. & Lubman, D. I. (2013). The challenge of routine follow-up in e-mental health services. *Australian and New Zealand Journal of Psychiatry, 48*, 5.
- Rodda, S. N., Lubman, D. I., Dowling, N, & McCann, T. (2013). Reasons for using web-based counselling among family and friends impacted by problem gambling. *Asian Journal of Gambling Issues and Public Health, 3*, 12.
- Savic, M., Best, D., Rodda, S. & Lubman, D. I. (2013). Exploring the focus and experiences of Smartphone applications for addiction recovery. *Journal of Addictive Diseases, 32*, 310-319.

Acknowledgments

This thesis was made possible by multiple supervisors and mentors. Over the past three years, Professor Dan Lubman has provided unwavering guidance, expertise, support and mentoring as well as inspiration to produce work that makes a difference to people impacted by problem gambling. To Associate Professor Nicki Dowling and Professor Alun Jackson - I am grateful for your continued generous and expert guidance. In particular, Nicki's attention to detail has taught me to aim towards a robust and exact approach to research.

While this PhD was relatively swift and efficient, the path commenced some time ago with Dr Ben Ong at Latrobe University in 2001. To Associate Professor Andrea Chester - thank you for 10 years of mentoring, advice as well as kind and exceptionally well-delivered feedback. At the same time I have been supported with clinical supervision from Dr Kathleen Gregory. Kathleen has demonstrated that it is possible, as well as desirable, to explore psychological theory and clinical interventions with the use of a personal lens. To Dr Kathleen Bagot, I am grateful for your inspiration and friendship as well as your generosity in sharing your tremendous statistical knowledge, research expertise as well as acute insight into all things.

Thanks to Karen, Jane, Justine, Mary and Monty as well as Daryl, Kate, Zeitha and Dr Anna Thomas for ongoing support and encouragement as well as proof reading. Lastly, cheers to my hero Dr Stuart Murdoch who in 1999 provided a glimpse into academic life and today is a constant source of support, happiness and inspiration.

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Preface

It is well established that there is no single cause of problem gambling. Indeed, research suggests that a combination of individual, environmental, biological, social, cultural and political factors all contribute towards the uptake and maintenance of gambling activities. Just as there is no one single cause of problem gambling, there does not appear to be a single treatment that is effective for all individuals with gambling problems.

Despite 25 years of research into treatments for problem gambling, our understanding of why brief or minimal interventions are as effective as those that are longer in duration or with more intensive content is limited (Abbott et al., 2012; Hodgins, Currie, el-Guebaly, & Peden, 2004; Petry, Weinstock, Ledgerwood, & Morasco, 2008; Toneatto & Gunaratne, 2009). This is due in part to studies that suffer from serious methodological issues including low sample sizes and limited research involving participants from community-based settings (Abbott et al., 2012; Problem Gambling Research and Treatment Centre (PGRTC), 2011). A significant proportion of people who access face-to-face problem gambling services will spend less time and/or money on gambling, but very few people present to a specialist problem gambling service (Productivity Commission, 2010). This issue is not unique to problem gambling. Rates of help-seeking across a range of mental health disorders, are lower than the number of people who might benefit from assistance (Mackenzie, Gekoski, & Knox, 2006; Mojtabai, Olfson, & Mechanic, 2002). The internet has afforded unprecedented opportunities to broaden the reach and accessibility of evidence-based interventions to potentially address the issue of low rates of help-seeking for these disorders (Barak, Klein, & Proudfoot, 2009; Bennett & Glasgow, 2009).

This thesis comprises eight chapters that outline research investigating the uptake, motivations and mechanisms associated with online counselling from the perspective of the

person with problem gambling. Specifically, this thesis examines the characteristics of gamblers and their readiness to change and also motivations for choosing online counselling. The thesis then examines the presenting issues of gamblers accessing online counselling to understand their experiences and response to an online counselling session. Chapter 1 offers a brief overview of problem gambling and presents background information that addresses primary care responses to problem gambling, particularly in terms of identification and available support options. Published in the *Australian Family Physician*, the paper targets general practitioners in an Australian setting. The paper outlines basic screening options, provides guidance for the administration of a brief motivational interviewing intervention for community settings, and makes recommendations for referral to specialist services.

Sitting behind this advice is a complex web of issues associated with help-seeking. Chapter 2 provides a comprehensive review of issues associated with seeking help for problem gambling and the possibility of online options meeting the needs of people impacted by problem gambling. For example, research suggests barriers to help-seeking are a combination of individual and structural issues, and that responding to these issues can be complex (Hing, Nuske, & Gainsbury, 2011; Rockloff & Schofield, 2004). This is demonstrated by the fact that although the knowledge on barriers and facilitators to help-seeking has been evidenced for at least 10 years, the rates of usage of face-to-face services and helplines have remained relatively stable (Productivity Commission, 2010). In part as a response to these low rates of help-seeking, online services have been developed and delivered across Australia and in many other jurisdictions internationally. Similar to the implementation of face-to-face and helpline services, online services have been made widely available, but to date there is limited evidence surrounding issues of client suitability or the degree to which they impact on time and/or money spent gambling. The lack of evidence for online interventions is not unique to problem gambling,

as the growth of online interventions generally has meant research has not kept pace with dissemination. Chapter 2 therefore outlines the gaps and unresolved issues in online help-seeking. These include questions such as who accesses online counselling services, why they attend and what they want, as well as how gamblers respond to these interventions.

Chapters 3 to 7 comprise empirical published papers investigating the who, why, what and how of online counselling for problem gambling, including the characteristics and readiness of gamblers accessing online counselling to change as well as their motivations and experiences. Chapter 3 is an article published in *Journal of Gambling Studies* that reports on the characteristics of gamblers accessing online counselling in Australia. The paper also includes comparisons between chat and email and is one of the largest samples across any online counselling service for any disorder. Chapter 4 describes classification of gamblers into subtypes of help-seekers using a series of readiness rulers. This paper, currently in revision with *Addiction*, is the first study reporting the use of readiness rulers with a large sample of problem gamblers as well as gamblers who are accessing treatment online. Chapter 5 was published in the *Journal of Medical Internet Research* and provides information that is relevant to the wider field. Exploring motivations for choosing online over telephone or face-to-face the paper enhances our knowledge of the barriers and facilitators to help-seeking. Chapter 6 investigates exactly what happens in an online counselling session from the perspective of the client. The article has been accepted for a special edition on internet counselling with the *British Journal of Guidance and Counselling* (in press). Using a thematic analysis of transcripts, this is the first ever study presenting the stages of a typical online counselling session. Chapter 7 presents an exploratory study, currently under review with the *Journal of Counselling Psychology*. This study investigates the process of counselling and presents initial findings related to the immediate impact of a single session of online counselling.

Finally, Chapter 8 provides a discussion that integrates the main findings from the 5 empirical papers (Chapters 3 to 7), as well as exploring overall limitations, clinical implications and possible future directions for gambling research and the wider online counselling field.

Publication note

Throughout the thesis, the Gambling Research Australia definition of problem gambling is used:

“Problem gambling is characterised by difficulties in limiting time and/or money spent on gambling which leads to adverse consequences for the gambler, others, or for the community”

(Neal, Delfabbro, & O'Neil, 2005). The American Psychiatric Association, in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM) define pathological gambling as a clinically persistent and maladaptive gambling behaviour classified as an Impulse Control Disorder (described further in Chapter 1) (American Psychiatric Association, 1994).

During the final stages of this research, there was a significant change in classification in the fifth edition of the DSM. In 2013, Pathological gambling was reclassified as a Behavioural Addiction, alongside substance disorders (American Psychiatric Association, 2013). A substantial number of criteria remained the same, but Pathological Gambling became known as Gambling Disorder. At the same time, the field of online counselling has shifted rapidly since the research commenced in 2011 and this has resulted in shifting definitions and terminology. Online counselling is variously referred to throughout the thesis as chat, web-based counselling, internet counselling and e-therapy. These differences in terminology reflect the preferences of each publisher, the field in which the article is published (i.e., problem gambling, counselling or internet interventions), as well as the rapidly expanding knowledge base over this time period.

Declaration for Thesis Chapter 1

Monash University

Declaration by candidate

In the case of Chapter 1, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Conceptualization of study, review of literature, manuscript synthesis and preparation	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution
Prof Dan Lubman	Conceptualisation of study, supervision and revision of drafts
Ms Kathleen Latage	Assistance with manuscript preparation

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's
Signature

	Date 24/8/14
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Main
Supervisor's
Signature

	Date 24/8/14
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Chapter 1: Problem gambling: Aetiology, identification and management

This chapter constitutes a manuscript published in Australian
Family Physician (see Appendix A)

1 Problem gambling: Aetiology, identification and management

Background: Gambling is a mainstream activity across Australia, with increasing accessibility. It is also a significant public health issue, with around 395 000 Australians experiencing harm from problem gambling. **Objective:** This article reviews current evidence relating to the classification and prevalence of problem gambling in Australia, why problems develop, and how to assess and manage gambling presentations within primary care. **Discussion:** People affected by problem gambling are not a homogenous group in terms of course or onset. Screening is important, especially where financial problems are present, or when there are other conditions that commonly co-occur (such as depression, anxiety, substance use disorders and nicotine dependence). Effective management involves a non-judgmental and empathic approach, which may include referral to telephone or online services, face-to-face problem gambling programs, financial counselling, psychological and pharmacological interventions.

1.1 Introduction

Australia has a longstanding fascination with gambling. Over the past 200 years, unregulated gambling on coin, dice and card games has developed into a large and powerful gambling industry, with regulations on horse race betting commencing in the late 19th century (the first associated public holiday was observed in 1877) and further growth in casino gambling from the 1970s (Australian Institute for Gambling Research, 1999). The subsequent introduction of the modern electronic gaming machine (EGM) in the early 1990s resulted in a considerable increase in community spending on gambling, amounting to \$19 billion in 2008/09 (Productivity Commission, 2010). While over 70% of Australians buy a lottery ticket or place a bet every year (Productivity Commission, 2010), problems related to electronic gaming machines are typically the most common issue for those presenting for treatment. However, the recent explosion in online wagering providers and sports betting overcome many potential barriers to gambling such as stigma and geography and there are growing concerns that the cost of gambling to the community is likely to continue to rise. The term ‘problem gambling’ is used in the Australian context to describe harms associated with difficulties in limiting time and or money spent on

gambling (Neal, et al., 2005), and is intended to encompass a continuum of severity that includes pathological gambling. This article discusses the prevalence of problem gambling in Australia, why problems develop, and how to assess and manage gambling presentations within primary care.

1.2 Classification of problem gambling

In 1980, for the first time, pathological gambling was classified as a disorder of impulse control within the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (American Psychiatric Association, 1980). Criteria focused on the damage caused by a failure to resist the impulse to gamble. At this time, there was very little research on gambling, highlighted by the fact that the first gambling-specific academic journal only appeared in 1985. Subsequent reviews argued that problem gambling shared many characteristics with substance use disorders (Lesieur, 1988), which led to the remodelling of pathological gambling's DSM-III-R criteria to include items on preoccupation, tolerance, withdrawal and repeated efforts to quit or cut down (Table 1).

Despite DSM-III-R criteria being grounded in a familiar framework, researchers and treatment providers were dissatisfied. There were concerns that some items were ambiguous or repetitive, that crucial criteria from DSM-III had been omitted (Bradford, Geller, Lesieur, Rosenthal, & Wise, 1996) and that withdrawal, arguably a cornerstone of addiction, was not a common response to ceasing gambling (Rosenthal, 1989). Rosenthal also argued that diagnostic criteria should identify differences between pathological gambling and non-pathological gambling and account for its progressive nature (Rosenthal, 1989).

Table 1: DSM development for pathological gambling

DSM-III (six items)

- The course is chronic and progressive and characterised as a failure to resist the impulse to gamble
 - Focus on damage to the individual or family (work, relationships, deception, legal, financial problems and bail-outs)
-

DSM-III-R (nine items)

- Major revision from harm-focused to criteria modelled on substance use disorders
 - Two financial items retained from previous edition: Chasing lost money and gambling in spite of financial harms
-

DSM-IV (10 items)

- Retain substance use criteria from previous revision
 - Escape introduced in response to modern gaming machines
 - Lying to others to conceal gambling behaviour introduced
 - Illegal acts and bail-outs returned from DSM-III
-

DSM-V (? Items – behavioural addiction)

In response to these concerns, a survey was developed to inform the development of DSM-IV, which was distributed to 275 gamblers seeking treatment in the United States (Bradford et al., 1996). The final DSM-IV criteria retained DSM-III-R items on withdrawal, tolerance, and preoccupation and reintroduced illegal acts from DSM-III (albeit with softened wording - *arrests* for illegal acts changed to *committed* illegal acts) (American Psychiatric Association, 1994). Additionally, researchers recognised increased access, female participation and problems associated with gaming machines, and included a new item - gambling as a means of escape (Bradford et al., 1996).

Table 2: Typical criteria for pathological gambling

Is preoccupied with gambling
Needs to gamble with increasing amounts of money
Has repeated unsuccessful efforts to control, cut back, or stop
Is restless or irritable when trying to cut down or stop
Gambles as a way of escaping from problems or relieving mood
After losing returns to win it back
Lies to family members, therapist, or others
Has committed illegal acts
Jeopardized relationships or career
Relies on others to provide bailout

Given this history, it is not surprising that there is a current debate about whether to relocate pathological gambling from impulse control disorders to behavioural addiction in DSM-V.

Aligned with concerns around the notion of addiction raised 25 years ago, researchers are still exploring the phenomenon of withdrawal and tolerance. Recent research suggests that 25% of people with pathological gambling, experience restlessness or irritability, while 40% cite other withdrawal-like symptoms, such as disappointment and guilt, when trying to change their gambling behaviour (Cunningham-Williams, Gattis, Dore, Shi, & Spitznagel, 2009). Although those with more severe problem gambling are more likely to report withdrawal and tolerance experiences than those with less severe problems (Toce-Gerstein, Gerstein, & Volberg, 2003), some researchers argue that reports of tolerance actually reflect increasing spending in an attempt to recoup losses rather than increasing bets to maintain levels of affect (cf. substance use disorders) (Blaszczynski, Walker, Sharpe, & Nower, 2008). In a similar fashion, ‘withdrawal’ could be conceptualised as a loss of specific stress reduction or coping strategies rather than an actual physiological state (Blaszczynski et al., 2008).

1.3 How common are problems associated with gambling?

Problem gambling is a significant public health issue in Australia costing between \$4.7 and \$8.4 billion per year (Productivity Commission, 2010). Estimated prevalence rates are between 0.5-1.0%, with a further 1.4-2.1% at risk of problems developing (Productivity Commission, 2010). This equates to over 395,000 Australians. Gambling is typically a relapsing remitting condition, with relapse rates around 75% (Hodgins, Currie, el-Guebaly, & Diskin, 2006). Although there is little research on recovery, many do recover with or without professional help, with most people accessing government-funded treatment agencies reporting reductions in gambling involvement (Productivity Commission, 2010).

1.4 How problem gambling develops

Across Australia, there are almost 200,000 EGMs in 6000 venues (Productivity Commission, 2010), seven times the number of McDonalds outlets (Holmes, 2008). Gaming venues are overrepresented in lower socioeconomic areas (Livingstone & Woolley, 2007), and the geographic accessibility of gaming venues appears to be related to the incidence of problem gambling (Harrison Market Research & University of Adelaide, 2006). Access to gambling is an integral component of the Blaszczynski and Nower pathways model, which incorporates a biopsychosocial approach to conceptualising problem gambling (Blaszczynski & Nower, 2002). The model proposes all gamblers experience a degree of behavioural conditioning, which occurs through a combination of access, conditioning (classical and operant), development of faulty cognitions (e.g., overestimating the amount of control over random events) and chasing (trying to recoup lost money) (Blaszczynski & Nower, 2002). Within the model, individual vulnerability is considered an important additional pathway into problem gambling. Vulnerabilities include pre-

existing mood and anxiety disorders, trauma or poor coping skills, as well as biological factors, such as impulsivity (Blaszczynski & Nower, 2002). Accordingly, treatment for gambling should include interventions that also target the underlying conditions.

1.5 Implications for primary care

1.5.1 Screening and assessment

Problem gambling is associated with high levels of shame and stigma, and a non-judgemental and empathic approach should be adopted when identifying gambling problems. While people who are unemployed or on low incomes are particularly at risk (Brown, Pickernell, Keast, & McGovern, 2011), most people maintain employment and an appearance that there is not a problem. This is particularly pertinent to online gambling, such as sports betting, which is attracting young men with higher than average incomes (Gainsbury, Hing, Blaszczynski, & Wood, 2011). The development of therapeutic engagement and an ongoing relationship can facilitate disclosure. While it is not practical to screen all patients for problem gambling, it is helpful to raise the issue when patients present with the following clinical features:

- Indications by patient or others that gambling is being used to improve financial problems
- Signs of stress, depression and/or anxiety
- Disrupted sleep, changed eating patterns
- History of alcohol or nicotine dependence
- Unexplained loss of time or money
- Dissatisfaction with quality of life

Relevant sociodemographic factors include:

- Reports of social isolation or poor relationships
- Family history of gambling or problem gambling
- Legal and financial difficulties
- Non-English speaking backgrounds and recent immigrants

People with problem gambling experience high rates of co-occurring conditions, including depression, anxiety, substance use disorders and nicotine dependence (Lorains, Cowlshaw, & Thomas, 2011). In addition, population health surveys have found high rates of co-occurring depressive symptoms and stress-related issues (Queensland Treasury, 2008). It is therefore important to screen for gambling problems when these conditions are present. Use of a screening tool can be helpful in eliciting a history of gambling and associated harms, and the following are particularly suitable within a primary care setting:

- The one-item problem gambling screening (i.e., have you ever had an issue with your gambling?) (Thomas, Jackson, Browning, & Piterman, 2009).
- The three-item Brief Bio-Social Gambling Screen (Gebauer, LaBrie, & Shaffer, 2010), assesses withdrawal, lying and financial difficulties; as well as the three-item NODS-Clip (Toce-gerstein, Gerstein, & Volberg, 2009), assesses lying, preoccupation and attempts to control or cut-down gambling. These tools can be administered in a couple of minutes.
- The nine-item Canadian Problem Gambling Index (CPGI) (Ferris & Wynne, 2001) closely resembles DSM-IV criteria and is the most common tool used in Australia to screen for problem gambling.

1.5.2 Management

People experiencing problem gambling often feel shameful about their gambling and will conceal the behaviour and associated consequences. Therefore, a non-judgemental and gentle approach that addresses both the gambling and potential harms is required. Motivational interviewing (MI) techniques improve the likelihood of change. Employing reflective listening can assist patients to set their own goals which can be enhanced by employing a readiness ruler, ‘On a scale of 1 to 10, how important is it for you to change your gambling?’ If the score is low, it is helpful to explore

the benefits and costs of gambling, with questions like ‘What are the good things about gambling?’ and ‘What are the less good things?’ Typically clients talk about excitement and escape versus loss, guilt, regret and remorse.

If the score is high, indicating a readiness to change, it is helpful to ask a follow-up question related to confidence levels - ‘On a scale of 1 to 10 how confident are you in resisting the urge to gamble?’ If confidence is high, ask about how they plan to go about changing their gambling behaviour. Many people with gambling problems experience low confidence in resisting the urge to gamble. It is helpful to build confidence by normalising lapse and relapse and identify opportunities to learn about gambling triggers. Relapse is typically triggered by a combination of internal (e.g., negative affect, stress) and external factors (e.g., pay cheque, bills in post, venue inducements) that build toward an overwhelming urge to act that is supported by erroneous cognitions (e.g., selective recall of previous wins) (Battersby et al., 2010).

For some people it is helpful to ask whether they have considered talking to someone about their gambling. This can be an opportunity to refer to a specialist gambling treatment agency (available via phone, online or face-to-face). A summary of referral options is outlined in Table 3. Some people may be experiencing harms from gambling, but are not ready to change. It is helpful to discuss harm minimisation measures, such as reducing access to cash in a venue, protecting their assets (e.g., second signature on their mortgage) or minimising alcohol use while gambling. This approach keeps the door open for when the person is ready to take the next step.

In addition to MI, cognitive behavioural therapy (CBT), cognitive therapy (CT), behaviour therapy (BT) and brief interventions are recommended for problem gambling (Problem Gambling Research and Treatment Centre (PGRTC), 2011). CBT may also be helpful where gambling and co-occurring conditions coexist, however research is scant on how best to address concurrent issues. While each of these therapeutic techniques has been found to be effective in

reducing time and money spent on gambling, research is inconclusive. For example, a Canadian study comparing MI, BT and CT with a minimal intervention found the 90-minute minimal intervention (feedback on assessment and practical strategies) produced reductions in DSM-IV symptoms comparable with longer term interventions (Toneatto & Gunaratne, 2009). A larger trial determining effectiveness of approaches is currently being undertaken in Victoria comparing CT, MI and urge reduction behaviour therapy. Pharmacological treatments for problem gambling are in their infancy, with some evidence that treatment with naltrexone may reduce cravings or positive feelings associated with gambling (Flinders Human Behaviour & Research Unit, 2010). Antidepressants may be prescribed where there is a concurrent diagnosis of depression and/or anxiety, however there is a lack of evidence to support their use in the absence of these conditions.

Table 3: Management resources for problem gambling

-
- Free face-to-face counselling is available for problem gambling across Australia
 - A free, confidential, 24/7 Helpline (1800-858-858) is available in every state and territory, and provides counselling, information and referral for gamblers and concerned family members. Self-help booklets and printed service information is also available from these helplines.
 - A national online counselling service (www.gamblinghelponline.org.au) is available 24/7 and provides real time chat and email support. Online services appear attractive to those who experience high levels of shame and stigma. Accessed most often by young men, 70% of people accessing this service have never previously accessed treatment. Compared with other treatment modes clients state that it is easy to access, easy to talk and convenient.
 - A 4-6 session semi-structured telephone counselling program (*Ready to Change*) is available in Victoria, Queensland and Tasmania, and can be accessed by calling 1800-858-858.
 - www.gamblinghelponline.org.au/helping-others/assistance-for-professionals.aspx has links to state government resources for professionals
 - Financial counselling
-

1.6 Family and friends

Family and friends impacted by gambling comprise around 20-25% of help-seeking populations. To date there is very limited research as to how and when this group seeks help. It has been noted that family and friends are significant in assisting the gambler seek help and improving gambling outcomes (Ingle, Marotta, McMillan, & Wisdom, 2008). However, they also experience significant harms associated with problem gambling, including poor mental health, family violence and increased financial problems (Kalischuk, Nowatzki, Cardwell, Klein, & Solowoniuk, 2006). It may be useful to ask whether anyone in the family experiences problem gambling, particularly when there are financial difficulties. Problem gambling treatment services also offer free counselling and financial advice for families and friends.

1.7 Summary of important points

- Problem gambling is a significant public health issue in Australia costing between \$4.7 and \$8.4 billion per year.
- People with problem gambling experience high rates of co-occurring conditions, including depression, anxiety, substance use disorders and nicotine dependence.
- Screening for problem gambling can be simple using tools such as the one-item *have you ever had an issue with your gambling?*
- When problem gambling is identified, motivational interviewing can facilitate change.
- There are a range of free accessible treatment options in Australia, which include face-to-face, telephone and online modalities.

2 Gaps and unresolved issues in online help-seeking for problem gambling

Over the past 15 years, advances in technology have afforded new opportunities to deliver evidence-based psychological interventions. Increasingly, treatment is being delivered online for highly stigmatized disorders, but there has been very limited evaluation or evidence of its effectiveness (Dowling & Rickwood, 2012). This chapter provides an overview of the service system in Australia and current treatment approaches. It then discusses issues related to low rates of help-seeking and the possibility that online counselling could address issues around barriers to treatment. The chapter concludes with a discussion of the current gaps and unresolved issues and describes the rationale and aims of the current thesis.

2.1 Services for problem gambling in Australia

Each year, around \$35 million of income from Australian gambling taxes is directed towards funding gambling treatment services (Productivity Commission, 2010). Although funded by each state and territory separately, service systems across these jurisdictions are quite similar.

Specialist problem gambling counselling services are provided across multiple modalities, including face-to-face, telephone and, more recently, online. Face-to-face agencies typically provide individual, couple and group problem gambling counselling, financial counselling, as well as specialist services to people from a diverse range of cultural backgrounds. Some jurisdictions also provide financial relief (e.g., financial assistance with debt), residential programs, community education, and/or liaison with gaming venues.

Each state and territory also funds distance based services that offer a range of service options. Operated and funded as discrete services within each jurisdiction, gambling helplines may be provided outside of the state (e.g., Turning Point in Victoria operates gambling helplines

in Queensland, Tasmania, the Northern Territory and South Australia). Gambling helplines are similar across Australia in that they offer callers immediate, 24/7 access to free, trained professionals who provide information and referrals as well as telephone counselling. In contrast to helplines, online counselling is offered via a memorandum of understanding between each state and territory to provide one national online gambling counselling service. Gambling Help Online is funded by a national agreement via the Ministerial Council on Gambling. Launched as Gambling Help Online in 2009 (gamblinghelponline.org.au) this program primarily aims to (1) attract a new cohort of clients who may not otherwise access face-to-face services and (2) extend the availability of counselling and support by addressing issues around remoteness, anonymity and after-hours availability.

Service users of different specialist gambling services across Australia are most often gamblers; around 20% of service users are significant others (predominantly family members and friends) impacted by gambling. Research suggests males and younger people are more likely to experience problem gambling than females (Delfabbro & Le Couteur, 2009; Department of Justice, 2009). However, in Australia people seeking face-to-face treatment and accessing a helpline are more likely to be female and middle aged (Productivity Commission, 2010). In contrast, online clients are more often males who are aged under 35 years (Rodda & Lubman, 2012). Gamblers accessing all services predominantly gamble on EGM's, but online services tend to attract a higher rate of gamblers involved in games that involve a degree of skill or strategy (i.e., sports betting, wagering).

Gambling Help Online attracts a very high number of visitors each year (almost quarter of a million site visits). The site provides extensive resources for gamblers and their significant others from personalised screening to very brief self-help, referral to local community and other specialist treatment agencies, as well as a range of personalised services delivered by gambling

counsellors. As indicated Table 5, almost 2,000 people accessed one of the counselling and support options offered via Gambling Help Online from July 2012 to June 2013. This included 1,750 people accessing a single session of real time chat, 267 people engaging in email counselling generating 1,507 emails, 550 people registering for the new online community forums and 497 people accessing at least one self-help module.

Table 4: Gambling Help Online Usage (2012/13)

Website	Total site visits	236,728
	Unique site visitors	171,263
Pages viewed	Gambling severity	15,350
	How counselling works	7,062
Treatment	Email clients	267
	Chat sessions	1,750
	Forum members	550
	Brief self-directed modules	497

2.2 Treatment approaches for problem gambling

Along with a diverse range of aetiological models explaining the development and maintenance of problem gambling is a diverse range of treatment approaches. Treatment approaches for problem gambling include cognitive, behavioural and combined CBT as well as motivational interviewing (MI) and motivational enhancement therapies. Other approaches including mindfulness, family, psychodynamic therapy, brief interventions, pharmacological and 12-step programs (i.e., Gamblers Anonymous) have also been applied in the treatment of problem gambling. A meta-analysis of 22 studies conducted between 1968 and 2004 found overall support for the short and long-term effectiveness of psychological treatments in reducing gambling involvement (Pallesen, Mitsem, Kvale, Johnsen, & Molde, 2005). More recently, a Cochrane

review examining the efficacy of psychological interventions for problem gambling identified 14 face-to-face studies that involved random allocation and a control condition (Cowlshaw et al., 2012). These are discussed in detail below.

2.2.1 Cognitive and behavioural therapies

The Cochrane review (Cowlshaw et al., 2012) found CBT had the most evidence for the successful treatment of problem gambling. However, the review concluded that while CBT was effective in the short term, there was limited evidence for its long term outcomes. CBT was defined by the review as including cognitive, behavioural as well as combined cognitive behavioural treatments. Cognitive therapy for problem gambling has been adapted to focus on the unique errors in thinking associated with gambling outcomes. Specifically, it focuses on identifying, correcting and replacing beliefs related to the amount of control over, and ability to predict, gambling outcomes (Toneatto, 2002; Toneatto & Gunaratne, 2009). Behaviour therapy as described in the review included imaginal desensitisation, aversive therapy as well as a range of behavioural activities including activity scheduling, building social and coping skills, communication training as well as problem solving skills. Typically, therapies reviewed used a combination of cognitive and behavioural interventions such as skill building for high risk situations and relapse prevention.

2.2.2 Motivational enhancement

In contrast, the Cochrane review (Cowlshaw et al., 2012) found that there was promising, but limited, evidence for the efficacy of MI in the treatment of problem gambling. In this review, MI was found to be effective for reducing time and money spent gambling but not problem gambling symptom severity. Based on research involving alcohol use (Miller & Rollnick, 2002), MI for problem gambling typically aims to resolve ambivalence by the use of decisional balance

activities, values clarification and increasing awareness of gambling consequences.

2.2.3 Brief and minimal interventions

Motivational approaches are most commonly applied in brief or minimal interventions. Brief interventions are essentially an approach for working with people that is minimal or short in both time and content. Considerable variation in time and content is reported, however and they range from one to more than 10 sessions. Brief interventions are often opportunistic in that they are delivered by a range of healthcare workers (e.g., psychologists to GPs) in a wide range of settings (e.g., hospitals to community health) (Barry, 1999). They are typically not a single type of intervention but a family of interventions. For example, they often involve motivational approaches, screening and self-assessment, and/or skills development.

Brief interventions have a long history demonstrating effectiveness for reducing alcohol use (Kavanagh & Proctor, 2011; Nilsen, Kaner, & Babor, 2008; Vasilaki, Hosier, & Cox, 2006). There is also now a growing evidence base internationally that single session and brief interventions are effective for problem gambling (Hodgins, et al., 2004; Petry et al., 2008; Toneatto & Gunaratne, 2009; Abbott et al., 2012). One of the earliest studies by Hodgins and colleagues randomised people to a motivational telephone interview (20-45 minutes), a self-help workbook or wait-list control (Hodgins et al., 2004). This research indicated that people spent less time and money gambling and had lower gambling severity if they talked to someone rather than the workbook or waitlist condition alone. In this study, there was also evidence that participants had read the workbook and that 80% had followed at least some of the recommendations when followed up at 12 months.

Further, Petry and colleagues compared a 10-minute brief advice session with one session of MI plus three sessions of CBT. They found that the brief advice had better outcomes for

gamblers recruited from substance abuse programs and medical clinics than the active condition involving MI plus CBT (Petry et al., 2008). Similarly, a Canadian study comparing MI, Behaviour Therapy (BT) and Cognitive Therapy (CT) with a 90-minute minimal intervention (feedback on assessment and practical strategies) found that the 90-minute minimal intervention produced reductions in DSM-IV symptoms comparable with MI, BT or CT (Toneatto & Gunaratne, 2009).

Recently, the largest study community based study date involving 462 gamblers was conducted via a helpline in New Zealand. This study compared MI, with or without a workbook and booster session against treatment as usual (a supportive helpline call) (Abbott et al., 2012). Abbott and colleagues (2012) found gamblers across all brief conditions had significant improvement at 3, 6 and 12 months in a range of gambling indicators (i.e., severity, time and money spent) as well as mental health symptoms.

2.3 Barriers, facilitators and readiness for treatment

Although our understanding of the development and maintenance of problem gambling as well as effective treatments has substantially developed over the past 25 years, this has not resulted in a sustained influx of gamblers attending treatment services. There are a broad range of freely accessible problem gambling treatment services, but it is estimated that only between 8-17% of people who experience problems with gambling seek formal face-to-face treatment (Productivity Commission, 2010). There has been much empirical research conducted recently, including systematic reviews, on the barriers and facilitators to help-seeking in an attempt to understand why people with problem gambling do not seek help (Evans & Delfabbro, 2005; Gainsbury, Hing, & Suhonen, 2013; Hodgins & El-Guebaly, 2000; Pulford et al., 2009; Rockloff &

Schofield, 2004; Rodda, Hing, & Lubman, 2014; Suurvali, Cordingley, Hodgins, & Cunningham, 2009; Suurvali, Hodgins, Toneatto, & Cunningham, 2012). Spanning multiple countries including Australia, New Zealand and Canada, participants for these studies were recruited from the general community, helplines, and face-to-face services, as well as via online and traditional media and advertising. These studies have arrived at remarkably similar conclusions; that barriers to treatment are a combination of individual (i.e., denial, pride, do it alone), social (i.e., shame, stigma) and systemic (i.e., availability and access to services) issues. In the largest study of service usage in Australia involving 730 gamblers, Gainsbury et al. (2013) found gamblers did not access services because they wanted to self-manage the problem and felt ashamed at having to seek help.

A critical issue raised across all of the studies on facilitators and barriers to help-seeking relates to the accessibility of the available services. The majority of face-to-face gambling services are provided during traditional business hours, despite studies identifying that this creates a problem of access for people who are employed during business hours (which is more than half of Australians with gambling problems) (Productivity Commission, 2010). The requirement of service provision outside of traditional business hours is evidenced by findings that more than half of helpline callers access services during evening, weekend and overnight periods (Rodda & Lubman, 2012). In addition, a survey of callers to the New Zealand Gambling Helpline reported that a quarter of respondents were unable to access a face-to-face appointment at a suitable time (Pulford et al., 2009). This New Zealand study also reported almost 20% of gamblers endorsed the item: “didn’t want to use a face-to-face service”. Beyond the issues of opening hours, gamblers report inconvenience associated with geographic location, waiting lists and practical issues around appointment attendance, such as child minding that can also reduce access to treatment (Evans & Delfabbro, 2005; Pulford et al., 2009; Rockloff & Schofield, 2004).

2.4 Uptake and utility of online counselling

Online counselling sits within a broad spectrum of internet interventions. Barak, Klein and Proudfoot (2009) categorised internet interventions into three broad categories: (1) web-based education interventions, (2) self-guided interventions, and (3) human-supported therapeutic interventions. As shown in Table 6 below, these high level categories include a range of options broadly similar to standard face-to-face psychological interventions. For example, screening in web-based education interventions typically involves adaptation of standard paper and pencil questionnaires but with the advantage of immediate feedback without requiring the presence of a person for scoring.

Online self-directed programs can improve paper-based self-help and self-directed workbooks by offering convenient and immediate access to interactive activities and lessons. Once developed, internet interventions are low cost to operate, can have a national as well as international audience and can attract and treat large numbers of participants (Arnberg, Linton, Hulcrantz, Heintz, & Jonsson, 2014; Griffiths, Lindenmeyer, Powell, Lowe, & Thorogood, 2006; Lewis, Pearce, & Bisson, 2012).

Human-supported therapeutic interventions include forums, video, chat and email. These online interventions variously replicate traditional talk therapy and may involve counselling, information, advice and support. Video-conferencing is almost exactly the same as face-to-face counselling except that it is computer-mediated and has an extended geographical reach. In comparison, email and chat offer no physical presence but offer greater convenience, albeit by typing instead of talking.

Table 5: Types of internet interventions

Type of intervention	Examples	Features
Web-based education	Screening	Immediate feedback that can be tailored against norms
Self-guided	Guided or unguided	Evidence based and typically CBT or MI delivered over 4-8 sessions
Human-supported	Forums	Peer-to-peer or professionally moderated they can provide immediate support and role models
	Video-conference	Replicates face-to-face but with capacity to extend geographic reach
	Email	Asynchronous and the most often used intervention. Can be delivered by clinical & non-clinical personnel
	Chat	Synchronous and typically offered with no appointment as a single session but may also be ongoing

2.4.1 Self-guided interventions

The evidence base for internet interventions has grown rapidly. The field has been led by a great deal of research targeting anxiety and depression and multiple systematic reviews indicate internet interventions are effective for these disorders (Andersson & Cuijpers, 2009; Griffiths, Farrer, & Christensen, 2010; Spek et al., 2006; Van't Hof, Cuijpers, & Stein, 2009). Specifically,

these reviews have indicated that internet interventions are effective in reducing distress in people with chronic disease (Beatty & Lambert, 2013) and eating disorders (Aardoom, Dingemans, Spinhoven, & Furth, 2013; Dölemeyer, Tietjen, Kersting, & Wagner, 2013), as well as addictive disorders including alcohol, tobacco and drugs (Danielsson, Eriksson, & Allebeck, 2014; Gainsbury & Blaszczynski, 2011; Shahab & McEwen, 2009; Tait, Spijkerman, & Riper, 2013; White et al., 2010).

Only two studies have been conducted involving self-directed interventions for problem gambling. Carlbring and Smit (2008) conducted a study in Sweden that randomised 66 gamblers to a wait-list control or eight modules of CBT with weekly email or telephone support. Compared with a wait-list, the internet intervention demonstrated significant reductions in gambling related problems (measured by the NODS), anxiety and depression at 6, 18 and 36 month follow-up. Similarly, (Castrén et al., 2013) reported on the outcomes of a Finnish internet intervention accessed by 471 gamblers. The intervention, involving 8 modules of CBT with telephone support was completed by 224 participants. Castren and colleagues (2013) found significant reductions in a range of gambling outcomes including gambling problems (again measured by the NODS), urges and erroneous cognitions as well as alcohol consumption.

2.4.2 Clinician involvement in online interventions

Compared with stand alone internet interventions the addition of a guide has been found to improve treatment engagement, including treatment adherence and completion of therapeutic tasks (Cavanagh, 2010; Richards & Richardson, 2012). Guided self-help typically involves a professional or coach working through a standardised treatment and providing support that facilitates the treatment (Cuijpers, Donker, van Straten, Li, & Andersson, 2010; Newman, Szkodny, Llera, & Przeworski, 2011). A systematic review by Cuijpers and colleagues (2010)

found that guided self-help was as effective as interventions delivered in a face-to-face setting for depression and anxiety disorders. Similarly, Newman and colleagues (2011) found that a range of internet interventions were effective for drug, alcohol and smoking cessation, but that there were improved client outcomes when these interventions were offered with support. But, adding a clinician or guide increases the operating costs of the program. Moreover, when funding bodies are involved, the reach of the program is typically reduced to that of the funder's jurisdiction (or at least the country).

There are ethical issues that should also be considered when working online. Online counselling is convenient and easy to access but correspondence is not necessarily private (Mallen et al., 2005). For example, an administrator can access workers' emails if sent from place of employment. In addition, gaming providers use analytics to detect keywords for targeted marketing and promotions that may result in a client being inundated with gambling promotional material. In terms of the client-counsellor interaction, limits associated with confidentiality and client anonymity pose an ethical dilemma. Professional online counselling guidelines advise counsellors to determine the identity of the client so that risk can be managed (e.g., suicidal ideation or domestic violence) but this is at the cost of anonymity (Finn & Barak, 2010; Mallen et al., 2005). More discussion is needed on the balance between anonymity and confirmation of identity, especially when clients are involved in a single session of online counselling.

Despite the inherent advantages of solely self-directed interventions (i.e., convenience, accessibility), people frequently report that they want to talk to people. Klein et al. (2010) investigated online interventions and help-seeking preferences in 1214 Australian alcohol and drug users from the general community. Approximately 35% of participants preferred help from a website with email support from a therapist and 25% preferred help from a website with face-to-face contact. Fewer participants preferred a self-help website with no therapist support (less

than 20%).

2.4.3 Online counselling

Of all the internet based options, online counselling most closely approximates a traditional therapeutic approach. Online counselling refers to chat, email and video conferencing. Email has been most frequently offered as an adjunct to self-directed programs and also as a full fee-paying service, particularly in the United States (Chester & Glass, 2006). In contrast, online counselling (chat) has been offered since the 1990s and is often delivered as a stand-alone intervention similar to helpline interventions (Urbis, Keys and, & Young., 2003). Similar to helplines, chat is typically provided anonymously and as a single-session intervention and is synchronous and provided in real time (i.e., not delayed like email). Online counselling (chat) attracts larger numbers of clients than email across Australia and internationally and is offered to adolescents and adults for a range of mental health and addictive disorders (e.g., Kids Help Online, Lifeline, Counselling Online, GamCare-UK).

Online counselling is particularly well suited to a single session or brief intervention approach. Chat is synchronous and involves at least two parties and there is an absence of verbal, aural and physical cues. However, research suggests this does not seem to have a significant impact on the client-therapist relationship and may even be a key reason for accessing help online. For example, a systematic review by Sucala et al. (2012) found that ratings of therapeutic alliance in online settings were equivalent to face-to-face settings. Other research by King, Bambling, Reid, and Thomas (2006) administered an alliance inventory in an online setting (Horvath & Greenberg, 1989) and found that client-counsellor collaboration (i.e., tasks and goals of a session) was a better predictor of change in distress than client ratings of mutual liking (i.e., bond). King and colleagues suggest this is indicative of the online single session modality where

less time is spent on rapport building and more time is spent on clarifying the presenting issue and constructing solutions.

Indeed, the relative anonymity, lack of personal information and text based communication that characterise online counselling are thought to combine to create a situation where the person is able or willing to disclose more information than they would in similar telephone or face-to-face settings. For example, a review of email transcripts found just 10% of students emailed a counselling service more than once but that a single email contained a great deal of personal disclosure (Richards, 2009). Similarly, a review of counselling transcripts involving adolescents accessing a single session of chat based counselling found sessions contained a great deal of story-telling and self-disclosure (Chardon, Bagraith, & King, 2011).

Despite the popularity of chat with clients, the evidence base regarding the efficacy of these interventions is limited. A recent systematic review found that only six studies have sought to measure the effectiveness of online chat for any issue, such as depression, work place issues, anxiety and general support (Dowling & Rickwood, 2013). Four of these studies involved a single session of chat, and all conducted evaluations prior to and following the web-based session. Only one study conducted a longer-term follow-up (one-month) evaluation. The systematic review concluded that online chat appeared effective in all of these studies, as determined by client reported reductions in distress and perceived burden, as well as improvements in well-being and global functioning.

2.5 Major gaps in the online counselling literature for problem gambling

2.5.1 Who attends online counselling for problem gambling?

In Australia, chat is the most often accessed form of online counselling for problem gambling

(Turning Point Alcohol and Drug Centre, 2011). But little is known about who would benefit from this modality, even though there are repeated calls to offer online counselling as a counter to the barriers gamblers report when accessing treatment services (Productivity Commission, 2010). Online counselling for problem gambling has been available for almost 15 years in the UK, but beyond an early study reporting the characteristics and perception of usefulness of the GamAid service (Wood & Griffiths, 2007) there is very limited information on who accesses this modality or their motivations for doing so. This is not unique to problem gambling as there is very limited information on the characteristics or motivations of adults accessing a single session of chat across any type of disorder.

Gamblers typically present with high readiness to change to helpline services (Abbott et al., 2012; Ledgerwood et al., 2013; Ledgerwood, Wiedemann, Moore, & Arfken, 2011). Beyond these studies involving helplines, there is very limited information on the impact of readiness on the impact of treatment or the types of help sought (e.g., services that provide an immediate response). Determining the readiness of people who access services in the community provides critical information to inform the types of interventions that should be developed and evaluated, and then made widely available to people with problem gambling.

2.5.2 Why do gamblers choose online counselling?

Developing targeted interventions relies in part in knowing why gamblers choose the service that they do. Initial research involving ongoing online general counselling clients suggests people are attracted to online counselling for its anonymity and convenience (Ellis et al., 2012), and that it is especially attractive to new treatment seekers (Young, 2005). This research involving motivations for choosing online counselling has been derived from focus groups (King, Bambling, Lloyd, et al., 2006) and asking for clients engaged in ongoing therapy for their motivations for choosing

online over face-to-face counselling (Young, 2005). In problem gambling, however, there is very limited research indicating why help-seekers would choose one service over another. Although a recent study into help-seeking examined motivations for choosing services using pre-defined lists of reasons (Hing et al., 2011), it is yet to be determined that the reasons for choosing online support are the same as general reasons for help-seeking.

Understanding the motivations for choosing online counselling is, at least in part, also related to what people want when they access a service. It is fairly well established that gamblers do not seek help until there is a crisis (Evans & Delfabbro, 2005) and there is also significant distress associated with the consequences of problematic gambling (American Psychiatric Association, 2013). Helplines, including gambling helplines, offer crisis counselling with an aim of assisting people to better manage psychological distress (Clifford, 2008; Urbis et al., 2003). Indeed, a recent helpline study involving 170 callers from across Australia found 9 out of 10 callers did so because they were experiencing negative emotions (Rodda, Hing, et al., 2014). Negative emotions and distress are therefore clearly present in callers to helplines.

In this study of helpline callers, Rodda, Hing, et al. (2014) also investigated the primary purpose of the call. Almost 25% of callers were contacting for immediate telephone counselling. Callers also requested information (40%) and referral (30%), with only very small numbers requesting other information such as self-exclusion. The particular focus of telephone counselling, however, was not explored (i.e., crisis or something else) nor the type of information provided to the caller. For example, it is unclear whether the information provided was related to skills development or psycho-education, on how gambling problems develop, or on how services operate. Knowing what is currently needed or requested by clients can assist in providing a more efficient response online, such as pre-prepared online materials (e.g., fact sheets on getting help), and can also help guide clinician interventions and associated training (i.e., reducing distress in

the absence of verbal and visual cues).

2.5.3 What is the experience of gamblers who access online counselling?

Beyond problem gambling, there is a similar absence of knowledge of how online counselling services clinically work and what services they actually deliver. This is despite the substantial benefits of text-based modalities in capturing previously inaccessible data, including every word spoken in an online counselling session. In terms of the process of online counselling, there is good evidence that therapeutic alliance can be established at similar levels to a face-to-face setting (Sucala et al., 2012) and most applied texts that describe how to conduct online counselling generally follow established counselling methods (i.e., establish rapport, develop a contract, etc.) on the basis that methods that work in face-to-face environments can be translated across to the online setting. The early research on the process of online counselling, however, suggests that this application may be too simplistic. Recent research involving transcript analysis suggests basic models effectively used in face-to-face counselling, such as the skilled helper model, may have limited applicability in an online setting (Bagraith, Chardon, & King, 2010). Reynolds, Stiles, Bailer, and Hughes (2013) have examined the character of the session in terms of whether it was deep and meaningful to clients across online and face-to-face settings. They found clients engaged in ongoing online treatment consistently rated sessions as deep and meaningful, and also as smooth and comfortable, as clients engaged in face-to-face treatment.

2.5.4 How do gamblers respond to a single session of online counselling?

There is now a growing body of evidence that even a single session of counselling can make a difference to people with gambling problems (Abbott et al., 2012; Hodgins, Currie, & el-Guebaly, 2001; Petry et al., 2008). Similarly, brief internet interventions such as online screening have been found to have a significant impact on maladaptive behaviours such as excessive

alcohol use (Cunningham, Wild, Cordingley, Van Mierlo, & Humphreys, 2010). With some exceptions (Abbott et al., 2012; Petry et al., 2008), almost all of the research involving the effectiveness of brief interventions for problem gambling that have been delivered by telephone and involve samples recruited from universities (i.e., typically students) or recruited via advertising. In terms of online counselling a single brief session has been found to positively impact distress and well-being in young people for non-specific issues (Fukkink, 2009; King, Bambling, Reid, et al., 2006), but there have been no studies investigating the impact of a single session of online counselling for problem gambling.

2.6 The aim of the thesis and the questions to be addressed

This research investigates the utility of online counselling for gamblers in a comprehensive manner. Using multiple methodologies, the research sought to explore the usefulness and benefits of online counselling from the perspective of the gambler. Specifically it reports on the characteristics of gamblers who use online counselling (Chapters 3 & 4), the readiness to change of this group (Chapter 4) and their presenting issues and motivations for choosing online counselling (Chapters 5 & 6). This research then explored the gamblers experience and also response to a single online counselling session (Chapter 7).

Who attends online counselling for gambling problems?

- Who attends online counselling will be examined in five ways:
 - Characteristics of gamblers using online chat (Chapter 3)
 - A comparison of chat clients with email support (Chapter 3)

- Determination of client readiness (Chapter 4)
- Determination of client psychological distress (Chapter 5 & 7)
- Examination of subgroups with different readiness profiles (Chapter 4)
- Characteristics will be determined by developing and embedding a survey in the service registration that will be completed by all counselling clients.
- Survey items will include demographics (gender, age, gambling type, gambling method & ethnicity); help-seeking experiences, readiness to change and gambling severity (PGSI). Readiness will be measured with three readiness rulers (importance, readiness and confidence) and psychological distress with one ruler (all rulers on a scale of 1-10).
- Gambler characteristics will be examined by a series of chi-squared tests, or *t* tests where the data was continuous (Chapter 3). In addition a latent class analysis will examine the underlying structure of the data to determine readiness subgroups (Chapter 4).

Why do gamblers choose online counselling?

- Why gamblers choose online counselling will be examined in two ways:
 - Motivations for choosing online counselling over telephone or face to face as well as the reasons for recommending online counselling (Chapter 5)
 - Presenting issues when commencing an online counselling session (Chapter 6)
- Motivations will be determined by developing and embedding a post-session survey into the conclusion of the counselling session
- Survey items will include two open text fields related to motivations and recommendations for use of online counselling (Chapter 5)
- The transcripts of participants who complete the post-session survey will be extracted and

examined in for presenting issues (Chapter 6)

- A content analysis of the two open fields will be used in to determine motivations for use (Chapter 5) and presenting issues will be examined with a thematic analysis (Chapter 6).

What is the experience of gamblers who access online counselling?

- How gamblers experience online counselling will be examined in three ways:
 - Satisfaction with online counselling in terms of recommending it to others with a similar problem (Chapter 4)
 - A description of the content of online counselling sessions from the perspective of the client (Chapter 6)
 - Evaluation of the character of online counselling sessions with the Session Evaluation Questionnaire (Chapter 7)
- Satisfaction and the evaluation of session character will be determined with a post-session questionnaire
- The experience of online counselling will be examined via a secondary analysis of 85 counselling transcripts

How do gamblers respond to a single session of online counselling?

- Gamblers response to a single session of online counselling will be explored in three ways:
 - Impact on readiness to change and psychological distress (Chapter 7)
 - The impact of client characteristics on change in readiness and distress (Chapter 7)
 - The impact of session ratings (depth and smoothness) on change in readiness and

distress (Chapter 7)

- A post session survey was developed and integrated into the online counselling service. The survey link became available to participants at conclusion of their online session.
- Predictors of change in readiness and distress will be determined via a series of linear regressions.

**Declaration for Thesis Chapter 3
Monash University**

Declaration by candidate

In the case of Chapter 3, the nature and extent of my contribution to the work was the following:


Nature of contribution	Extent of contribution (%)
Conceptualization of study, review of literature, data analysis, manuscript synthesis and preparation	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution
Prof Dan Lubman	Conceptualisation of study, supervision and revision of drafts

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature		Date 24/8/14
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Main Supervisor's Signature		Date 24/8/14
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*Note: Where the responsible author is not the candidate's main supervisor, the main supervisor should consult with the responsible author to agree on the respective contributions of the authors.

**Chapter 3: Characteristics of gamblers using a national online counselling service for
problem gambling**

This chapter constitutes a manuscript published in the Journal of Gambling
Studies (see Appendix A)

3 Characteristics of gamblers using a national online counselling service for problem gambling

Immediate interventions for a range of health concerns are increasingly being delivered online due to their ease of access and potential to attract new treatment cohorts. This paper describes the development and implementation of a national Australian real time chat and email service for problem gambling. Between September 2009 and September 2011, over 85,000 people visited Gambling Help Online. In addition, 1722 people engaged in real time chat with trained gambling counsellors, while 299 accessed the email support program. Almost 70% of people accessing these programs were seeking treatment for the first time, with email contacts significantly more likely to be new treatment seekers (78.0%) compared with chat clients (68.1%). Chat clients were more likely to be male than female and aged under 40 years, while email clients, while still highly accessed by young males, were more often female and aged over 40 years. These initial findings suggest that online counselling provides an important alternate mode of service delivery, which is attractive to new treatment seekers. Further research is required to determine the efficacy and impact of this service type on long-term gambling outcomes.

3.1 Introduction

A broad range of freely accessible problem gambling treatment services are currently provided across Australia. This includes state-wide helplines, face-to-face counselling and financial advice, as well as professionally moderated support groups. Although males are more likely to experience problem gambling than females, and younger people are at greater risk (Delfabbro & Le Couteur, 2009; Department of Justice, 2009), people seeking treatment are more likely to be female, middle aged and experiencing problems associated with electronic gaming machines (EGMs) (Jackson, Thomas, Holt, & Thomason, 2005). While a range of services are offered, research suggests that for some people pride, denial of the problem or difficulty accessing services will prevent them from seeking help (Evans & Delfabbro, 2005; Pulford et al., 2009).

Internet interventions have been found to be effective across a broad range of mental health disorders (Barak, Hen, Boniel-Nissim, & Shapira, 2008; Spek et al., 2006). They range from self-guided modules and tailored self-assessment to clinician-supported interventions, such as group support and online counselling. Online counselling is typically delivered via real time

chat (synchronous) or email (asynchronous), with most publically funded single-session interventions typically provided anonymously (e.g., *Kids Helpline*, *Counselling Online*, *Lifeline*, *Gamcare*).

Internet interventions have the capacity to increase the accessibility of treatment, particularly for people with disorders that are highly stigmatised. Initial research in this mode suggests ease of access and potential for anonymity are particularly attractive to females who gamble online (Wood & Wood, 2009). Typically accessed outside traditional business hours (Swan & Tyssen, 2009), the structural characteristics of online services, such as the absence of physical or verbal cues to identity and direct access from home or work, enhance opportunities for help-seeking. This is possibly why some studies report up to 85% of people accessing online counselling are first time treatment seekers (Young, 2005).

There is a growing body of research on gambler characteristics and uptake of online gambling (e.g., (Gainsbury, Wood, Russell, Hing, & Blaszczynski, 2012; Griffiths, Wardle, Orford, Sproston, & Erens, 2011; Potenza et al., 2011), however research into online counselling for gambling is scant (Gainsbury & Blaszczynski, 2011; Griffiths, 2005). To date, empirical research has included investigations of search terms and strategies in online help-seeking (Lee, 2011), self-directed interventions with minimal support such as via email or telephone (Carlbring & Smit, 2008; Casey, Oei, & Raylu, 2009), feedback to online self-assessment (Cunningham, Hodgins, Toneatto, & Murphy, 2012) and content analysis of posts and a survey of participants using message boards for problem gambling (Wood & Wood, 2009). Counselling online, delivered via real time chat or email, has been limited to an evaluation of the United Kingdom GamAid program (Wood & Griffiths, 2007). This program, which provides information, screening and referral via real time chat, attracted high rates of female gamblers, with a preference to gamble and access help online.

Recognising that online counselling has the potential to extend the reach of existing services, Australian state and federal governments recently funded a single national website for the online treatment of problem gambling. Launched in September 2009, the primary aims of the service are to (1) attract a new cohort of treatment seekers and (2) extend the range of current services by directly addressing barriers to treatment such as shame and stigma, geographic isolation and hours of operation.

Two counselling options, real time chat and email support, were developed within the wider Gambling Help Online platform. Developed over a nine-month period and informed by a literature review and environmental scan of mental health and gambling websites, support materials were also developed which included information on gambling issues, interactive self-assessments, strategies for regaining control, accessing support and helping others. Website functionality, content and branding was informed by focus groups, which were conducted across several Australian states (Queensland, New South Wales and Tasmania). At-risk/problem gamblers and their family and friends were unanimous in the selection of the name *Gambling Help Online*, and suggested that the site should be friendly, trustworthy, professional and accessible anonymously.

Over the initial 24 months of service delivery, the *Gambling Help Online* website attracted high volumes of visitors. This included 109,859 visits by 85,703 visitors. New visitors stayed on the site for 2:16 minutes and viewed an average of 2.9 pages (Turning Point Alcohol and Drug Centre, 2011). Approximately 22% of visitors returned more than once and when returning stayed longer (average duration 4:05 minutes) and viewed more pages (3.65 pages viewed). Google analytics indicated that site content was also frequently viewed with 336,467 page views including a self-assessment for problem gambling risk (15,959 views) and self-assessment of gambling spend (7,344 views). Content pages most viewed included helping others

(11,392 views), regaining control (5,107 views), signs of a problem (4,796 views) and maintaining change (4,242 views).

While providing an accessible source of information on problem gambling, a key component of the program is its counselling options. Almost 40,000 views of pages describing online counselling were accessed which describe the features and functionality of the chat and email programs. Little is known of who accesses online counselling in Australia, and in particular those accessing online counselling for problem gambling. This paper describes the characteristics of people accessing chat and email programs over the first two years of *Gambling Help Online*, and examines whether the program did attract a new cohort of treatment seekers.

3.2 Method

3.2.1 Participants

Over the initial two-year period of operation, 2869 people accessed real time chat and email support. As we were interested in individual gambler characteristics, we excluded repeat sessions as well as contacts not enquiring about their own gambling (e.g., administrative enquiries, students, professionals, venue workers). While approximately 83% of clients accessing the service did so related to concerns about their own gambling, 17% of contacts were from family and friends, and these were also excluded from data analysis. The final dataset included 2021 unique clients who accessed real time chat (85.2%) and email support (14.8%) between mid-September 2009 and mid-September 2011.

In November 2010, two new data collection fields were introduced, documenting preferred mode of gambling and treatment seeking status. Specifically we asked ‘what is your preferred method of gambling’ and ‘is this the first time you have ever made contact with a

counsellor about your gambling concern?’ Data for these variables were available for 956 chat and 168 email clients included in this study.

3.2.2 Measures

Data reported in this paper were entered by the client and included demographic information (i.e., gender, age, postcode, cultural background), knowledge of service, whether treatment had previously been sought, gambling involvement (relationship to gambler, type and mode of gambling) and a measure of gambling severity. The nine-item Problem Gambling Severity Index (from the Canadian Problem Gambling Index) was selected to screen for gambling severity due to its frequent use in face-to-face problem gambling treatment agencies and its reported good internal consistency, test-retest reliability and criterion validity with measures of gambling involvement (Ferris & Wynne, 2001), as well as its recent use in other studies involving online data collection methods (Gainsbury et al., 2011; Wood, Williams, & Lawton, 2007). Scores range from 0 to 27, with participants who score between 8 and 27 classified as problem gamblers.

3.3 Gambling Help Online counselling programs

The two counselling components of Gambling Help Online are real time chat and email support. Both of these programs are accessible via the Gambling Help Online website and are offered to anyone concerned about gambling. To access these programs, participants enter via the website homepage, or links throughout the website, and are offered a set of terms and conditions outlining the programs. Participants then proceed to a series of demographic and gambling related questions, with the responses provided to the counsellor at session commencement (chat or email).

3.3.1 Real time chat

Clients can register or access anonymously, with the provision of an email contact the only difference. Real time chat is offered 24/7 and works similarly to instant messaging, where both the counsellor and client type in a secure environment. The amount of content covered in an online session is about half of that in a face-to-face or telephone session, so push-page technology was developed to introduce previously developed content which then becomes a source of discussion within the counselling session (e.g., ways to cut down/quit, strategies for money management). A chat session typically lasts around 45 minutes with around one-third of registered chat clients returning for two or more counselling sessions. However, the proportion of returning clients is likely to be significantly underreported as this accounts only for those who registered (as opposed to anonymous access). While most clients talk to a different counsellor during each treatment episode, the transcripts of registered clients can be viewed at each visit. Registered clients also have a 'my profile' page which holds referral information, results of any assessments (e.g., gambling severity) and previous counselling sessions.

3.3.2 Email support

In response to focus group concerns around the term counselling (which they thought would be a barrier to help-seeking for some people), it was decided to differentiate real time chat and email by referring to it as email support. Throughout the website, email support is promoted as 'got a question get an answer' and 'wanting to do it yourself? Tell us about your plans'. Similar websites that provide chat and email support report email to be more popular (BoysTown, 2011), however given that many gamblers need immediate support after they have lost money, we expected that the immediacy of real time chat would be more attractive than a delayed response provided via email.

Email support is provided via the same secure site as the real time chat. Initial client

emails are responded to within 24-hours and clients can switch between email support and real time chat during their engagement with the service. A client is allocated the same counsellor for two to three emails a week for approximately six weeks. The average number of emails exchanged between counsellor and client is 4.4, with a range of 2-30 email exchanges.

Counsellors responding to chat requests have qualifications in psychology or social work with training and expertise in the area of problem gambling and online counselling. In developing the service, we determined that email was likely to attract clients engaged in multiple exchanges and was more likely to reflect typical ongoing problem gambling counselling work than single session chat. As such, counsellors responding to email requests are registered psychologists or social workers, which is equivalent to the qualification requirement in at least one face-to-face gambling service in Australia. These clinicians also provide mentoring and training to those providing chat services as well as direct service provision to chat clients.

3.4 Data collection and analysis

Data was extracted from a Microsoft Access database and analysed using SPSS, version 18. Data were screened for inconsistencies including missing values, outliers and violations of statistical assumptions prior to analyses. Scales with less than 5% of cases were recoded into a single category, such as other types of gambling (which included lotteries, keno, E-bay, illegal gambling, stock markets and bingo). The reporting of ethnicity as Australian or Aboriginal was maintained, with all other responses recoded into regional groupings (i.e., Africa, Americas, Asia, Europe and Oceania) (United Nations, 1998).

Sample characteristics in terms of demographic and gambling involvement were assessed using descriptive statistics. Differences between chat and email were analysed via a series of chi-

square procedures or analyses of variance where data was continuous. There were some comparisons where numbers were too small to meet the underlying assumptions of the test. Where this occurred, trends have been reported and noted throughout. Tests for normality and homogeneity of variance were conducted, and as it was found that scores on the PGSI were highly skewed, a reflected square root transformation was performed (Tabachnick & Fidell, 2007).

3.5 Results

3.5.1 Differences between chat and email

As shown in Table 7, gamblers accessing real time chat were more often male ($\chi^2(1)=76.9$, $p<.001$) and while email support also attracted a higher proportion of males, that difference was not significant. Significant differences emerged between programs with a higher proportion of males accessing online chat than email support ($\chi^2(1)=4.80$, $p<.05$). Although females comprised just 40.4% of the sample, they comprised 46.2% of email clients.

The majority of participants were aged under 40 years ($M=34.5$, $SD=11.8$). Significant differences emerged between chat and email across all age groups, with those under 40 years more likely to engage in chat rather than email (72.2% vs. 56.9%), while those over 40 years accessed email more often.

Table 6: Characteristics of people who access real time chat and email support

<i>n</i> and %	Chat	Email
Gender (% male)	1043 (60.6)*	161 (53.8)
Age		
Under 20	86 (5.0)	8 (2.7)
20-29	680 (39.5)*	99 (33.1)

30-39	478 (27.7)*	63 (21.1)
40-49	272 (15.8)*	65 (21.7)*
50-59	160 (9.3)	50 (16.7)***
60 or older	46 (2.7)	14 (4.7)*
Gambling Type		
EGM	1149 (66.7)	217 (72.6)
Horses/dogs	271 (15.7)	39 (13.0)
Casino (Table)	104 (6.1)	15 (5.0)
Sports bet	87 (5.1)	12 (4.0)
Card games	52 (3.0)	5 (1.7)
Other	59 (3.4)	11 (3.7)
Preferred mode gambling		
Face-to-face	720 (75.4)	133 (80.1)
Internet	167 (17.5)	22 (13.3)
Other/Unsure	68 (7.1)	11 (6.6)
Ethnicity		
Australian	1186 (68.9)	212 (70.9)
Aboriginal	20 (1.2)	3 (1.0)
Oceania	60 (3.5)	12 (4.0)
Asian	240 (13.9)	37 (12.4)
European	176 (10.2)	32 (10.7)
American	17 (1.0)	1 (0.3)
African	23 (1.3)	2 (0.7)

* $p < .05$, ** $p < .01$, *** $p < .001$

Participants were asked to list the main type of gambling that had resulted in problems. The most problematic form of gambling reported was EGMs. There were no significant differences between chat and email on any gambling type indicators, however due to small differences across the range of gambling options, fewer people identified EGM gambling in the

chat group compared to email. The mode of gambling was predominantly land based at a venue (76.1%), with 16.6% of participants stating that their preferred mode was online (desktop PC, smart phone or digital television) and only eight people reporting a preference for telephone betting. Most participants reported their ethnicity as Australian, followed by an Asian background, with no differences evident between services.

Almost all participants were problem gamblers ($n=1961$, 92%) with a range of scores between 8 and 27 ($M=21.2$, $SD=4.5$). A small number of people screened on the PGSI as not at risk ($n=5$) or at low to moderate risk for a gambling problem ($n=13$). A one-way between groups analysis of variance (ANOVA) was used to investigate the type of service accessed and severity of gambling. Participants accessing chat reported significantly higher scores on the PGSI than those using email (untransformed means were $M=21.3$ vs. $M=20.3$, $F(1, 1977) = 13.37$, $p<.001$), with females scoring higher than males using chat ($F(1, 1682) = 12.59$, $p<.001$) and email ($F(1, 283) = 5.69$, $p=.018$).

Over 70% of people accessing real time chat did so during evening, overnight or weekend periods. There was no difference in services used during overnight or weekend periods, but email was used more often during business hours than chat (37.8% vs. 30.7%, $\chi^2(1) = 5.98$, $p = .014$).

Counselling functionality was limited to people with an IP address originating in Australia. Victoria (35%) and New South Wales (36%), the biggest states in terms of populations also had the highest proportion of chat and email participants, followed by Queensland (16%) and South Australia (6%). Aligned with their smaller population, fewer participants originated from Tasmania (2%), Western Australia (2%), the Australian Capital Territory (1%) and the Northern Territory (<1%). Compared with the total sample, three states had significantly higher proportions of clients choosing email over chat, including Western Australia ($\chi^2(1) = 9.97$, p

=.004), Tasmania ($\chi^2(1) = 4.06, p = .044$) and Queensland ($\chi^2(1) = 8.324, p = .005$). In contrast, opposite trends were noted with the Australian Capital Territory (ACT) with only 2 out of 29 participants choosing email.

3.5.2 Gender differences within chat and email

While few differences were found between chat and email on client characteristics, there were significant differences within services by gender. As shown in Figure 2, over 60% of chat clients were males, with over half aged under 30 years. In comparison, the age of females was evenly distributed and did not indicate the same sharp decline over 40, as seen in males accessing chat.

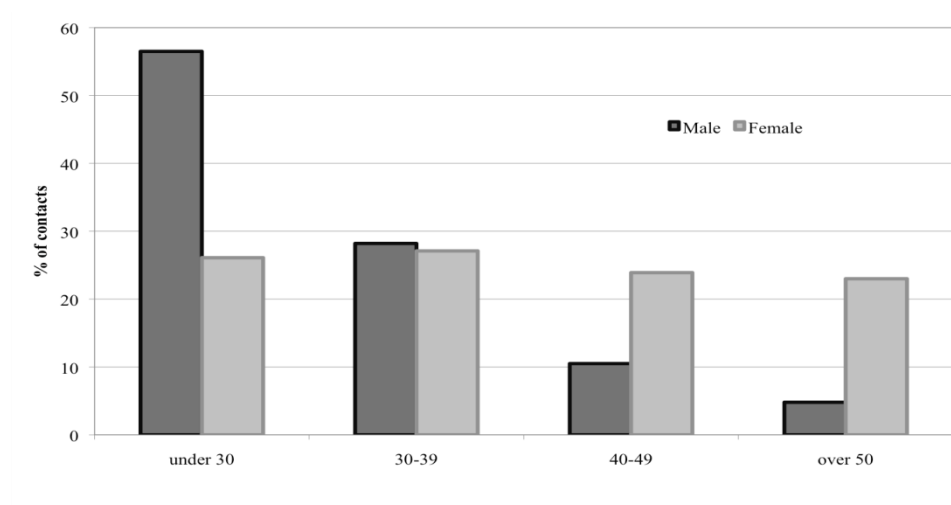


Figure 1: Age and gender of participants using chat

As shown in Table 8, there were also significant gender differences for chat clients in types of gambling, with females almost exclusively engaged in EGM gambling. Compared with females, males accessing the service reported significantly more problems associated with wagering, casino gambling and sports betting, and placed their bets more often via the internet. Compared with females, there were significantly higher rates of Asian male gamblers accessing the chat service (18.1%).

Table 7: Client characteristics by gender within chat and email

<i>n</i> and %	Chat		Email	
	Male	Female	Male	Female
Gender	1043* (60.6)	679 (39.4)	161 (53.8)	138 (46.2)
Age				
Under 30	589 (56.5)***	177 (26.1)	87 (54.0)***	20 (14.5)
30-39	294 (28.2)	184 (27.1)	42 (26.1)*	21 (15.2)
40-49	110 (10.5)	162 (23.8)***	20 (12.4)	45 (32.6)***
Over 50	50 (4.8)	156 (23.0)***	12 (7.5)	52 (37.7)***
Gambling Type				
EGM	538 (51.7)	611 (90.3)***	93 (57.8)	124 (89.9)***
Horses/dogs	257 (24.7)***	14 (2.1)	36 (22.4)***	3 (2.2)
Casino (Table)	93 (9.0)***	11 (1.6)	11 (6.8)	4 (2.9)
Sports bet	82 (7.9)***	5 (0.7)	11 (6.8)**	1 (.7)
Card games	45 (4.3)***	7 (1.0)	5 (3.1)	0
Other	25 (2.4)	29 (4.3)*	5 (4.1)	6 (4.3)
Method of gambling				
Face-to-face	423 (71.1)	297 (82.3)***	72 (73.5)	61 (87.1)*
Internet	134 (22.5)***	33 (9.1)	15 (15.3)	7 (10.0)
Other/Don't know	38 (6.4)	31 (8.6)	11 (11.2)	2 (2.9)
Ethnicity				
Australian	671 (64.3)	515 (75.9)***	114 (70.8)	98 (71.0)
Aboriginal	11 (1.1)	9 (1.3)	2 (1.3)	1 (0.7)
Oceania	35 (3.4)	25 (3.7)	5 (3.1)	7 (5.1)
Asian	189 (18.1)***	51 (7.5)	28 (17.4)**	9 (6.5)
European	114 (10.9)	62 (9.1)	10 (6.2)	22 (16.0)**
American	7 (0.7)	10 (1.5)	1 (0.6)	0
African	16 (1.5)	7 (1.0)	1 (0.6)	1 (0.7)

* $p < .05$, ** $p < .01$, *** $p < .001$

Similar trends in age and gender were found in people accessing email. Those aged less

than 30 years were significantly more often male than female (54.2% of males vs. 14.5% of females). Somewhat differently than chat, there was a strong skew towards older women, with 70.3% of females accessing email aged over 40 years. Again, there was a significant difference in type of gambling, with almost 90% of females and 58% of males experiencing problems with EGMs. There were significantly more males than females of Asian background accessing the email support program as well as significantly more females of European background.

3.5.3 Treatment seeking status

Almost 70% of people accessing chat and email between November 2010 and September 2011 were seeking treatment for the first time. People using email were significantly more likely to be new treatment seekers (78.0%) compared with chat clients (68.1%, $\chi^2(1) = 6.59, p = .011$). New treatment seekers using chat were more likely to be male than female (72.3% vs. 62.2%, $\chi^2(1) = 12.68, p < .001$), with no difference by gender for email contacts.

Approximately 25% of clients had previously sought treatment, including face-to-face (61.7%), telephone (17.5%), online at this site (12%) online at another site (3.3%) and other (5.5%). There was no difference by previous treatment seeking between services or within services by gender.

Of the 56 people currently seeking treatment, this was most often face-to-face (42.9%). Clients also nominated chat (23.2%), email (14.3%), telephone (10.6%), other website (3.6%) and other (5.4%). Almost all of those currently seeking treatment accessed chat rather than email (54 out of 56 clients). There was a significant difference in the proportion of female chat clients (9.1%) currently seeking treatment compared to male clients (3.5%, $\chi^2(2) = 13.27, p < .001$).

Differences between new, previous and current clients' gender, age, method of gambling and ethnicity were also found. New treatment seekers were significantly more often male than

female (64.7%) compared with current treatment seekers (37.5%, $\chi^2(2) = 18.75, p < .001$). New treatment seekers were also more often aged under 30 years (50.3%) compared with previous (28.7%) or current clients (25.0%, $\chi^2(2) = 48.12, p < .001$). Current clients were significantly more often aged 30-39 (57.1%) compared with new (23.0%) or previous clients (32.5%, $\chi^2(2) = 36.52, p < .001$). Clients aged between 40 and 49 years had accessed treatment more often in the past (22.4%) compared with new (15.3%) or current (8.9%) treatment seekers ($\chi^2(2) = 10.16, p = .006$). While no differences were found by type of gambling, fewer current treatment seekers accessed their gambling face-to-face (62.5%) compared with new (75.1%) or previous (81.5%) treatment seekers ($\chi^2(2) = 10.66, p < .005$). Current treatment seekers were significantly more likely to be of Asian background (26.8%) compared with new (13.2%) or previous (14.3%) treatment seekers ($\chi^2(2) = 1.961, p < .001$).

3.6 Discussion

This study is the first to examine the characteristics of people accessing chat and email support services for problem gambling in Australia. Based on the first two years of *Gambling Help Online*, these data suggest that chat is a far more popular option than email for accessing counselling support online, with 85% of the 2021 unique clients accessing chat rather than email support. While chat was more frequently sought outside traditional business hours, email support was accessed more often during the day. While there has been little research comparing the uptake or attractiveness of these modalities, the current study found a higher proportion of chat versus email uptake, which is markedly different to data reported by other online (non-gambling support) services (BoysTown, 2011). Real time chat provides an immediate interaction with another person, which may be attractive after-hours when the person has either just been

gambling or is thinking about the problem. Email may be more popular during business hours when people are engaged in other activities, as chat is less amenable to interruption.

The characteristics of people accessing chat and email programs differed. Chat clients were more likely male than female and aged under 40 years. Email support, while still highly accessed by young males, was patronised more frequently by women among those aged over 40 years. The high rate of males accessing this online service is markedly different to service data reported elsewhere (Wood & Wood, 2009).

Previous studies suggest that four out of five people accessing treatment services have problems associated with EGM gambling (Delfabbro & Le Couteur, 2009). While our findings indicate that nine out of ten women experience problems with EGMs, only 56% of males reported EGM gambling as their primary source of problems, which is considerably different to data reported by Australian face-to-face and helpline services (Productivity Commission, 2010). Given that 22% of male gamblers preferred to gamble via the internet, it is possible that those gambling online also have a preference to seek treatment via an online modality. The same reasons cited for preferring online gambling (convenience, ease and comfort of their own home) may also make online counselling equally attractive (Wood et al., 2007).

Email was accessed proportionally more often in Western Australia, Tasmania and Queensland. Whether this is due to differences across states in terms of demographics, promotion of the online service, access to face-to-face services or other factors is difficult to determine, with limited data available to compare service access to problem gambling programs across different states. Whether people are choosing online support as a preference or because of other factors (e.g., lack of awareness of other services, individual or structural barriers) remains to be investigated.

We were interested in whether the service was attracting a new cohort of treatment

seekers. We found that 7 out of 10 people accessing the service were new treatment seekers, with almost 80% of email clients never previously seeking treatment for a gambling problem. New treatment seekers were more often younger (less than 30 years), and when using chat were more likely to be male than female. Compared with new treatment seekers, current or previous treatment seekers were more often aged 30-40 years. People currently seeking treatment were significantly more likely to be female and engage in chat rather than email support.

In comparison to the number of website visits, less than 5% engaged in a counselling option. Knowledge of the service is still growing, however there has been an exponential growth in demand for online counselling since its inception. Due in part to advertising, word of mouth, referral and return visits, we expect that demand will continue to grow similar to the experience of *GamCare* in the UK. Indeed, since it began around ten years ago, *GamCare* online contacts have grown to over 11,000 during 2010/11, almost half that of the complementary telephone helpline (GamCare, 2011).

3.6.1 Limitations

It is important to acknowledge several limitations. The data presented is self-report and directly entered online by clients accessing the online service prior to commencing a counselling session. While corroboration of self-report has been identified as important in determining the accuracy of gambling behaviour and impacts (Walker et al., 2006), the anonymous nature of this mode of intervention limits this opportunity. Nevertheless, data collection online has advantages in that missing data is significantly reduced (i.e., electronic forms will not generally save with incomplete questions). Self-report instruments developed for paper and pencil administration also appear to maintain their psychometric properties when delivered online (Ritter, Lorig, Laurent, & Matthews, 2004). However, influences including location (e.g., work, home), physical (e.g.,

intoxication) and psychological (e.g., distress) condition may impact administration validity (Barak & Buchanan, 2004). While online administration of the PGSI has been conducted elsewhere (Gainsbury et al., 2011), we found higher PGSI scores than that reported by other treatment-seeking populations (Walker & Blaszczynski, 2010). We have noticed that many clients have recently experienced harms from gambling, sometimes within minutes of completing screening tools, and this recency effect may distort recall of gambling behaviours. Identifying the time since the person last placed a bet, and/or reapplying the screen at another time may further validate these high scores.

3.6.2 Clinical implications

The primary aims of this service were to (1) attract a new cohort of treatment seekers and (2) extend the range of current services by directly addressing barriers to treatment such as shame and stigma, geographic isolation and hours of operation. Our findings suggest that up to 70% of people accessing the site have never sought treatment before. Of those that had sought treatment, 38% had typically accessed single session interventions online or by telephone. If one or more single session intervention/s is the only treatment sought, identifying the ingredients of a successful online intervention is critically important. Indeed, it is timely to consider to what extent those engaging in a counselling option (chat or email) and those visiting the website subsequently seek more formal treatment.

Games involving strategy (i.e., wagering, sports betting, casino games) were reported as the source of problems by almost half of male gamblers using chat. While further research is required, we suspect that this rate of non-EGM problems is higher than reported by helplines and face-to-face services, and warrants urgent attention. If this pattern continues or expands to other treatment modalities, counsellors will require additional training to better understand a wider

range of betting options and modes, not just EGM gambling.

This study did not directly identify reasons for using the service (e.g., shame/stigma, geographic location). However, previous research has suggested that relative anonymity provided by the internet is attractive to people with gambling problems (Wood & Wood, 2009). In this study, there were higher than expected proportions of males identifying as from an Asian background accessing chat and email, and higher proportions of female Europeans accessing email. Whether the relative anonymity is especially attractive to people from different cultural backgrounds, or those experience shame/stigma, requires further investigation.

The sign-in process outlined in the current paper is not without its problems. In an effort to reduce barriers to entering the service, an option between anonymous and registered was provided with the only difference being the provision of an email contact. The current research highlights challenges in this method, including an inability to differentiate new and returning client sessions, the proportion of chat and email participants who used both forms, determine improvement in symptoms reported at each visit or reliably identify the differences in characteristics between those who are new or returning to the service (as we know that many anonymous clients identify as being previous clients and many chat clients also use email). The current research also attempted to reduce the dataset to unique clients by removing those with registered repeat sessions and where anonymous repeat sessions were clearly identifiable (e.g., same postcode, ethnicity, age, gambling problem). However, it is possible that there was still replication of anonymous data and it was not possible to detect whether there was exclusive use of chat, email or a mix of chat and email). As such, it is recommended that online counselling services align themselves with other professional sites where sign-up is required, albeit with minimal identifying data.

3.6.3 Conclusion

Our findings indicate the value of multi-modal service options for problem gambling, and suggest that online support is attracting a new cohort of treatment seekers. Differences in uptake of services by gender and age, as well as differing gambling preferences, highlight the need for greater targeting of interventions and health promotion campaigns, as well as more tailored website content. Further research is needed to determine how these interventions work in improving readiness to change and symptom management both within and between sessions. While understanding who uses online counselling for problem gambling in Australia, it would be helpful to know the perceived usefulness of the service and how therapeutic focus and processes (e.g., identification and management of negative affect) relate to short and longer-term gambling outcomes.

**Declaration for Thesis Chapter 4
Monash University**

Declaration by candidate

In the case of Chapter 4, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Conceptualization of study, review of literature, data analysis, manuscript synthesis and preparation	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution
Prof Dan Lubman	Conceptualisation of study, supervision and revision of drafts
Mr Ravi Iyer	Assistance with data analysis
Assoc/Prof Nicki Dowling	Conceptualisation of study, supervision and revision of drafts

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

**Candidate's
Signature**

	Date 24/8/14
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**Main
Supervisor's
Signature**

	Date 24/8/14
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*Note: Where the responsible author is not the candidate's main supervisor, the main supervisor should consult with the responsible author to agree on the respective contributions of the authors.

Chapter 4: Subtyping based on readiness and confidence: The identification of help-seeking profiles for gamblers accessing web-based counselling

This chapter constitutes a manuscript in revision for publication in
Addiction

Publication note

Chapter 4 constitutes the original article as submitted to *Addiction*. The article is currently in revision and will be resubmitted during the assessment of this thesis. Based on reviewer feedback, the resubmitted paper will retain the majority of the original content, but with the following changes. The introduction will be rendered significantly briefer and specific hypotheses included. Regarding the methodology, participant characteristics will be moved to the results and a table will represent these findings. The Latent Class Analysis remains essentially the same but with the addition of confidence intervals and participant characteristics will be analysed with a multinomial regression rather than series of ANOVA's. Lastly the findings will have a stronger focus on interpretation and clinical significance. A copy of the resubmitted article can be made available if required.

4 Subtyping based on readiness and confidence: The identification of help-seeking profiles for gamblers accessing web-based counselling

Background and aims: Pathological gamblers are not a homogenous group and recent data suggests subtyping can improve treatment outcomes. However, to be relevant for clinical services, measures need to be short and valid. In this context, readiness rulers are routinely used in motivational treatments for a range of addictive behaviours, and recent work has shown that they may be useful for subtyping smokers. This study examined the use of three readiness rulers (importance, readiness and confidence) to subtype gamblers accessing a web-based counselling service. **Participants:** We surveyed 1204 gamblers (1197 pathological gamblers) who accessed a single session of web-based counselling in Australia. **Methods:** Participants completed three readiness rulers as well as demographics and the problem gambling severity index (PGSI) before a single session. **Findings:** Four out of five gamblers were ready to change their gambling but reported co-occurring low confidence to manage an urge. A latent class analysis determined a 4-class model. Subtype 1 was characterised by a very high readiness to change and very low confidence to resist an urge to gamble (55.0%) and Subtype 2 reported high readiness and low confidence (29.7%). Subtype 3 reported moderate ratings on all three rulers (11.5%) and Subtype 4 reported high importance to change but low readiness and confidence (3.7%). Subtypes differed by age ($p=.001$), gambling type ($p<.001$) modality of betting ($p<.05$), first contact with services ($p=.009$) and PGSI score ($p<.001$). **Conclusions:** Immediate web-based counselling appears to attract gamblers that are ready to change but have low confidence in resisting an urge. Subtyping help-seekers by readiness to change yielded four distinct groups suggesting online help-seekers require a range of interventions.

4.1 Introduction

Readiness rulers are routinely used in motivational treatments for a range of addictive behaviours including tobacco, substance use as well as problem gambling (Miller & Rollnick, 2002). Rulers are typically brief, easy to administer and provide a snapshot of the immediate situation.

Developed within a motivational interviewing framework, rulers are used to elicit change talk by exploring forward and backward movement along a ruler (e.g., querying why a client provided a rating of 5 and not 4). Measures of readiness typically include three constructs; the importance of making change, confidence in being able to carry out change and readiness to change (or how much is change a priority) (Miller & Rollnick, 2002).

Within the scientific literature, there is evidence that readiness rulers perform as well as more lengthy screeners (LaBrie, Quinlan, Schiffman, & Earleywine, 2005). They have been used in clinical trials to measure pre- to post-trial change following brief substance use interventions (Barnett et al., 2010) and to predict poly-drug use at follow-up evaluations (Hesse, 2006). Typically measuring readiness on a scale of 1-10, with higher scores indicating higher readiness, group means for each of the three core constructs appear to differ according to the population sampled. For example, in a sample of 375 current smokers presenting to 10 US emergency departments (who were not presenting for smoking cessation), importance ($M = 7.31$) was rated similarly to readiness ($M=6.16$), but was rated higher than confidence ($M=4.63$) (Boudreaux et al., 2012). A similar study involving patients presenting to an emergency department (ED) were screened for problems associated with alcohol ($n=179$), illicit drug ($n=157$) as well as co-occurring alcohol and drug use ($n=58$). In this non-treatment seeking sample, the administration of multiple sets of readiness rulers found confidence in quitting alcohol use ($M=6.76$) was greater than readiness ($M=5.63$) or importance ($M=5.83$) (Abar, Baumann, Rosenbaum, Boyer, & Boudreaux, 2012), whereas illicit drug users reported quite dissimilar readiness to change profiles, whereby importance ($M=8.30$) was rated higher than confidence ($M=7.31$) and readiness ($M=7.87$). Similarly, differential readiness scores were reported by participants recruited for a brief motivational intervention from a cohort of 20-year old Swiss men attending army recruitment (Bertholet, Daepfen, Wietlisbach, Fleming, & Burnand, 2005). Scores on rulers for alcohol indicated low readiness ($M=3.9$), importance ($M=2.7$) and high confidence ($M=7.2$), whereas smokers in the same study reported lower readiness ($M=4.6$) and similar importance ($M=5.3$) and confidence ($M=5.9$) to change smoking.

Abar and colleagues (2013) have extended this research to explore the use of readiness rulers to identify subgroups of smokers based on their readiness to quit. They screened 1549

patients presenting at a hospital ED in the United States yielding 609 smokers, and applied a series of latent profile analyses to scores on a set of three readiness rulers (importance, readiness and confidence). Four subtypes with different readiness to change profiles were identified: (1) highly motivated and somewhat confident (imminent change likely in 32% of sample) (LaBrie et al., 2005), moderately high importance but lower readiness and confidence (43% ambivalent), (3) change somewhat important but not ready and no confidence (17% low readiness), and (4) no readiness or determination of importance but somewhat confident in their ability to change (7% not motivated). Each of the subtypes were related back to the stages of change in the Transtheoretical model with imminent change similar to preparation, the ambivalent subtype similar to contemplation, while those not ready at all were similar in motivation to the pre-contemplation stages of change (Norcross, Krebs, & Prochaska, 2011).

Similar to tobacco cessation and substance use, readiness to change is an important consideration for problem gambling. Over recent years, gambling helpline callers have been screened as having high readiness to change (Hing et al., 2011; Ledgerwood, Wiedemann, Moore, & Arfken, 2012), with higher readiness to change predicting improved longer term treatment outcomes (Petry, 2005; Wulfert, Blanchard, Freidenberg, & Martell, 2006). However, this research has tended to include one item readiness rulers that do not include importance or confidence, or longer scales (such as the Gambling Readiness to Change Scale (Neighbors, Lostutter, Larimer, & Takushi, 2002) or an adapted University of Rhode Island Change Assessment URICA for gambling (Petry, 2005) that measured readiness in the context of the stage of change. In services providing an immediate intervention with no appointments, such as web-based counselling, these screens are not especially helpful to clinicians or researchers as most clients present with high readiness to change (Gomes & Pascual-Leone, 2009; Hing et al., 2011), while multiple lengthy screens would be impractical. Clinicians may be better assisted by

the identification of subgroups or profiles which can then be quickly responded to with an appropriate intervention (Abar et al., 2013). Indeed, identifying subtypes has important clinical applications in that it acknowledges problem gambling is not a homogenous condition (Blaszczynski & Nower, 2002). While previous research has identified subtypes of gamblers in terms of psychopathology and motivations for gambling (Ledgerwood & Petry, 2006), and the impact of subtypes on treatment outcomes (Ledgerwood & Petry, 2010), subtyping has yet to be extended to understand profiles of readiness to change in treatment-seeking gamblers. None of the available studies examined treatment readiness in gamblers accessing web-based counselling. This is important given increasing usage of web-based services, especially by young people and those who have not previously sought treatment (Rodda, Lubman, Dowling, Bough, & Jackson, 2013).

The aim of this study was to identify the readiness to change profile of gamblers accessing the web-based counselling service of the Australian national gambling site, Gambling Help Online, and to identify the degree to which there are subgroups of gamblers with different readiness to change profiles. Based on previous available research, we expected that a web-based service providing an immediate response would attract a high proportion of individuals who were ready to change but with low confidence in their ability to carry out or maintain that change. However, given previous work demonstrating that the service attracts a heterogeneous group of gamblers in terms of motivations (Rodda, Lubman, et al., 2013) and previous help-seeking (Rodda & Lubman, 2014), we expected to identify several subgroups of gamblers with different profiles of self-reported levels of importance, readiness and confidence.

4.2 Method

4.2.1 Sample characteristics and procedure

The sample included 1275 participants with gambling concerns who contacted Gambling Help Online over a 12 month period between March 2011 and February 2012. During data cleaning 71 participants were identified who scored 10 on all three readiness rulers and based on associated transcript data we identified that these were not true representations of their readiness and excluded them from further analysis, leaving a total sample of 1204. Gambling Help Online is an Australian web-based service offering immediate access to a range of clinical interventions including group forums, self-help and synchronous and asynchronous counselling information and referral. The current study included participants who accessed synchronous and asynchronous chat and email that was offered across a 24-hour period without appointment. Participants completed the demographic, problem gambling severity and readiness to change questionnaires prior to the counselling session. Ethics approval was granted from the University of Melbourne's Human Research Ethics Committee (ID: 1034028) and the Department of Justice's Human Research Ethics Committee (JHREC) (CF/10/17108).

The sample included 766 Australian males (63.7%) and 437 females (36.3%). Almost two-thirds were aged younger than 35 years of age ($n=741$, 61.5%) and 463 aged 35 years and older (38.5%). Participants were most often engaged in non-strategic gambling (such as electronic gaming machines (EGMs also known as slots, fruit machines or VLT's), lotteries, bingo, and keno) ($n=772$, 65.6%) than strategic gambling (such as wagering, casino gambling, and sports betting) ($n=404$, 34.4%), with 18.2% ($n=219$) preferring to gamble online or via the telephone. All but 7 participants were classified within the problem gambling category on the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (Ferris & Wynne, 2001) ($M=21.2$, $SD=4.4$). Over two-thirds of participants were seeking help for gambling problems for the first time ($n=829$, 68.9%).

4.3 Measures

4.3.1 Demographic information

The demographic questionnaire included gender, age, preferred gambling activity and preferred mode of gambling (i.e., face-to-face, telephone, online). In addition, participants were asked whether they had previously spoken to anyone about the gambling concern.

4.3.2 Gambling severity

The PGSI is currently the most frequently used screen for problem gambling (Ferris & Wynne, 2001). Respondents are asked to indicate how often each item applied to them in the previous 12 months on a 4-point scale. Scores range from 0 to 27, where higher scores indicate greater problem severity. Scores on the PGSI can be used to classify individuals as non-problem gamblers (score of 0), low risk gamblers (scores of 1 or 2), moderate risk gamblers (scores between 3 and 7), or problem gamblers (scores of 8 or higher). The PGSI has good internal consistency, test-retest reliability and criterion validity with measures of gambling involvement (Ferris & Wynne, 2001).

4.3.3 Readiness to change

Three readiness rulers, as described by Miller and Rollnick (2002), were adapted for problem gambling. Readiness rulers for gambling that restrict change to abstinence are problematic (Wulfert et al., 2006) so to reflect common service user goals, we included the option to limit or stop gambling. In addition, confidence rulers are commonly administered as *being able to quit in the next month and stay quit* (Abar et al., 2013), however in our clinical experience it is more helpful to examine known specific challenges and in particular the urge to place a bet. Our final three questions therefore asked participants to indicate on a scale of 1 to 10 'how important is it

for you that you limit/stop your gambling’ (importance), ‘where does losing limiting/stopping gambling fit on your list of priorities?’ (readiness), and ‘how confident are you that you could deal with an unexpected urge to gamble?’ (confidence). Readiness rulers have demonstrated adequate test-retest reliability (Donovan, Jones, Holman, & Corti, 1998). A recent psychometric study on the specific rulers of readiness, importance and confidence found the three constructs correlated highly, demonstrated high convergent validity with the stages of change model, and had good predictive validity for actual changes to drug, alcohol and tobacco use (Boudreaux et al., 2012; Hesse, 2006).

4.4 Data analysis

Latent Class Analysis (LCA) using LatentGold (Vermunt & Magidson, 2005) was used to investigate the underlying class structure of importance, readiness and confidence rulers. We used LCA as it allowed us to derive subtypes of readiness among our sample of help-seekers. This technique classifies observations into classes based on similar responses to the three readiness rulers. To specify the number of classes, several models (2-6 classes) were trialled. Latent Gold offers several information criteria to assist in determining the best model fit, including the Bayesian-Information Criterion (BIC) (Zucchini, 2000) and Akaike’s Information Criterion (AIC) (Bozdogan, 1987). The BIC assumes the true model will be one of the trialled candidates, whereas the AIC assumes the true model cannot be known (Burnham & Anderson, 2004). This latter position seemed more appropriate for this dataset to approximate underlying patterns of readiness to change. Furthermore this criterion suggests the best approximation will yield the lowest values of AIC.

One-way between groups ANOVA and Chi-square tests for independence were used to

investigate differences in particular characteristics between classes. The characteristics investigated were gender, age (below 35 years versus 35 years and above), type of gambling (strategic vs. non-strategic gambling), counselling contact (first versus current or previous contact), mode of gambling (in person vs. at a distance (i.e., internet, telephone or smartphone) and gambling severity (PGSI score). SPSS version 21 was used for all comparisons.

4.5 Results

Ratings were high for importance ($M=9.20$, $SD=1.51$) and readiness ($M=8.86$, $SD=1.84$) whereas participants typically rated low in confidence ($M=3.96$, $SD=2.44$).

4.5.1 LCA

Bivariate residuals in all models 2-6 were very close to zero indicating this assumption had not been violated. Table 9 below summarises the L^2 and AIC values for each of the 5 models evaluated. Using available evidence of the lowest (most negative) AIC indicator suggested the 4-class solution as the best approximation of the true model.

Table 8: Summary of L^2 and AIC values for 2-6 class LCA models evaluated

Class	L^2	AIC
2-class	880.50	-1049.50
3-class	771.95	-1150.05
4-class	762.86	-1151.14
5-class	755.83	-1150.18
6-class	743.65	-1144.35

Figure 3 illustrates average ratings on importance, readiness and confidence for the 4-classes in the final solution. The 4-class model featured the following classes: (I) very high readiness, very

low confidence (55.0%, $n=662$); (II) high readiness, low confidence (29.7%, $n=358$); (III) moderate ratings on all three rulers (11.5%, $n=139$) and (IV) high importance but low readiness and confidence (3.7%, $n=45$).

As indicated in Table 10, participants in Subtype 1 (very high readiness and very low confidence) were more likely to be 35 years or older and engaging in non-strategic gambling. Subtype 1 contained proportionally fewer first time help-seekers (than current or previous help seekers) and gamblers in this subtype reported higher gambling severity scores than the rest of the sample.

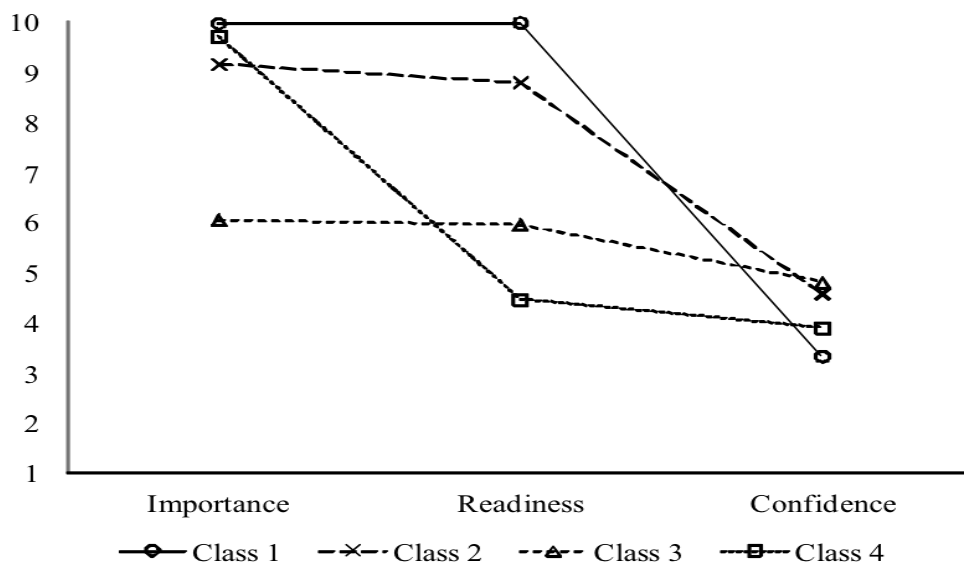


Figure 2: Latent profiles using importance, readiness and confidence ($n=1204$)

Subtype 2 was characterised by high readiness and low confidence, and individuals were more likely to be male and younger than 35 years. Subtype 3 (moderate readiness and confidence) were more often involved in non-strategic gambling and gambling that was carried out online. In addition, Subtype 3 had a significantly lower PGSI score than the rest of the sample. Subtype 4 while quantitatively different in terms of readiness, did not differ by demographic or gambling characteristics.

Table 9: Demographics, gambling characteristics and help-seeking history of readiness subtypes

	S1 (n=662)	S2 (n=357)	S3 (n=139)	S4 (n=45)	<i>F or χ^2 and p-value</i>
Gender (% male)	408 (61.4%)	247 (69.2%)*	80 (57.6%)	31 (68.9%)	$\chi^2(3)=8.66, p=0.034$
Age (<35 years)	374 (56.5%)*	238 (66.5%)*	96 (69.1%)	33 (73.3%)	$\chi^2(3)=16.78, p=.001$
Gambling type (Non-strategic)	465 (71.1%)*	220 (62.3%)	59 (49.6%)*	28 (62.2%)	$\chi^2(3)=28.54, p<.001$
Help-seeking (First contact)	436 (65.9%)*	260 (72.6%)	97 (69.8%)	36 (80.0%)	$\chi^2(3)=7.80, p=.050$
Gambling mode (In person)	535 (83.7%)*	283 (80.2%)	84 (70.0%)*	33 (78.6%)	$\chi^2(3)=12.85, p=.005$
PGSI (M & SD)	22.6 (3.6)*	20.2 (4.1)	17.1 (5.0)*	21.0 (4.1)	$F(3,1170)=82.01, p<.001$

*Note: *p<.05*

4.6 Discussion

Although readiness rulers are routinely used in a range of clinical interventions, there is limited knowledge of their usefulness in clinical research. Help-seeking gamblers most frequently presented to web-based counselling with high importance and readiness and low confidence to manage an urge. Although this profile was not consistent with the United States ED study of individuals with problematic alcohol use, which found confidence to change was significantly higher than readiness or importance (Abar et al., 2012), it was similar in pattern to those with illicit drug use, where importance was significantly higher than confidence (Abar et al., 2012). Nevertheless, our findings are consistent with individuals screened for tobacco cessation, who reported high importance and readiness and low confidence (Boudreaux et al., 2012). However, these previous studies were conducted with clients who were not actively seeking help, and while our study involved help-seeking for gambling issues it was similar to previous research involving illicit drug and tobacco problems in rating behaviour change as important. This has important implications for the development of interventions, and suggests motivational approaches for web-based counselling may need to focus less on increasing readiness to change and more on developing self-efficacy. With the reclassification of gambling in the DSM-V, there have been reviews suggesting the same motivational interviewing approaches can be applied similarly across addictive behaviours (Petry, 2006). However, the current literature (albeit predominately based on non-treatment seekers) suggests readiness for individuals with alcohol problems is different to those experiencing problems with gambling, illicit drugs and tobacco. This is possibly due to high levels of alcohol use in the population and high-risk drinking being relatively normative. Indeed, high importance has been found to be a predictor of longer term treatment outcomes for alcohol (but not tobacco), while confidence appears to be a predictor of

future alcohol and tobacco consumption (Bertholet et al., 2005). Given the majority of participants involved in research on the effectiveness of motivational interviewing are those with alcohol problems (Rubak, Sandbæk, Lauritzen, & Christensen, 2005), there is an urgent need to determine readiness profiles in treatment seekers across different addictive behaviours, and whether these profiles impact on the effectiveness of motivational approaches.

In terms of subtypes, we identified four discrete groups of help-seekers. Subtype 1 was similar to the first profile of smokers reported by (Abar et al., 2013), with high importance and readiness but low confidence. Over half of our sample exhibited this profile. This was substantially more than that reported in Abar et al.'s community-based sample of smokers not currently seeking help for tobacco cessation (32%). In describing this profile, Abar and colleagues suggested similarities to those in the preparation stage of the Transtheoretical model (Prochaska, DiClemente, & Norcross, 1992), in that they were both ready and confident that change could occur. Although similar, our help-seeking participants reported much lower confidence, which could be related to the question posed (i.e., confidence to resist an urge vs. confidence to quit for good) although it might be expected that quitting for good would induce less confidence than resisting an urge. The results may also reflect the demographic and gambling characteristics within this group. For example, compared with the total sample, Subtype 1 were more often older, engaged in non-strategic games and betting in a venue, reported greater severity of gambling, and were less likely to be seeking help for the first time. The predominant form of gambling was EGMs and indeed the importance of change reported by Subtype 1 may in part be explained by the type of gambling. Of all gaming products currently available, EGMs have been found to cause more problems due to its ease of access and structural characteristics (i.e., speed of play) (Blaszczynski, 2013), while EGM gambling is the most often reported reason for entering treatment (Blaszczynski, 2013).

Subtypes 1 and 2 were similar in that there was high reported importance and readiness but low confidence. However Subtype 2 ratings were less extreme than Subtype 1, and compared with the total sample, individuals in this group were more likely to be male and also younger. While both Subtypes 1 and 2 may well have been preparing for change or in the action phase, there was a need to enhance self-efficacy. This is an important issue given a previous meta-analysis of the efficacy of motivational interviewing found clinicians typically provide an empathic response that rolls with resistance and develops discrepancy, but often omits a focus on supporting self-efficacy (Vasilaki et al., 2006).

Subtype 3 reported moderate importance and readiness to change with slightly lower confidence, similar to ratings for smokers screened in a community setting (Bertholet, Gaume, Faouzi, Gmel, & Daeppen, 2012; Boudreaux et al., 2012). This subtype most closely resembled the second profile identified by Abar and colleagues (Abar et al., 2013), which included 43% of their non-treatment sample. In our study, just 13% of help-seekers were in this group, which closely approximates to the contemplation stage of change. This divergence online was not unexpected given gamblers attending face-to-face and telephone-based treatments typically have high readiness to change (Ledgerwood et al., 2012; Petry, 2005). Where previous research with gamblers seeking help found males were less ready to change when contacting a helpline (Ledgerwood et al., 2012), and were more ambivalent when entering face-to-face treatment (Petry, 2005), we found no gender differences. The difference may in part be explained by the measures administered in each of these studies, as we sought to determine temporal readiness via readiness rulers, while the studies of helpline and face-to-face services used the URICA to measure stage of change (Petry, 2005). In addition, Subtype 3 had more non-strategic gamblers, who were gambling online and also reported the lowest gambling severity scores. Given the ease of access to online services for those who also gamble online, it is possible that reduced barriers

are attracting those with ambivalence and in an earlier stage of the Transtheoretical model.

Subtype 4 had the lowest proportion of participants (4.2%) and was characterised by high importance with low readiness and confidence. This subgroup formed a similar pattern to Abar and colleagues' (Abar et al., 2013) third profile, where participants reported moderate importance but low readiness and confidence. However, our study differed in as much as participant readiness ($M=4.5$) and confidence ($M=3.9$) scores were low, while smokers in Abar and colleagues' study were very low. In addition, while Abar et al. found smokers reported greater nicotine dependence than the other subgroups, we did not find any difference by gambling severity or indeed other demographic or gambling indicators. This pattern of readiness aligns most readily with the pre-contemplative stage of change, where the individual does not think there is a problem and are not typically considering change in the near future (Prochaska et al., 1992).

As with many studies conducted in a web-based environment, the current study relied on self-reported data. Given that participants were engaging with a clinician, there is potential to substantiate and confirm reported readiness. However, limitations as to the amount of content that can be covered in a web-based session (about half that of a face-to-face or telephone intervention) may mean other techniques are more useful, such as conducting a content analysis of transcripts for change talk or indicators of self-efficacy (Hodgins, Ching, & McEwen, 2009). In addition, while the current study included one of the largest clinical samples for this type of research, the proportion of gamblers who were not ready for change was small (less than 15%) and future research might consider the profile of readiness rulers in a community sample of gamblers not seeking treatment.

Subtypes 1 and 2 may have been more strongly differentiated if multiple rulers had been applied to different forms of gambling, especially given Abar et al. (2012) findings that readiness

to change alcohol did not always equate to readiness to quit drug use (and vice versa), as well as Hesse (2006) who found limited similarity of readiness in poly-drug use screening. Further, our study did not examine the impact of subtypes on treatment engagement or longer term change, or their relationship to the types of treatment sought or provided. This is especially important given that subtypes were developed with rulers designed to capture a moment in time, with fluctuations common in the change process. Indeed, services providing immediate interventions have the opportunity to work collaboratively with a person as they transition through the stages of the Transtheoretical model, and ideally provide a brief single session intervention that sustains readiness while at the same time improves confidence.

**Declaration for Thesis Chapter 5
Monash University**

Declaration by candidate

In the case of Chapter 5, the nature and extent of my contribution to the work was the following:


Nature of contribution	Extent of contribution (%)
Conceptualization of study, review of literature, thematic and content analysis, manuscript synthesis and preparation	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution
Prof Dan Lubman	Conceptualisation of study, supervision and revision of drafts
Assoc/Prof Nicki Dowling	Conceptualisation of study, supervision and revision of drafts
Ms Anna Bough	Assistance with thematic and content analysis
Prof Alun Jackson	Conceptualisation of study, supervision and revision of drafts

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

**Candidate's
Signature**

	Date 24/8/14
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**Main
Supervisor's
Signature**

	Date 24/8/14
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**Chapter 5: Online counselling for problem gambling: Exploring motivations and
recommendations**

This chapter constitutes a manuscript published in the Journal of
Medical Internet Research (see Appendix A)

5 Online counselling for problem gambling: Exploring motivations and recommendations

Background: Particularly relevant to highly stigmatised disorders such as problem gambling, online counselling has the potential to address common barriers to treatment, including issues of shame and stigma. Despite the exponential growth in the uptake of immediate synchronous online counselling (i.e., provided without appointment), little is known about why people choose this service over other modes of treatment. **Objective:** The aim of the current study was to determine motivations for choosing and recommending online counselling over telephone or face-to-face services. **Methods:** The study involved 233 participants who had completed an online counselling session for problem gambling (gamblinghelponline.org.au) between November 2010 and February 2012. Participants were all classified as problem gamblers, with a greater proportion of males (58%) and 61% aged under 40 years of age. Participants completed open-ended questions on the reason for choosing online over other modes (i.e. face-to-face and telephone) as well as reasons for recommending the service. **Results:** A content analysis revealed four themes related to confidentiality/anonymity (reported by 27%), convenience/accessibility (51%), service system access (34%) and a preference for the therapeutic medium (27%). While few participants reported helpful professional support as a reason for accessing counselling online, almost half of participants stated that this was a reason for recommending the service (43%). Those aged over 40 years were more likely than younger people in the sample to use online counselling as an entry point into the service system ($P = .045$), while those engaged in non-strategic gambling (e.g., machine gambling) were more likely to access online counselling as an entry into the service system than those engaged in strategic gambling (i.e., cards, sports) ($P = .009$). Participants aged over 40 years were more likely to recommend the service due to its potential for confidentiality and anonymity ($P = .042$), while those under 40 years were more likely to recommend the service due to it being helpful ($P = .015$). **Conclusions:** This study provides important information on why online counselling for gambling is attractive, thereby informing the development of targeted online programs, campaigns and promotional material.

5.1 Introduction

Internet interventions have the potential to cover large geographical areas at low cost and reach marginalised and difficult to reach populations (Barak et al., 2008). Their potential for anonymity and convenience has increased access to information and counselling to groups such as young men (Ellis et al., 2012), in addition to attracting new treatment seekers (Young, 2005). Particularly relevant to highly stigmatised disorders such as problem gambling, online counselling has the potential to address common barriers to treatment, including shame and

stigma (Cooper & Doucet, 2002; Griffiths & Cooper, 2003). Indeed, shame has been identified as a significant barrier to help-seeking for problem gambling, as well as a reason for gamblers wanting to recover without formal assistance and not wanting others to know about the problem (Hing et al., 2011; Hodgins & El-Guebaly, 2000; Pulford et al., 2009). Research on internet interventions and problem gambling has included investigating the effectiveness of self-directed internet therapies (Carlbring & Smit, 2008), online peer support groups and message boards (Cooper, 2004; Wood & Wood, 2009), and tailored feedback on assessment (Cunningham et al., 2012). With the exception of an evaluation of a UK program which provided the first publicly funded synchronous real time chat intervention for problem gambling (Wood & Griffiths, 2007), no further research has been published on online counselling (i.e., synchronous real time chat) and problem gambling.

Research that has been conducted in online counselling environments has typically attempted to identify similarities and differences to the therapeutic alliance found in face-to-face or telephone counselling (Sucala et al., 2012). While online counselling shares similarities to these other forms of counselling in that it is synchronous and involves at least two parties, the lack of verbal, aural and physical cues, argued to be critically important to the development of therapeutic alliance, is absent. Indeed, the disadvantages of online counselling have been well documented, and include a lack of audio and visual cues, limited capacity to develop a therapeutic alliance, and modality issues such as typing speed, consent, privacy and comfort with the medium (Griffiths & Cooper, 2003; Haberstroh, Duffey, Evans, Gee, & Trepal, 2007; Mallen, Vogel, & Rochlen, 2005). While legitimate concerns, it is possible that clients find these issues attractive and perceived benefits of online counselling.

The motivations of people involved in ongoing online treatment were captured in a small study by Cook and Doyle (2002), who interviewed clients in their third or later session of

predominately email counselling for a range of issues, including mental health and relationships. They found motivations for using email and chat included viability (believing this mode would be effective), disinhibition (lowered embarrassment or fear of judgement), cost, travel, the ease of developing an honest client-therapist relationship and confidentiality/flexibility. In addition, clients said the benefits of a documented written text meant there was capacity to read over and reflect on counselling sessions. While this study has been used extensively as a basis for why people access online counselling, themes were based on the responses of only nine participants, with just three engaged in real time chat. Since this time, multiple studies have examined motivations of those engaged in appointment-based (often involving a cost) services and identified a number of additional motivators, including convenience, privacy and anonymity, face-to-face wait times and access to specialised services (Cook & Doyle, 2002; King, Bambling, Lloyd, et al., 2006; Leibert, Archer, Munson, & York, 2006; Young, 2005). To date, Leibert et al. (2006) conducted the only study to consider motivations as well as perceived advantages and disadvantages of using online counselling. This study found the reasons for using online counselling were similar to the perceived advantages (i.e., anonymity, flexibility, emotional expression).

There is minimal research involving free online counselling without an appointment. However, investigations of motivations for using real time chat provided without appointment have been conducted with clients and counsellors of the Kids Helpline, an Australian telephone and online service providing counselling to young people. One of these studies attempted to identify the motivation for using online counselling over telephone or face-to-face counselling (King, Bambling, Lloyd, et al., 2006), by recruiting young people waiting for a real time chat counselling session into online focus groups. A range of motivational factors emerged, including privacy and an emotionally safe environment (e.g., reduced exposure, privacy, control), and

issues around time (more time to reflect).

Although these studies are important in identifying why people use online counselling, there are several constraints that may limit their generalisation to immediate interventions. These include relatively small sample sizes (some as low as nine participants), as well as a lack of clarity on the modality of service offered (i.e., typically email rather than chat). Studies have also tended to focus on the lack of face-to-face elements rather than possible benefits associated with their absence, and only one study involving adolescents directly asked about motivations for accessing online over telephone or face-to-face services (King, Bambling, Lloyd, et al., 2006). In addition, participants in these studies have predominately been drawn from ongoing appointment-based counselling, with limited research into the experiences of those accessing free services without appointment. Lastly, few studies have sought to explore motivations for using online counselling as well as the impact of their experience on reasons for recommending that modality to other people with a similar problem.

The aim of the current study was to determine reasons for choosing and recommending online counselling. Based on previous research examining ongoing clients involved in a range of online modalities (i.e., chat, email, etc.), as well as young people engaged in brief interventions provided via real time chat, we expected themes to emerge associated with anonymity, confidentiality, flexibility and factors associated with the modality (i.e., record of session). We did not expect that cost, therapeutic alliance and counsellor credentials, which are similar to telephone and face-to-face services would be a reason for using or recommending online counselling over other options. In addition, recent research on barriers to help-seeking for problem gambling (Hing et al., 2011) indicate shame and stigma to be barriers to engaging in professional and non-professional help among younger people (18-39 years of age). As such, we expected motivations for accessing online counselling would differ by age, with younger clients

(<40 years) being more likely to endorse factors around shame and embarrassment than older clients.

5.2 Method

5.2.1 Participants

There were 241 participants with concerns about their own gambling, who accessed online counselling offered by the Australian national online counselling site *Gambling Help Online* between November 2010 and February 2012. Six participants left both open-ended questions blank and were removed, leaving a final sample of 235. Participants were more often male (58%) than female (42%), and were aged under 30 years (31%), 30-39 (30%), 40-49 (21%) and over 50 years (18%). Participants were most often engaged in non-strategic forms of gambling (including electronic gaming machines, lotteries, bingo and Keno) (71%) than strategic forms of gambling (i.e., wagering, casino gambling, sports betting) (29%). A preference to gamble online was reported by 17% of participants. All participants were classified as problem gamblers as measured by the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI) (Ferris & Wynne, 2001) ($M=21.6$, $SD=4.0$, range=8-27). Almost two-thirds of participants (62%) were new treatment seekers for problem gambling, with 34% having counselling and 4% currently seeking treatment at another service. Participants with previous help-seeking had accessed face-to-face (69%), telephone (15%), chat or email from *Gambling Help Online* (10%), or other sources, such as international websites (6%). Most sessions occurred outside traditional business hours, including evenings and weekends (70%), and participants represented all states across Australia, except the Northern Territory.

Participants were offered an electronic exit survey at the completion of an online

counselling session. The survey was provided as a link when a counselling session was terminated and was not promoted by the counsellor or pop-up technology. The response rate for completing the exit survey was 17%. This response rate is comparable to online surveys that do not involve follow-up reminders, pop-ups or other methods to increase participation (Powell, McCarthy, & Eysenbach, 2003; Sheehan, 2001).

To determine the representativeness of the current sample, the demographics of participants were compared with the total population of 1219 clients who completed a real time chat counselling session with *Gambling Help Online* between November 2010 and February 2012. Chi-square analysis indicated that there were fewer participants under 40 ($\chi^2(1) = 27.140$, $P < .001$), and significantly more participants who had previously sought counselling via online, telephone and face-to-face ($\chi^2(2) = 12.344$, $P = .002$) in the research sample than the total client group. There were no significant differences between groups in terms of gender, ethnicity, severity, type or mode of gambling.

5.2.2 Procedure

Participants were offered an exit survey at completion of a counselling session via *Gambling Help Online*. This service provides real time chat and email support to around 1500 people affected by problem gambling each year. Gamblers, family and friends can access the service anonymously by completing a brief demographic survey and registering with an email address. Offered across a 24/7 period, this service provides immediate free access to professional counsellors without an appointment (Rodda & Lubman, 2014).

The service primarily provides counselling, information and referral for a range of gambling concerns. Brief interventions via reactive (inbound) helplines typically include brief assessment, feedback and advice (e.g., limiting time and money, scheduling alternative

activities). Provided as single sessions, counsellors responding to chat requests have qualifications in psychology or social work with training and expertise in the area of problem gambling. While a typical session is delivered over a 45 minute period, the amount of content covered online is around half of that discussed in face-to-face or telephone environments.

As part of a larger study, ethics approval was granted from the University of Melbourne's Human Research Ethics Committee (ID: 1034028) and the Department of Justice's Human Research Ethics Committee (JHREC) CF/10/17108. The exit survey was delivered at the end of the counselling session and contained two open-ended questions designed to elicit the motivations for choosing online counselling over other modalities. These included (1) *What made you decide to use online counselling over other types of assistance (e.g., telephone helpline, face-to-face counselling)?* and (2) *Would you recommend online counselling to someone concerned about a gambling issue (yes/no)? Why is that?* The overall survey included a range of post-session indicators and took between 10 and 15 minutes to complete. On completion, participants saved the survey, which was stored in a secure online database.

5.3 Data Analysis

The open-ended responses pertinent to this study were analysed using content analysis (Neuendorf, 2002). This method was chosen as client responses were diverse (i.e., one word to sentence responses) and we were interested in capturing novel and new themes as well as the extent of similarity of experience. In addition, this method of analysis allowed us to examine responses against previously developed categories and use an inductive approach to expand these new categories to represent the motivations of participants engaged in online counselling. Responses were capped at 200 characters and ranged between one and 52 words. Responses were

typically brief, with participants responding with an average 11 words (median = 8). When new categories emerged that were distinctly different to those previously reported, the researchers developed new labels and descriptions for these categories that were added to the dataset. Two of the researchers developed categories independently that captured all of the data (SR and ND), with a third researcher arbitrating differences and contributing towards the final category development (DL). To ensure categories were mutually exclusive, a number of categories were combined (e.g., privacy and confidentiality) and sub-categories developed.

Once initial categories were established, two researchers coded the entire sample and continuously checked categories with each other to ensure consistency (SR and AB). Responses varied from one word descriptions to sentences involving multiple reasons for using online counselling. As such, the unit of analysis was ideas or themes. For example, responses such as ‘access’ and ‘I find it easier to access’ were coded as ‘accessibility’. Responses including multiple ideas were coded into multiple categories. For example, the response ‘easy to use in comfort of home, safe, less confrontational’ was coded into two categories, ‘access from home’ and ‘comfortable’. Items that were ambiguous or not relevant to the motivation for treatment seeking were excluded from analysis (e.g., ‘I have a gambling problem’). Participant quotes reported in this paper have been provided verbatim except with minor alterations to spelling. Words added to assist readability are indicated within parentheses.

Following the initial analysis to identify themes and develop categories, two raters undertook three hours of training in the application of the data dictionary (i.e., definitions of categories and sub-categories). They each coded 30 responses for the two open-ended questions (13% of the sample). As described by Neuendorf (2002), the results of pilot testing were used to improve and adapt the coding dictionary prior to final coding and items with low responses were collapsed into single categories. Items were checked for inter-rater reliability using Cohen’s

kappa (κ), which calculates percent agreement while correcting for chance. Scores of .41 to .60 indicate moderate agreement, .61 to .80 substantial agreement, and .81 to 1 almost perfect agreement (Hallgren, 2012). A high inter-rater agreement was achieved ranging between .89 and .98. Eleven items were then resolved via consensus between the two raters, with a third researcher (DL) providing arbitration where consensus was unable to be reached.

To determine whether participants experienced online counselling differently according to age, gender, gambling type and previous treatment experiences, data were analysed via a series of chi-square procedures or t-tests where data were continuous. A McNemar non-parametric test was used to determine change in reasons for use over reasons for recommending across the sample. Proportions reported throughout the results relate to the number of participants who freely reported each item, rather than how many of the sample agreed with that reason.

5.4 Results

There were 222 participants who provided 351 reasons for using online counselling (13 participants did not respond to this question). Reasons reported by participants fell into four broad categories; (1) confidentiality and anonymity, (2) convenience and accessibility (3) service system access, and (4) therapeutic medium. The same four broad themes emerged as to why people recommended online counselling, with the addition of access to helpful professional support. A total of 229 participants provided 311 reasons for recommending the service (six participants were excluded due to insufficient information for classification).

5.4.1 Confidential and anonymous

Just over a quarter (27%) of participants mentioned issues around confidentiality and privacy as reasons for choosing online counselling over telephone or face-to-face counselling and

21% stated that this was a reason for recommendation. For some participants, online counselling provided a discrete option that could be engaged in without others knowing. This may be due to the gambling itself being hidden from others or the act of seeking help being hidden. For some, online counselling provided a safe, private and secure option where family, friends or co-workers would not overhear the individual discussing the problem.

My phone bills are viewable by work or family, I don't wish to be traced to calling for help (M, 30-34).

Anonymity was described in terms of 'not as daunting', 'not exposed' and 'not sharing problems with people you know'. It was viewed as an enabling factor to speaking about the problem, often for the first time.

It enabled me to face up to the fact that I have a gambling problem and talk to someone anonymously. It is the first time I have spoken to anyone about my despair over not being able to control my gambling (F, 55-59).

There was concern about being judged and embarrassment about having a gambling problem. Some participants described their experiences of having a gambling problem as a 'disgrace', and that they were 'ashamed' and frequently embarrassed. For some, help-seeking was 'demeaning', with one participant saying that they were able to admit the problem but not accept the embarrassment of disclosure. For others, embarrassment had prevented exploration of phone or face-to-face options.

I feel very embarrassed about even ringing making an appointment and/or meeting someone face to face. After tonight I have more confidence about eventually consulting with a counsellor, in the meantime I feel it's given me an avenue of help (F, 60-64).

Again, anonymity appeared to be an enabling factor for overcoming embarrassment and talking to a counsellor online. Some participants separately related embarrassment to the benefits of

anonymity and privacy. Indeed, when exploring why they would recommend the service, participants discussed feeling less judged and having increased control over the session.

It's easy to be honest about feelings when anonymous. It is very difficult to talk about the extent that problem gambling affects all areas of life. Online appears less judgemental and the option is always there to switch off and run away if need be (F, 55-59).

5.4.2 Convenience and Accessibility

Over half of participants (51%) stated that the reason they chose online counselling over telephone or face-to-face counselling was due to convenience, although only a quarter (26%) cited convenience as a reason they would recommend online counselling to others.

Almost a quarter 24% of participants said they chose online counselling as it was easy, simple, flexible, convenient and accessible. For some, easy access referred to being able to reach the service when experiencing difficulty.

The least effort to get counselling when you feel really down (M, 30-34).

Two time factors emerged, one around immediacy and the other around 24-hour access.

Participants said they were attracted by the immediate and quick access to a counsellor. In this situation, contact was typically in response to distress related to gambling behaviour and wanting to speak with someone immediately. For others, accessing online counselling was a spontaneous decision that was facilitated by the absence of an appointment process.

It was available; I saw the literature at the club earlier tonight and thought I'd give it a go (F, 40-44. 3.14 am)

Similarly, 24-hour access was attractive as it provided a help-seeking option at a convenient time, including evenings, overnight and weekends. A small number of participants described a preference for accessing online counselling from home. For these participants, the physical

comfort and not having to go to an office was attractive. For others, online counselling provided a low cost option where a landline was not available to call a helpline (mobile telephone calls to helplines are charged at standard call rate).

5.4.3 Service system access

Just over one-third (34%) of participants stated the reason for using online counselling was related to service system access, although only 17% cited service system access as a reason for recommending online counselling to others.

Specifically, 17% of participants identified online counselling as a good first step in both disclosing the gambling problem for the first time and accessing counselling.

I thought that it was a good place to start to get a feel for what I should and may expect from going to see a counsellor face to face. It was a good first step and the online counsellor provided information for me to go see a counsellor (M, 30-34).

Sixteen participants cited dissatisfaction with other help (7%). This included a range of issues such as wait-lists or helplines not answering and unsatisfying interactions with counsellors from other services. Some participants said they had tried everything else and were seeking a different perspective. In addition, four participants said that they did not know what other services were available or were not able to find any information on other options.

Referral to online counselling via advertising, word of mouth, and referral from other services was stated as a reason for using online counselling by 16 participants. Advertising and word of mouth was the reason 11 participants came to the site, and included online and television advertising, as well as information found via search engines, gambling venues or other websites. Two participants said that they chanced across the site and decided to 'give it a go'. For five participants, online counselling provided a referral to other forms of help.

Initially did online counselling to enquire about face-to-face counselling. It was also an opportunity to experience it for the first time (M, 35-39).

Only three participants stated they used online counselling as an adjunct to other treatment. For these participants, it was a method of accessing support in between counselling appointments, for relapse prevention, or where their counsellor was unavailable.

5.4.4 Therapeutic Medium

Thirty-three participants (27%) reported that they preferred online counselling to face-to-face or telephone counselling due to modality-specific features with 17% citing these factors as a reason for recommendation. This included a preference to talk to, or through, a computer rather than face-to-face. For these participants, the experience of chatting online was viewed as easier than talking face-to-face or via the telephone.

It's easier to talk to a screen (F, 25-29).

Participants identified a range of online counselling features as attractive, including the extended delivery time (i.e., time to think and reflect), the capacity to review and save transcripts, as well as the act of writing over speaking. One participant also suggested this was a reason for recommending online counselling.

It's less pressure. Writing actually makes you think about the situation in a logical (way).

Helps make order out of chaos (M, 40-44).

Eight participants reported that it was easier to express emotions using online counselling compared to telephone or face-to-face counselling. This was particularly the case where there was extreme distress and associated embarrassment.

It was late at night and I was very upset and crying so I would not have made any sense trying to talk to anyone (F, 35-39).

I do not like talking on phones and I prefer to cry without anyone seeing me (F, 30-34).

A few participants (5%) specifically stated that online counselling was more relaxed, comfortable and less confronting than telephone or face-to-face counselling.

Less confronting at the moment, it's easier when things are so bad to be anonymous (F, 60-64).

Lastly, six participants reported that the online platform facilitated more open and honest communication than phone or face-to-face modalities. This was also the case when participants reflected on why they would recommend online counselling.

It is discreet and allows for complete honesty with the anonymous counsellor and yourself (M, 30-34).

In this case, the participant identified anonymity of the counsellor as important. Indeed, a range of factors described above including anonymity, lack of physical presence and the perception that they felt less judged appeared to facilitate honest communication.

5.4.5 Helpful Professional Support

While few participants stated that they used online counselling because they thought it would provide access to professional and helpful support, almost half of participants (43%) stated that this was a reason to recommend online counselling. Helpful professional support was highlighted as helpful for improving mood (e.g., emotional regulation), confidence in resisting urges (e.g., awareness of triggers) and addressing gambling cognitions (e.g., alteration of gambling related cognitions about winning).

I gained useful facts that opened my eyes and helped me realise that the machine is designed to make money and for you to lose it (M, 20-24).

Eighteen participants reported that they experienced the relationship with the online

counsellor as non-judgemental and understanding and indicated that the counsellor knew what they were going through. Participants said counsellors provided ‘thought provoking questions’ without ‘sugar-coating it’. Being able to access an independent/neutral professional was viewed as helpful in problem solving. In this situation, the counsellor was viewed as empathic, expert and credible.

Because I feel much better in myself and I didn't feel judged in any way (F, 30-34).

Online counselling was recommended as a source of information and/or strategies. This included referral to other services and exploration of treatment options. Some participants described online counselling as ‘putting them in the right direction’ and helping them to find the right resources.

They helped me out. They came back with answers; phone numbers, just general help. It was just nice to know there was someone on the other side, reading your problems and telling you their opinion (F, 25-29).

Overall, 88% of participants said that they would recommend online counselling to someone with a gambling problem. Fourteen participants (6%) stated that they did not like the medium or that it generally was unhelpful. Ten participants (4%) had specific issues with the counsellor, involving miscommunication or a perceived lack of listening skills or the delivery of empathy. Lastly, a small number of participants (2%) experienced problems with the technology itself, premature disconnection or service dropout.

5.4.6 Differences in reported motivations by key demographic and help-seeking variables

We found few demographic differences between gender, age, gambling type (strategic and non-strategic), preferred modality (face-to-face, online or phone), severity of problem gambling, help-seeking experiences (new, current or previous treatment seeking), time of contact and reasons for

using online counselling. However, those aged 40 years or over were more likely to use online counselling as an entry point into the service system (39%) compared with those under 40 years (26%) $\chi^2(1) = 4.20, P = .045$, while those engaged in non-strategic betting (such as EGMs) were more likely to be motivated to use online counselling as an entry point into the service system (36%) compared with strategic gamblers (19%) $\chi^2(1) = 6.82, P = .009$. Those aged 40 years and over were more likely to recommend it due to its privacy and potential for anonymity (26%) compared with those under 40 years (15%) $\chi^2(1) = 4.41, P = .042$, while those under 40 years of age (47%) were more likely than older people (31%) to recommend online counselling because it was helpful, $\chi^2(1) = 5.95, P = .015$.

Given the similarities of response between motivations and recommendations we were interested in the degree of movement between these two variables. In terms of movement between motivations for use and reasons for recommending, 84 participants changed their initial response about convenience when asked why they would recommend online counselling. Of these, 18 participants changed their response to convenience (from another motivation), while 66 did the reverse, $\chi^2(1) = 26.30, P < .001$. In terms of service access, 67 participants changed their initial response, with 49 participants subsequently not identifying it as a reason for recommendation, while 18 did the reverse, $\chi^2(1) = 13.43, P < .001$. There was also a significant change in the proportion of participants endorsing helpful professional advice, with 93 participants subsequently endorsing helpfulness as a reason for recommendation and only 3 the reverse, $\chi^2(1) = 82.51, P < .001$. There was no significant change in the proportion of those endorsing anonymity/privacy or therapeutic medium. That is, those who endorsed these reasons did not significantly alter their response when asked why they would recommend online counselling.

5.5 Discussion

This exploratory study provides a first look at the reasons why people choose online counselling over telephone or face-to-face counselling and why they would recommend it to someone else with a gambling problem. As expected, themes around anonymity and confidentiality emerged, as well as flexibility, albeit within the larger theme of convenience and accessibility. Openness of expression overlapped with a range of factors associated with the therapeutic modality, including a preference for writing instead of talking. While therapeutic alliance and counsellor credentials, which are similar to telephone and face-to-face services, were not a reason for using online counselling, access to helpful professional support as well as the development of a therapeutic alliance was a reason to recommend online counselling. The hypothesis that younger people would endorse more factors around shame and stigma than older people was not supported.

The findings of this study indicate that while motivations for using online counselling over telephone or face-to-face is in response to barriers such as shame and stigma and accessibility (Pulford et al., 2009; Suurvali, Hodgins, Toneatto, & Cunningham, 2011), there are important differences, such as being able to easily reach help when experiencing distress or when highly motivated. Although our findings on age and gender by shame or stigma differed to those reported by Hing et al. (2011), we did find that males were more motivated than females by convenience and less by the immediacy the medium provided. In addition, younger people were also more likely to recommend online counselling due to its convenience than people over 40 years of age. Clearly, the environment in which counselling is accessed is increasingly relevant in online counselling, where privacy is of concern during business hours, possibly when the individual is help-seeking from a place of employment.

Congruent with previous research involving those engaged in a range of internet

interventions, concerns around anonymity and privacy, as well as easy and convenient access, emerged (Wood & Wood, 2009). While anonymity in previous studies has been related to “perceived anonymity” (Cook & Doyle, 2002), anonymity such that others are not aware of their treatment seeking (Young, 2005) and being physically unseen by the counsellor (Leibert et al., 2006), we found that anonymity was typically associated with an absence of identifying personal information (e.g., their name), as well as both theirs and/or the counsellor’s physical presence. Adolescents contacting the Australian Kids helpline reported that the privacy of online involved not wanting others to know that counselling was being sought at that moment (e.g., late at night when others are asleep, or being overheard on the phone) (King, Bambling, Lloyd, et al., 2006). These findings are also consistent with previous research, with online clients reporting greater concerns about their own physical environment (e.g., being heard by someone else in the house) than helpline callers, who reported fears of the internet being unsafe, (Fukkink, 2009).

In addition to differences between face-to-face, telephone and online environments, the current research identified important differences between immediate and appointment-based online interventions. Our study involved those accessing a free service that provided an immediate intervention. The intervention typically involves motivational interviewing and/or behavioural strategies (Gainsbury et al., 2013) following a brief screen of gambling severity and the immediate impact of problem gambling (i.e., level of distress). While these therapeutic interventions have been found effective for problem gambling, there has been almost no research on the effectiveness of these interventions delivered at a time when the participant is eager, ready and willing to talk. Indeed, participants talked about being highly motivated to act, which was often in response to distress, anger or anxiety. A desire for emotional relief may partially account for the speed of immersion found in this and other studies (King, Bambling, Lloyd, et al., 2006; Leibert et al., 2006), whereby the participant is already thinking about their concern prior to the

counselling session commencing.

Despite participant uptake of anonymous online counselling, there is scant research on the clinical benefits of providing an immediate intervention. It is perhaps surprising given widespread funding for helpline and online services across most areas of mental health, that minimal research exists on the impact of providing an intervention at the moment the person is experiencing harm. Over the past three years, the advent of smartphones and other mobile devices has significantly increased the frequency of interventions occurring at the time of the event (e.g., low mood) (Abar et al., 2012; Harrison et al., 2011) rather than at some future time (i.e., akin to appointment-based services). In addition, the utility of immediate interventions have also been explored in the context of emergency departments versus primary care, suggesting 85% of presentations relate to non life-threatening issues (Vermunt & Magidson, 2005). In this setting, where the presentation is not related to an accident or emergency, patients present due to a range of factors including convenience and access. A model by Padgett and Brodsky (Rodda, Lubman, et al., 2013) of accident and emergency presentations suggests an interaction of predisposing issues (e.g., social support), enabling factors (e.g., accessibility) and perceived need (e.g., level of distress) and partially explains why our participants would choose online over telephone or face-to-face services.

Few participants chose online counselling because it would provide helpful professional support, but when asked why they would recommend it to someone with a gambling concern, that the intervention helped, became important. Previous research involving clients in ongoing treatment indicated viability was a reason for choosing online counselling (Cook & Doyle, 2002). While a few participants mentioned service viability as a motivator, the main theme that emerged in our study was related to helpfulness of professional support. Given that it could be expected that telephone and face-to-face services also provide helpful professional support, we suspect that

the immediacy of the intervention, that is at the right time and right place, was important.

Participants were primarily asked the reasons for recommending online counselling in order to obtain additional information related to their motivations. Indeed, responses were similar across motivations and recommendations, except for the emergence of helpful professional support. Understanding the characteristics and experiences in relation to movement between these variables could have practical implications in terms of clinician training and evaluating service effectiveness. For example, shame and embarrassment is repeatedly reported as a concern for highly stigmatised conditions, but there is minimal literature describing how interventions and services best address this issue. In practical terms it would be helpful to know whether it is clinically more important to address the reason for presenting to a service (i.e., anonymity) or to provide an intervention that addresses the presenting issue (i.e., gambling). Indeed, our study indicated that some participants did not shift perspective (i.e., were motivated by anonymity and also provided this as a reasons for recommendation) whereas others did shift (i.e., motivated by anonymity and would recommend online counselling as it helped).

This research is the first to explore motivations of an adult population accessing immediate, online counselling for problem gambling. However, there are several limitations that need to be considered. First, participants in this sample were older than the population from which they were drawn and more often had sought help previously. Individual experiences combined with a slightly older demographic may mean that the motivations of some groups including younger people were under-represented. In addition, we had expected issues around shame and stigma to be more frequently reported by younger than older participants. Our sample was slightly older than the total online counselling population but still younger than other research involving adult gamblers (i.e., 61% of our sample was younger than 40 years of age). It is possible that stigma is an issue for any age group or that issues such as access and convenience

are more relevant for this population.

Second, surveys of help-seeking motivations are bound by the context and source of participants. As with the current study, they are typically cross-sectional, not capturing shifting motivations to change or motivations or readiness to seek treatment (e.g., influence of gambling harms, social pressure and time since last bet). Indeed, most previous surveys have involved clients of face-to-face or helpline counselling services, or identified perceived barriers of individuals not currently seeking help. Typically, these surveys have not been offered at the time the help was being sought and were retrospective reports. Although our study examined motivations at the time the decision was made, it is possible these reports were biased by their experiences of accessing the service.

Third, whether motivations are better identified via open-ended questioning or rating scales needs further investigation. As suggested by Pulford et al. (2009), many barriers to help-seeking for gambling are not identified until prompted. While our study found around half of the sample were motivated by convenient and easy access it is possible that this was important to a larger proportion of the sample. In addition, while the use of qualitative research methods allows us to be fairly confident that we are representing the views of participants, there are issues with drawing conclusions related to the impact of motivations on recommendations. For example, we found significant movement between motivations and recommendations on convenience, service access and helpfulness, but no significant change in anonymity/confidentiality and therapeutic medium. It is possible experiences, including the degree to which participant expectations are met, influence reasons for recommendation. Often client surveys include a question on whether the service would be recommended, typically as an indicator of satisfaction or rates of referral. However, responses may well be a better indicator of what happened in the intervention and whether they met participant expectations, rather than as an indicator of referral, which is

possibly unrealistic when highly stigmatised conditions are involved. Indeed, service usage statistics for Gambling Help Online indicate that fewer than 10% of clients state their knowledge of the service was derived via a referral from a family member, friend or professional.

In summary, we found that reasons for choosing online counselling over telephone or face-to-face services include issues of confidentiality/anonymity, accessibility, service system access, a preference for features of the therapeutic medium and professional support. Given the rapid expansion of service systems in response to the opportunities presented by technology, it is timely to identify the motivations for using services so that they can be better targeted, promoted and configured. While most front end gambling services, including telephone and online, are established at least in part to refer people to face-to-face services, our research suggests referral to services that cannot be accessed at a convenient time or place, or where a referral is deemed unnecessary, requires further investigation. Ultimately this would require the development of an evidence base, which demonstrates the uptake, usage, focus and effectiveness of all clinical interventions on offer. This should also identify the dimensions of the counselling session that contributes towards perceived helpfulness, including the impact of counsellor qualifications and counselling methods (including session focus, therapeutic techniques and mechanics of online counselling) on client outcomes. Given many online clients indicate that online counselling was not just a first step but also the only step in changing behaviour, there is an urgent need to develop and evaluate online single session interventions. To do this effectively, the reasons people are drawn to different services needs to be further examined.

**Declaration for Thesis Chapter 6
Monash University**

Declaration by candidate

In the case of Chapter 6, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Conceptualization of study, review of literature, thematic analysis, manuscript synthesis and preparation	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:


Name	Nature of contribution
Prof Dan Lubman	Conceptualisation of study, supervision and revision of drafts
Dr Alison Cheetham	Assistance with data collection and thematic analysis as well as revision of drafts
Assoc/Prof Nicki Dowling	Conceptualisation of study, supervision and revision of drafts
Prof Alun Jackson	Conceptualisation of study, supervision and revision of drafts

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

**Candidate's
Signature**

	Date 24/8/14
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**Main
Supervisor's
Signature**

	Date 24/8/14
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**Chapter 6: Single session web-based counselling: A thematic analysis of content from the
perspective of the client**

This chapter constitutes a manuscript published in the British Journal of
Guidance and Counselling

6 Single session web-based counselling: A thematic analysis of content from the perspective of the client

Despite the exponential growth of non-appointment based web counselling, there is limited information on what happens in a single session intervention. This exploratory study, involving a thematic analysis of 85 counselling transcripts of people seeking help for problem gambling, aimed to describe the presentation and content of online conversations. Observed from the perspective of the client, we found presentations were related to immediate help with a crisis and non-urgent assistance in developing strategies and skills. Almost all clients spent a great deal of time telling their story (i.e., the pattern, context, progression, and impact of the problem, motivation for continuing, and previous attempts to change) with less time spent exploring opportunities, readiness or self-efficacy related to change or relevant options and strategies. These findings provide important information that informs the application of traditional counselling approaches within web-based environments.

Email has been the most frequent type of computer mediated communication (Chester & Glass, 2006; Maheu & Gordon, 2000), however it is expected that within the next 12 months instant messaging will become more common than text messaging (Garratt & Poulter, 2014). Although web-based counselling has been offered to clients almost since the internet made it possible, research has largely focused on asynchronous email and the counselling of clients engaged in multi-session therapy (Richards & Viganó, 2013). Instant messaging (chat) is similar to traditional therapeutic modalities in that both client and counsellor engage in a real time conversation. While both email and chat deliver a range of counselling, information, education and support options (Barak et al., 2008; Chester & Glass, 2006; Richards & Viganó, 2013), they differ in terms of their immediacy. Chat affords instant interactivity that is limited only by the speed of the internet service provider and that of the typist.

While chat is offered by appointment similar to face-to-face interventions, there has recently been a growth in services that provide access to chat that is brief in time and content. Single session chat, which is often provided by crisis and support services (Barak, 2007; Gilat & Shahar, 2007; King, Bickman, Shochet, McDermott, & Bor, 2010), is generally free, immediate,

and with varying degrees of anonymity. When choosing single session web-based counselling over telephone or face-to-face services, research has found that clients report they prefer its potential for anonymity, discreteness, convenience, as well as a preference for writing over talking (King, Bambling, Lloyd, et al., 2006; Rodda, Lubman, Dowling, Bough, & Jackson, 2013). The type of service most frequently reported in the literature is in relation to relationship and family issues in addition to requests for assistance for depression and anxiety disorders (Barak et al., 2008; Chester & Glass, 2006; Leibert et al., 2006). Furthermore, when examining specific presentations in a single session service for young people, Williams, Bambling, King, and Abbott (2009) found the most frequent presentation involved requests for assistance with managing emotional and behavioural responses. While there is limited knowledge of the reasons for accessing immediate single session services, research involving helpline callers found that having a neutral or other person to talk with was valued, as it helped relieve the pressure of a situation and develop alternate coping strategies (Urbis et al. (2003).

Although helpline and online research with children (King, Bambling, Reid, et al., 2006; Williams et al., 2009) provides some indication of how we might expect adults to present to online services, it tells us little of the character of sessions. We know that online sessions can create at least an equivalent perceived therapeutic alliance as face-to-face or telephone modalities (Sucala et al., 2012), and that immediate online counselling can lead to improved well-being and a reduction in distress for young people and students (Dowling & Rickwood, 2013). In addition, it appears that translation of counselling skills (i.e., reflection, questioning, self-disclosure) from face-to-face modalities to online modalities commonly occurs (Mallen, Jenkins, Vogel, & Day, 2011), however there is limited evidence of whether therapeutic models (such as the Skilled Helper) are directly applicable within online settings (Egan, 2009). In an exploratory study of 85 online transcripts of synchronous chat with children, Williams et al., (2009) found single sessions

were dominated by two main activities: Building rapport and task accomplishment. Similarly, research by Chardon, Bagraith, and King (2011) found that online sessions with children were dominated by assessments, history taking and information gathering, with limited time spent exploring opportunities or developing strategies. Chardon and colleagues concluded this was due in part to significant reductions in time and relevant information that can be shared within an online context. Although research has indicated an hour of online therapy contains about half the number of words compared to an hour face-to-face session (Barak & Bloch, 2006), there has been limited focus on what is actually said by the client during that time.

The issue of typing over talking brings new opportunities to more easily observe the behaviour of clients as well as counsellors engaged in a therapeutic encounter. Instead of relying on clients to self-report their experiences of counselling, online delivery affords us an opportunity to directly observe the specific reasons for seeking help as well as identify the focus of a session. Knowing what clients want to talk about can assist services as well as clinicians to tailor their approach and determine what to cover in a brief single session. As such, the aim of the current exploratory study was to (1) describe the immediate concerns of clients presenting to a web-based counselling (chat) service, and (2) describe the content of web-based counselling (chat) conversations from the perspective of the client.

6.1 Method

6.1.1 Sample Characteristics

The sample was extracted from a dataset of clients accessing chat for problem gambling between November 2010 and February 2012. Problem gambling is a significant public health issue internationally, and although government funded services are easily accessible and free, fewer

than 10% of affected people in Australia seek help (Productivity Commission, 2010), similar to rates of help-seeking internationally (Suurvali, Cordingley, Hodgins, & Cunningham, 2009). In response to these low rates of help-seeking, a range of internet-based therapies have been proposed as a means of overcoming the systematic and structural barriers reported by gamblers as a reason for not seeking help (Gainsbury & Blaszczynski, 2011; Griffiths & Cooper, 2003). In the current study, synchronous web-based counselling was provided free and immediately (no appointment) via a national Australian service (www.gamblinghelponline.org.au). The service provides confidential and discrete access to counselling, information and referral for anyone affected by problem gambling (Rodda & Lubman, 2014)

Ethics approval was granted from the University of Melbourne's Human Research Ethics Committee (ID: 1034028) and the Department of Justice's Human Research Ethics Committee (JHREC) (CF/10/17108). Transcripts represented a convenient sample of counselling sessions between November 2010 and February 2012 and were extracted from a subset of gamblers who had agreed to participate in a study involving post-session follow-up. The transcripts included 85 sessions provided by 25 counsellors (range of 1 to 13 sessions each) over the 20-month period. The sample comprised 43 males (50.6%) and 42 females (49.4%), with 25 clients aged younger than 30 years of age (29.5%), 20 clients aged 30-39 years (23.5%), 18 clients aged 40-49 years (21.2%) and 22 clients older than 50 years (25.9%). Clients were more often involved in non-strategic gambling, such as electronic gaming machines (EGMs; also known as slot machines or fruit machines) (72.9%), than strategic gambling, such as wagering or sports betting (27.1%). Most identified as Australian (71.8%) and were new to counselling (62.4%). Most clients contacted the service outside traditional business hours (i.e., evenings and weekends) (74.1%).

6.1.2 Data analysis

Transcripts were extracted from a Microsoft Access database and imported into a qualitative analysis software package (NVivo, Version 10.0). Thematic analysis as described by (Braun & Clarke, 2006) was used for an inductive approach to data-driven coding. We aimed to extract a higher number of transcripts than is typically reported because we expected a larger sample would be required to reach data saturation due to the large number of counsellors involved. Transcripts were initially read and re-read to generate a broad understanding of the content of web-based counselling as stated by gamblers accessing the service. Data were then coded by two raters (SR and AC) into broad and sub-themes.

This first round coding generated a list of initial codes based on their latent content. It included consensus between the two raters on what client statements were relevant as well as determination of the unit of analysis. The unit of analysis was a thread of conversation spanning one statement (i.e., I'm here today as I want to stop gambling) through to multiple statements (e.g., an exploration of progression towards problematic gambling). Although counsellor statements were included in the data extraction and analysis, they were solely for the purpose of context and were not coded. This meant that although the counsellor may have constructed a statement that the client agreed with (e.g., could you try managing your money differently), this data was not included unless explicitly stated by the client.

Two transcripts were initially discussed and coded by the wider research team. Coding was then clustered into sub-categories under the broad themes. This process also allowed clear definitions and names for each theme, with sections of transcripts subsequently re-reviewed and those not belonging to any category omitted. These sections were typically statements relating to acknowledgements (e.g., I agree, ok, alright), minimal response from the client (e.g., yes, mm, I don't know), or issues related to the counselling process (e.g., are you there). In-text quotes were

extracted directly from transcripts, however they were altered to improve readability (i.e., capitalisation of pronouns, punctuation and correction of spelling errors).

6.2 Results

6.2.1 Presenting issues

All transcripts contained an opening statement indicating the reason for contacting the service. This typically related to a recent gambling episode that had caused a great deal of financial trouble (e.g., pursued by loan sharks, being unable to pay bills), relationship breakdown, theft from friend or employer, distress and/or suicidal ideation. Approximately half of clients were experiencing significant distress and requested immediate help (42/85, 49%).

I am in the grips of a gambling hangover and having thoughts of doing stupid things. I gambled too much yesterday and had a rough night and not so good day. I am managing and don't want to act on my thoughts but am having suicidal thoughts. (Female, 50-55 years)

Those presenting in crisis used strong negative language within the opening phrases of their counselling session. This included negative emotions (embarrassed, desperate, depressed, agitated, scared, awful, hurt, extremely stressed and very low) and negative descriptions of themselves (feeling stupid, troubled). *I'm scared because I don't know how to tell my partner that I have been using money from his bank to gamble online.* Not all gamblers identifying as in crisis used strong emotional words and instead the distress was inferred from the information provided. For example one client stated *I've just lost a thousand dollars in online poker, I'm wondering if there's any way to get that back... lol.* Further reading identified high distress as well as significant financial consequences as a result of the gambling episode and this distress was

sometimes not responded to by the counsellor.

In addition to requests for immediate crisis driven help, 43 of the 85 clients (51%) wanted help to develop strategies and skills to manage their problem. Typically, this was in the context of *spending too much and finding it difficult to leave the pokies (EGMs) or getting carried away sometimes on wagering and chasing it down*. Specifically, clients stated that they were seeking programs or books that would be helpful, tips to kick the habit, guidance or tips or insight, general rules to follow to reduce gambling, or options for cutting back. These clients were not presenting in crisis; rather they had reached a decision that they could no longer continue to engage in at least one type of gambling activity.

While some clients were confident that they would be able to manage their gambling, most presented with low confidence and beliefs that they were not able to stop: *I need to stop this habit, but don't believe that I can*. Other clients were using the service to manage urges as part of the program of recovery. In addition to strategies and skills for managing a gambling problem gambling was viewed by some as a secondary issue to other mental health issues. This included those who were currently seeking assistance for depression and anxiety and those who indicated that gambling was a means of escape and managing the other issue. For these clients, help was currently being sought from a gambling help service as the financial burden of gambling had increased and become a problem.

6.2.2 Main client conversations

Three main themes and 12 sub-themes emerged from transcripts including clients telling their story, thinking about future possibilities as well as strategies and options.

6.2.3 Telling their story

All clients told some version of their story and described the pattern of behaviour and context,

progression of the problem and its major impacts, as well as motivations for continued involvement. In addition, clients talked about their previous attempts to change including professional and non-professional help-seeking.

6.2.3.1 Pattern of behaviour

Almost all transcripts contained a statement describing the typical pattern of behaviour (75/85, 88%). This included the type of games played, duration of gambling and gambling problems, the number of times played per week and the amount of time played during each episode of betting.

In the past month I have lost approximately \$5000; 95% of that in a two day period. I am happy to gamble with whatever sum big or small available. Only yesterday I gambled with \$40 over a 5 hour period. (Male, 35-40 years)

Relevant environmental factors impacting on gambling behaviour were also discussed (e.g. *I fly in and out for work. I will go to the local club to de-stress. I will spend up to a grand in a weekend. (Female, 35-40)*)

6.2.3.2 Context for gambling

Although not directly relevant to a gambling concern, 53 out of 85 participants mentioned issues of personal context at least once (62%). This was in reference to interpersonal relationships, work and study, financial issues, comorbid problems (including other addictive behaviours) and/or mental health issues (predominately depression), as well as living arrangements and housing that were not directly linked to the progression, impact or response to problem gambling. For example, employment issues were often raised, including the nature of employment and type of industry (e.g., sales, healthcare), issues at work (e.g., fatigue from shiftwork), as well as disclosing to employers the nature and impact of gambling (e.g., criminal record). In addition,

clients spoke of the history, presence (or absence) and quality of interpersonal relationships with partners, family, friends as well as the wider community. The most frequently discussed issues within this context were disclosing the extent of gambling (without necessarily seeking support to change): *I feel sick in the stomach every time I have tried to tell him, he asked me if I had taken any money out of his bank account and I lied and said no, I don't know how to start the conversation (Female, 40-44 years)*. In addition to issues within relationships, there were also discussions that related to the absence of relationships including partners, family and friends: *I don't have my friends close to me, geographically. And my wife has heard it all before, so I can't talk to her about it anymore (Male, 40-44 years)*.

6.2.3.3 Progression of the problem

Most transcripts included reference to the historical progression of gambling from occasional to problematic use (70/85, 83%). Although often prompted by the interviewer (counsellor), some clients were also able to provide a detailed account of their gambling histories without prompting. When clients told their story, they typically commenced with the first or early gambling experiences (i.e., the first big win), social factors (i.e., the role of others in commencing gambling) and mood at that time. Stories then typically included a turning point where the gambling behaviour started causing problems.

Got particularly bad in 2010 with online gambling on horseracing/dogs & trots... lost a lot of \$\$\$ in May 2010 & Nov 2010 in 2 separate binges. Put me in bad financial shape & still paying off the debts today & will be for a while longer yet. Abstained from gambling for 10 months, but started betting again periodically around Spring Carnival time last year & also opened up an online account again (yes, I am crazy!). Have had a couple of binges, but was able to win back losses & make some profits. Yesterday lost

\$2K, was chasing losses. (Male, 30-35 years)

More detailed accounts described waxing and waning gambling binges as well as associated behaviours such as chasing losses. Clients then usually included a statement that their gambling was either causing problems or that their behaviour was dissimilar to other people's (e.g., spending more on gambling than alcohol, staying at a venue longer than friends or family, returning the next day or gambling alone). Stories generally concluded with an initial list of impacts associated with increased time and money spent on gambling.

6.2.3.4 Impact of behaviour

Impacts were most often described in relation to the progression of the problem and were wide ranging (59/85, 69%). These involved significant disruption to finances, mental and physical health, work and study, as well as relationships. Clients also described impacts related to mental health (anxiety, depression, panic attacks) and physical health (malnourishment from lack of food, chest pain, increase or decrease in weight, high blood pressure, migraines) and co-occurring alcohol and drug problems (including those that had previously resolved).

*Well I am not a stupid person I know what is going to happen and I know how I am going to feel and I know I am going to have to tell my kids because I will have no money for food or rent - and yet I walk right into the club with my cash and spend every last cent.
(Female, 45-50 years)*

In many cases, there was discussion of anti-depressant use as well as their side effects, leading to a discussion of other existing or future help options. Clients also discussed impacts in terms of work and relationships and stated that gambling caused workplace problems, including difficulty concentrating at work (e.g., wanting to sleep following a night of gambling), or workplace issues. In addition, there were concerns raised related to loss of trust in relationships,

extensive lying, hiding the problem and the extent of money spent on gambling, and missing out on time with family due to gambling. Recent arguments and disagreements were raised in the discussion, as were associated social isolation.

6.2.3.5 Motivations for continued behaviour

Motivations for continued harmful gambling were most often explored in the context of pros and cons, in reference to the impacts of gambling, or emerged in the retelling of the story (67/85, 78%). Descriptions of motivations for continued behaviour also occurred in relation to understanding triggers (multiple clients stated that there was often not *one* single reason for gambling episodes; rather there were a range of motivations). Each of these motivations individually triggered sessions and pay-offs from gambling (hope of winning, social engagement and escape/coping): *make quick money for the Christmas holidays because we are running low on funds (male, 35-40)*. For many clients, there was discussion of the social context of their behaviour (venues were described as a means of escaping isolation, providing stimulation or excitement that could relieve boredom) as well as exploring motivations to gamble related to coping (including escape and avoidance) and regulating mood. Gambling was often discussed as a means of relieving sadness, depression, regret, anger, loneliness, disappointment, stress and distress: *I dunno, like sometimes I get really angry and when I play them it helps calm me down I suppose. (Male, 20-25 years)*.

6.2.3.6 Previous attempts to change and seek help

While 51 sessions included a description of at least one previous attempt to change, only 21 out of 85 involved the assistance of a professional (18%) or support group (7%). This included a wide range of interactions with professional services (e.g., gambling and generalist counselling

by face-to-face, telephone or online) as well as support groups such as Gamblers Anonymous (12-step group). In addition to professional help, 34 participants described attempts to change with self-help (e.g., keeping busy, reducing access to the supply of cash) and six described seeking the assistance of family and friends. These previous attempts to change were often discussed in terms of experiences of helpfulness and whether clients would consider this as an option in the future. A strong theme emerged in relation to previous ongoing counselling interactions, whereby they had a good initial impact on gambling which was not always sustained.

6.2.4 Exploring opportunities and readiness

Fewer than half of the single sessions contained some reference to future possibilities and opportunities or readiness to change their gambling behaviour (38/85, 45%).

6.2.4.1 Opportunities and solutions

Clients spent very little time talking about possibilities, solutions, or opportunities. While there were occasional sentences that included phrases of wanting a better life, only a few expanded on this initial statement. For three clients, imagining a life without gambling meant a good relationship, job, and being able to go shopping. One client talked of pride in taking a stand with his gambling and registering for the online service.

6.2.4.2 Readiness to change

Readiness to stop or limit gambling was discussed, as well as the importance or need for behaviour change. While the desired outcome was most frequently abstinence, clients also reported other goals, including controlling urges, limiting time and money spent gambling, regaining control, and getting to day 2 of quitting (*I guess I want to not lose control, and if I can*

stop gambling altogether then that would be a plus (Male, 25-30 years). When the importance of change was discussed, issues were raised about the need to change gambling for reasons related to finances (e.g., lose house, save money to travel), relationships (e.g., improve the life of those around me, show partner I'm serious about change) and family (e.g., keep children, wife pregnant, have family). In general, there was very little discussion of specific goals or planning, and beyond wanting or needing change to happen, discussion of commitment was absent. Although discussion of resources and timeframes were infrequently discussed in terms of goal setting, these were discussed in the context of strategies and options (see final section).

6.2.4.3 Self-efficacy

Although transcripts contained discussions of self-efficacy, it was most often described as a significant shortfall in resources needed to manage urges or meet treatment goals. Eight clients specifically said that they wanted to change but did not believe that they could. Their beliefs included a lack of self-control, not being able to do it alone, and an inability to stick to limits: *Yes I have tried to stop but I just can't do it. It is just really hard to stop if you have any strategies that could help me that would be great (male, 18-25 years)*. In only two cases did clients role play developing self-efficacy and this was in relation to disclosing the extent of the gambling problem to a parent or partner.

6.2.5 Strategies and options

Over three quarters of transcripts included a discussion of future strategies or options for change (73/85, 86.0%), including self-help strategies, support from family and friends, and professional help. Clients who did not engage in a discussion of strategies or options were typically distressed and in just a very few cases were not ready to discuss change strategies. Most of the 12 sessions in which strategies or options were not explored ended prematurely. Early termination was due to

a range of factors, including technical issues, lack of time, and/or lack of rapport with the counsellor.

6.2.5.1 Self-help strategies

Self-help strategies were frequently discussed, with the most frequent of these being cash control (55/85, 65%). Cash control included methods to restrict access to cash (e.g., leaving cards at home) and handing over control of accounts or cash to others. These methods were often discussed in terms of what did not work in the past and impediments to current successful implementation. Often as an adjunct to cash control, clients discussed the use of self-monitoring strategies that were either behavioural (keeping a record or diary of spending, writing up a list of goals) or cognitive (recalling the negative consequences of gambling). These strategies were typically discussed in terms of regaining control and included exploration of previous successful and unsuccessful attempts to change their gambling. Clients also spent time discussing replacement activities for gambling, such as projects around the house, work or study activities, sports and exercise, and other pleasurable activities (including those with family and friends).

6.2.5.2 Support from family and friends

Only 13 clients explored engaging family and friends to support behaviour change. This most frequently involved assistance to source referral information, relieve financial pressure or help implement self-help strategies (e.g., manage access to cash). Discussion of engaging support typically involved how to ask for support as well as disclose the exact nature of their gambling to a family member or friend: *I have a very dear friend. I have not told her about my problems and she has no idea. I will find it very hard to tell her in fear that it will change her perception of me. I think I know in my mind that she will be supportive but I am still afraid of being judged by*

another person (Female, 45-49 years). In addition, clients discussed barriers to accessing support which were typically associated with conflict, including perceived lack of support and feeling judged by important others.

6.2.5.3 Professional help

Almost two-thirds of clients discussed further professional help (47/85, 55%). This included face-to-face counselling (39/85, 45.8%), group meetings like Gamblers Anonymous (5/85, 9%), telephone support via a helpline (3/85, 3%) and online support via the same site (9/85, 11%). Face-to-face counselling was typically raised by clients when (1) they identified a lack of personal resources or a need for more counselling than was initially thought (e.g., gambling counselling in addition to financial or generalist counselling), (2) where a range of issues had been identified and the counsellor deemed the client to be more suitable for face-to-face problem gambling or financial counselling intervention, or (3) where the client believed that more help was better in the change process.

Clients asked questions about face-to-face counselling, including the cost (whether it was free), time and location (clients assumed face-to-face was only available during business hours), and the amount of disclosure required (personal details, name and address). There was also discussion on the type of treatment available (including possible strategies, urge management, therapy), medical options (pharmacotherapy), as well as people that might need to be involved or told of the treatment (such as partners). In addition, clients raised issues about the relationship with existing counsellors, including availability (e.g., counsellor moved or was on long term leave), lying about relapse (due to concerns about confidentiality) and not disclosing their gambling problem to financial or generalist counsellors. Multiple clients raised the issue of shame and embarrassment and described face-to-face problem gambling counselling as a last

resort. Once the referral was provided, sessions typically moved to termination.

6.3 Discussion

In this exploratory study, we examined the presenting issues as well as focus of online counselling sessions from the perspective of clients with gambling-related problems. Specifically, the first aim of our study was to describe the concerns of clients presenting to an immediate web-based counselling service and we found that these were related to crisis and requests for immediate support, as well as help with strategies and skills to manage the problem. Secondly, we aimed to describe the content of web-based counselling conversations from the client perspective and identified three overlapping themes that included storytelling, considering the future, as well as exploring strategies and options. Each of these contained multiple sub-themes reflecting the typical progression and content of conversations from the perspective of the client.

We found around half of clients presented with an urgent request for immediate help related to a crisis. Such crises involved significant harms from a recent episode of gambling, suicidal ideation as well as emotional disturbance and distress. In addition, almost the same number presented for information, advice, guidance and support that was reflected by indicators of high readiness to change but often coupled with low self-efficacy. These findings are similar to those of King et al. (2010), who also found a significant proportion of young people were seeking online support with decision making and problem solving. They are also consistent with another study by King, Bambling, Reid, et al. (2006) as well as (Sefi & Hanley, 2012) who found online counselling clients were often not only distressed but also more so than telephone counselling clients. In addition, similar to the Urbis et al. (2003) survey of helpline callers as well as Maheu and Gordon (2000) review of services provided by online counsellors, we found that almost half

of online clients wanted help with strategies and skills to manage their problem.

Consistent with research identifying counsellor activity in web-based counselling (Chardon et al., 2011), we found clients spent a great deal of time telling their story with less time spent considering future possibilities, or strategies or options for change. Previous research suggests telling one's story can be therapeutic and that it can be an online intervention in itself (Richards & Vigano, 2013). While counsellors may prompt storytelling in an attempt to adhere to organisational models of care, other research has shown counsellors offer fewer interpretations or guidance online than when there are physical or environmental cues (Mallen et al., 2011). This raises important questions as to whether clients can be supported to tell their story with greater efficiency. Indeed, the current results suggest that clients tell their stories in a similar way that involves patterns in progression, motivation and impact of behaviour.

The broad themes as well as sub-themes that emerged were similar to those described in the Skilled Helper framework (Egan, 2009). Developed primarily as a guide for clinicians involved in ongoing relationships, Chardon and colleagues (2011) found all of the components are not easily applied in a single session of web-based counselling due, in part, to the constraints of this modality (particularly number of words communicated). The current study raises questions about the utility of the framework given clients appear to want to tell their story and tell it in a great deal of detail. Indeed, similar to our findings, Chardon et al. (2011) found transcripts with young people involved minimal goal setting and limited discussion of developing or implementing goals.

Critically, our study considers content from the perspective of the client who knows what they want and need for their own recovery. Indeed, as described by (Bohart & Tallman, 1999) as well as Egan (2009), if we work on the assumption that clients hold solutions to their problems then the role of the counsellor is to provide support, coaching, information, skill building and

mentoring that also accounts for the context of the problem. While the therapist can assist in identifying the issue, developing solutions and exploring options, Bohart and Tallman (1999) suggest the therapist needs to adapt to the needs of the client. In this context, our study suggests a counsellor's assessment and response should be tailored to the client presentation (i.e., crisis versus strategies and support).

This study is the first to explore online conversations from the perspective of the client, but there are several limitations that should be taken into consideration. Although the current research accounted for counsellor questioning in the analysis, this was for the purposes of providing context and clarification for client statements. This novel approach attempts to observe client presentations in the natural environment but is limited in that clients typically respond to the counsellor. This should be expected given the counsellor's role of providing expertise and it is likely that types of questions posed have impacted the results of the current research. For example, further professional help most often involved discussions about face-to-face services even though the individual initiated contact online. Without further analysis of the exact nature of the exchange, we do not know if referral to land-based services reflects client or counsellor expectations or preferences or those related to the funder or service model. Indeed, it may be that counsellors sought to assist clients in exploring face-to-face options as a preferred approach in all cases, rather than when presenting factors such as suicidal ideation indicates that online work may not be appropriate. Even with these limitations, themes that emerged often did so independently of counsellor questioning (e.g., clients very quickly identified patterns in behaviour even if the counsellor did not pose this question). Moreover, we attempted to overcome individual counsellor styles and preferences by sampling transcripts from a large number of counsellors.

Few studies have considered online counselling from the perspective of the client and

these findings have important implications for online practice. First, approximately half the clients were experiencing significant distress that was often easily identified as indicated by strong negative language. However, nuanced language such as sarcasm or humour was more difficult to detect. While previous work with ongoing clients has identified the importance of noticing nuance in text and other cues, such as tempo and speed of typing (Barak & Bloch, 2006), this is much more difficult in single online sessions. This speaks to the importance of using standardised screening instruments to determine the presenting emotional and psychological state of the client. Second, while we report on the character of presentation and sessions for a national service offering crisis and support, it is in the context of problem gambling. Although we believe the themes identified in the current study may generalise to other addictive and mental health presentations to web-based services, this is still to be demonstrated. Third, crisis and support services are typically set up to help people seek further treatment or assistance, however half of our clients wanted help with strategies and skills to manage their behaviour. While there is a great deal of evidence that self-directed interventions can effectively deliver evidence-based treatment (Barak et al., 2008), there has been minimal investigation of how this might be integrated into a session of web-based counselling. Fifth, when discussing previous attempts to change, few sessions identified online options, and indeed only one in ten discussed options for continuing treatment via this modality. This speaks to the importance of providing the client information outlining the full suite of online options including ongoing counselling by chat or email, self-directed treatments, as well as forums or groups that could be provided within or as a follow-up to the single session.

Lastly, the current study raises questions in relation to the application of traditional therapeutic approaches in online settings and in particular the use of traditional approaches in the delivery of a single session that is immediate and often anonymous. Our clients were a non-

homogenous group, not in terms of process and broad presentations, but in terms of the range of presentations and issues discussed. To help counsellors provide what clients want, future research might consider exploring interventions aligned with presenting issue (i.e., crisis versus strategies) and the impact on client immediate or longer-term outcomes.

**Declaration for Thesis Chapter 7
Monash University**

Declaration by candidate

In the case of Chapter 7, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Conceptualization of study, review of literature, data analysis, manuscript synthesis and preparation	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution
Prof Dan Lubman	Conceptualisation of study, supervision and revision of drafts
Assoc/Prof Nicki Dowling	Conceptualisation of study, supervision and revision of drafts
Prof Alun Jackson	Conceptualisation of study, supervision and revision of drafts

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

**Candidate's
Signature**

	Date 24/8/14
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**Main
Supervisor's
Signature**

	Date 24/8/14
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*Note: Where the responsible author is not the candidate's main supervisor, the main supervisor should consult with the responsible author to agree on the respective contributions of the authors.

**Chapter 7: Improved outcomes following a single session web-based intervention for
problem gambling: The importance of session depth and smoothness**

This chapter constitutes a manuscript submitted for publication
in Journal of Counselling Psychology

7 Improved outcomes following a single session web-based intervention for problem gambling: The importance of session depth and smoothness

Research suggests synchronous web-based interventions can have immediate impacts, however this is yet to be tested with help-seeking adults and in particular those with problem gambling. The current study involved 229 participants classified as problem gamblers who accessed Gambling Help Online between November 2010 and February 2012. Almost half were aged under 35 years of age (45%), male (57%) as well as first time treatment seekers (62%). Following the provision of a single-session of counselling, participants completed ratings of session depth and smoothness, readiness to change and level of psychological distress. Pre- and post-session evaluation analyses indicated a significant increase in confidence and a significant decrease in distress with moderate effect sizes ($d = .56$ and $.63$ respectively). A hierarchical regression found both depth and smoothness were significant predictors of change in confidence, however only smoothness was a significant predictor of change in distress after controlling for pre-session distress, session word count and client characteristics (gender, age, preferred gambling activity, preferred mode of gambling, gambling severity, and preferred mode of help-seeking). This exploratory study is the first to examine the impact of single session, immediate, web-based counselling for problem gambling and has significant implications for clinical training as well as delivery of interventions.

7.1 Introduction

A wide range of options across a range of modalities are available for the treatment of problem gambling. Over the past 20 years, cognitive behavioural and motivational therapies have emerged with the strongest evidence (Cowlshaw et al., 2012) and have been recommended in practice guidelines (Thomas et al., 2011). Although much of the research used for practice guidelines has been with face-to-face populations, there is now growing evidence that even the most minimal contact with a professional can affect change in gambling outcomes. Indeed, single session interventions have been shown to be as effective as more intense interventions that are longer in duration (e.g., 6 sessions delivered over 8-10 weeks) (Petry et al., 2008; Toneatto & Gunaratne, 2009) and/or include more content (e.g., addition of workbook) (Kalafat, Gould, Munfakh, & Kleinman, 2007). However, outcomes involving practitioner contact appear better than a

workbook alone (Hodgins et al., 2004; Hodgins, Currie, Currie, & Fick, 2009; Thomas et al., 2011). Almost all of these brief interventions involve the delivery of motivational enhancement aimed at increasing readiness to change and/or the delivery of advice or information.

With the exception of Abbott et al. (2012), most research on the effectiveness of single session interventions for problem gambling has involved participants recruited and treated in university or academic settings. In community settings, most single session interventions are delivered by telephone or, more recently, online services. Indeed, there has been enormous growth in the delivery of online services which provide single points of contact (King et al., 2010). In the area of problem gambling, web-based counselling options are considered particularly important, as less than 10% of individuals affected by problem gambling attend traditional problem gambling services (Productivity Commission, 2010). Barriers to treatment include pride and denial with shame and stigma identified as key issues (Gainsbury et al., 2013; Suurvali et al., 2009). Importantly, web-based counselling has been found to attract a high rate of new treatment seekers (Dowling, Rodda, Lubman, & Jackson, 2014; Rodda, Lubman, et al., 2013; Rodda, Lubman, Dowling, & McCann, 2013) and is considered by clients to provide easy and convenient access, anonymity and opportunities for discrete contact with a health professional (King, Bambling, Lloyd, et al., 2006; Rodda, Lubman, et al., 2013; Rodda, Lubman, Dowling, & McCann, 2013; Wood & Griffiths, 2007). Of the range of interventions delivered over the internet (e.g., self-directed, self-assessment), web-based counselling most approximates a therapeutic exchange in that it is synchronous and involves an exchange between a client and professional. In addition, web-based counselling is entirely text based and is often offered without appointment or wait time. The client typically contacts a service when the need arises and can maintain contact for as little or as long as is helpful. Although the number of words that can be spoken is around half that of an oral conversation, counselling sessions are typically

around 50 minutes in duration (Rodda, et al., 2014).

Web-based counselling has provided help to thousands of gamblers internationally. It has been offered for problem gambling for more than 10 years in the UK and since 2009 in Australia. There is little available information, however, about its effectiveness. This lack of research reflects the limited evidence base for other disorders. A recent systematic review found that only six studies have sought to measure the effectiveness of online chat for any issue, such as depression, work place issues, anxiety and general support (Dowling & Rickwood, 2013). Four of these studies involved a single session of chat, all of which conducted evaluations prior to and following the web-based session. Only one study conducted a longer-term follow-up (one-month) evaluation. The systematic review concluded that online chat was effective in all of these studies, as determined by reductions in distress and perceived burden, as well as improvements in well-being and global functioning.

Much of the process research on how web-based counselling works has focussed on the therapeutic alliance within ongoing, appointment-based web-based counselling rather than single sessions of counselling. However, King, Bambling, Reid, et al. (2006) identified that measures of the character of the sessions were better predictors of positive outcomes associated with online chat than measures examining therapeutic alliance. They proposed that the characteristics of web-based counselling (i.e., absence of visual or aural cues) are more associated with therapeutic tasks rather than establishing a relationship. Subsequent web-based research has adopted this measurement approach, administering the Session Evaluation Questionnaire (SEQ), which focuses on the character of sessions (Barak & Bloch, 2006; Bewick, 2010; Reynolds, Stiles, Bailer, & Hughes, 2013; Reynolds, Stiles, & Grohol, 2006). This questionnaire requires the respondent to rate a single session by depth (versus shallow) and smoothness (versus bumpy) (Stiles & Snow, 1984). Ratings of session depth aim to measure perceived value, fullness and

power of sessions in addition to whether the session is perceived as special (versus ordinary). In contrast, session smoothness is evaluated by ease of progress (e.g., smooth sailing), with smooth sessions characterised as relaxed, pleasant, comfortable and easy. Friedlander, Thibodeau, and Ward (1985) suggest a good session is characterised by SEQ scores above the median of the range of possible scores (i.e., 3.5). Specifically, good sessions are those in which the scores of counsellors are above the median on depth and in which clients score above the median on smoothness. In addition, sessions scored as poor typically involved the client talking more than the counsellor and in which the counsellor was either under involved (low level of encouragement or reflection) or tended towards providing advice. These ‘rules’ are important in that they have been shown to predict client drop out from face-to-face treatment (Samstag, Batchelder, Muran, Safran, & Winston, 1998; Tryon, 1990) increased intention to seek professional help following the single session (Wade, Post, Cornish, Vogel, & Tucker, 2011). Clients engaged in ongoing and single session web-based counselling have consistently rated sessions as deep and as smooth as other modalities such as face-to-face (Cohen & Kerr, 1998; Reynolds et al., 2013). This, however, has yet to be demonstrated with people seeking help for problem gambling.

Recommended measurement of the treatment outcomes for problem gambling such as “The Banff Consensus” typically include gambling time and money spent, problem gambling severity, and associated problems such as psychological distress, substance use and general well-being over longer follow-up periods (Cowlshaw et al., 2012; Thomas et al., 2011; Walker et al., 2006). With the exception of psychological distress, these measures have limited utility in populations that are anonymous and engaged in just one session. Psychological distress (including state depression and anxiety) is often measured in treatment outcome studies for problem gambling in face-to-face (Christensen et al., 2013; de Lisle, Dowling, & Allen, 2014;

Dowling, Smith, & Thomas, 2006, 2007, 2009; Riley, Smith, & Oakes, 2011) and telephone modalities (Rodda & Lubman, 2012). However, distress is typically measured as ‘over the past week’ or ‘month’ rather than presenting levels of distress. This is despite research suggesting gamblers seek help in response to a crisis or distressing episode of gambling (Blaszczynski & Nower, 2002; Evans & Delfabbro, 2005; Gainsbury et al., 2013) and that treatment-seeking problem gamblers report high rates of mental health disorders (Dowling et al., in press; Dowling et al., in press).

In addition to improvements in gambling involvement and associated harms, the Banff Consensus recommends the measurement of factors that theoretically change as a result of a particular intervention (e.g., motivational enhancement, cognitive behavioural therapy), such as readiness to change or beliefs about chance. While helplines and indeed online services do not typically adhere to a specific theoretical perspective, an important outcome is enhancement to levels of readiness either to change or engage in further help-seeking (Urbis et al., 2003). In terms of problem gambling, readiness as an outcome is rarely reported. However, readiness at baseline predicts longer term outcomes (Ledgerwood et al., 2011; Petry, 2005; Wohl & Sztainert, 2011; Wulfert et al., 2006) and strength of commitment to change (Hodgins, Ching, & McEwen, 2009). There is also some evidence that a range of demographic and gambling variables including age, gender as well as gambling type, mode and severity (Ledgerwood et al., 2013; Petry, 2005) are related to a client’s readiness to change.

Similar demographic and gambling variables have been employed to predict treatment attrition and outcome in an effort to improve the effectiveness of clinical interventions for problem gambling. Although the evidence base for demographic factors, such as gender and age, provides mixed findings (Crisp, Thomas, Jackson, & Thomason, 2001; Dowling et al., 2009; Dowling, 2013; Guo et al., 2012; Melville, Casey, & Kavanagh, 2007; Smith, Thomas, &

Jackson, 2004), there is more consistent evidence that greater gambling severity at pre-treatment evaluations is associated with poorer treatment outcomes (Crisp et al., 2001; Dowling, 2013; Guo et al., 2012; Smith et al., 2004).

We expect that for at least some clients, a single session of web-based counselling will lead to positive change. However, we have little knowledge of whether change is related to the person, the character of intervention or just the act of accessing help. The current study aimed to address this gap in the literature by evaluating the effectiveness of web-based counselling for problem gambling. Specifically, it was hypothesised that (1) web-based counselling will be associated with an increase in readiness to change (improvement, readiness, and confidence) and a reduction in psychological distress; (2) client characteristics (gender, age, preferred gambling activity, preferred mode of gambling, gambling severity, and preferred mode of help-seeking) and session character (depth and smoothness) will be associated with an improvement in readiness to change and a decrease in psychological distress and (3) session character will predict improvement in readiness to change and psychological distress over and above client characteristics.

7.2 Method

7.2.1 Participants

The current study recruited a sample of 235 gamblers who accessed web-based counselling (chat) offered by the Australian online gambling service, Gambling Help Online between November 2010 and February 2012. Six participants had more than 50% missing data and were removed from the analysis. As data collection involved forced data entry, missing data indicated technical problems and as such the entire participant was removed from the analysis leaving a sample of

229 participants. Participants included 130 males (56.8%) and 99 females (43.2%). The sample was split at 35 years reflecting expected familiarity with technology and included 104 participants under 35 years (45.4%) and 125 participants 35 years of age or older (54.6%). Participants were most often engaged in non-strategic gambling (such as electronic gaming machines [EGMs], lotteries, bingo, and keno) (70.3%) than strategic gambling (such as wagering, casino gambling, and sports betting), with 21.4% preferring to gamble online or via the telephone. All participants were classified within the problem gambling category on the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (Ferris & Wynne, 2001) ($M=21.6$, $SD=4.0$). Almost two-thirds of participants were seeking help for gambling problems for the first time (62.4%).

Gambling Help Online offers immediate, 24/7 free counselling, information and support to anyone affected by problem gambling. Staffed by professional counsellors with backgrounds in psychology and social work, the service is entirely text based and offered without an appointment. Sessions had an average duration of 53 minutes ($SD=22.8$, range 13-126 minutes, median=53 minutes) and contained an average of 53 lines of text ($SD=37.3$, range 8-328 lines, median=43 lines). Similar to previous research involving email counselling (Ledbetter & Larson, 2008), the diversity in the range of lines and time spent per session was accounted for by calculating the total number of words in the transcript as a means of accounting for speed of typing, number of lines and duration. The mean number of words per session was 1133 ($SD=561.5$, range 180-2978 words, median=1065 words).

7.2.2 Materials

Client characteristics included gender, age, preferred gambling activity (strategic or non-strategic), preferred mode of gambling (i.e., face-to-face, telephone, online) and preferred mode

of help-seeking. Gambling severity was measured with the PGSI, which is the most frequently used screen for problem gambling (Postel, 2010). Respondents are asked to indicate how often each item applied to them in the previous 12 months on a 4-point scale. Scores range from 0 to 27, where higher scores indicate greater problem severity. Scores of 8 or higher on the PGSI indicate problem gambling. The PGSI has good internal consistency, test-retest reliability and criterion validity with measures of gambling involvement (Ferris & Wynne, 2001). The internal consistency reliability of this scale in the current study was good ($\alpha=.77$).

Readiness to change was measured with a set of three readiness rulers that were adapted for problem gambling. These included importance, readiness, and confidence. Originally developed by Miller and Rollnick (2002), readiness rulers are increasingly becoming used in clinical practice as well as research to measure readiness to change. These rulers were selected due to their brevity and good psychometric properties. A recent psychometric studies on the specific rulers of readiness, importance and confidence found the three constructs correlated highly, demonstrated high convergent validity with the stages of change model, and had good predictive validity for actual changes to drug, alcohol and tobacco use (Abar et al., 2012; Abar et al., 2013; Boudreaux et al., 2012; Hesse, 2006). Specifically, participants indicated on a scale of 1 to 10 ‘how important is it for you that you limit/stop your gambling’ (importance), ‘where does losing limiting/stopping gambling fit on your list of priorities?’ (readiness), and ‘how confident are you that you could deal with an unexpected urge to gamble?’ (confidence).

Psychological distress was measured with one item from the Positive and Negative Mood States (PANAS: MacKinnon et al., 1998). Specifically, we asked participants to indicate ‘on a scale of 1 to 10, 1 being not distressed at all and 10 being very distressed, right now how distressed are you?’

Session depth and smoothness was measured with the 11-item Session Evaluation

Questionnaire (SEQ: Stiles & Snow, 1984), which evaluates the depth (versus shallowness) and smoothness (versus bumpiness) of counselling session. While the SEQ was primarily developed as an evaluation of face-to-face ongoing counselling sessions, it has now been used in multiple process studies of web-based counselling: Email interactions (Reynolds et al., 2006), single session synchronous chat (Barak & Bloch, 2006; Cohen & Kerr, 1998), and comparisons between chat and email counselling (Reynolds et al., 2013).

Compared to other rating scales, the scale items are more concerned with the session process rather than the therapeutic relationship. The SEQ includes two sub-scales of 5 items each with a 7-point Likert scale between polar adjectives: depth (valuable-worthless, deep-shallow, full-empty, weak-powerful and special-ordinary) and smoothness (easy-difficult, relaxed-tense, pleasant-unpleasant, smooth-rough and comfortable-uncomfortable). In addition, it has a single item (good-bad) using the same response scale that has been used as a global evaluation (1 indicating bad and 7 indicating good). There are calculated means and ranges established from nine face-to-face studies for depth (median =5.2, range = 4.7-5.9) and smoothness (median $M=4.4$, range = 4.1-5.3) (Reynolds Jr et al., 2013). In Reynolds and colleagues own web-based counselling study, the SEQ subscales had high internal consistencies ($\alpha = .94$ for depth and $\alpha = .92$ for smoothness) and means were higher for web-based counselling than face-to-face counselling for both session depth ($M=5.5$, $SD=1.5$) and smoothness ($M=4.8$, $SD=1.7$). Chronbach's alpha for the current study was good for both depth ($\alpha=.88$) and smoothness ($\alpha=.84$).

In the current study, the two sub-scales from the SEQ were rated on smoothness ($M=5.2$, $SD=1.3$) and depth ($M=4.7$, $SD=1.4$), with the overall good-bad item rated as $M=5.8$ ($SD=1.7$). As indicated in Table 11, the highest items were ratings of the online session as pleasant and easy and the lowest average score was on the item that measured the specialness of the session. All

scores were above a median of 3.5 indicating they can be classified as “good” sessions (Friedlander et al., 1985).

Table 10: Means, standard deviations and medians of the session evaluation questionnaire for web-based counselling sessions

	Items	Means	SD	Median
Overall	Bad-good	5.83	1.68	7.00
Depth	Worthless-valuable	5.07	2.07	6.00
	Shallow-deep	4.55	1.53	5.00
	Empty-full	4.83	1.69	5.00
	Weak-powerful	4.78	1.57	5.00
	Ordinary-special	4.36	1.72	4.00
Smoothness	Tense-relaxed	4.99	1.83	5.00
	Unpleasant-pleasant	5.44	1.63	6.00
	Difficult-easy	5.48	1.77	6.00
	Rough-smooth	5.12	1.54	5.00
	Uncomfortable-Comfortable	5.19	1.83	6.00

7.2.3 Procedure

Ethics approval was granted from the University of Melbourne’s Human Research Ethics Committee (ID: 1034028) and the Department of Justice’s Human Research Ethics Committee (JHREC) (CF/10/17108). Participants completed a web-based counselling session offered through the Australian online counselling and support program, Gambling Help Online.

Participants completed the client characteristic (including gambling severity), readiness to change, and psychological distress questionnaires prior to the counselling session and were asked to complete some measures (i.e., readiness to change, psychological distress, and session depth and smoothness) via a link when closing the session. The post-session survey was approximately 10 minutes in duration and had a response rate of 17%. While this response rate is low, we did

not promote or push the survey to the client. Other research involving single session clients in face-to-face settings has found a similar response rate of 22% (Miller, 2008).

7.2.4 Data analysis

Data was analysed using SPSS 22. The effectiveness of web-based counselling was evaluated using a series of repeated measures t-tests. Because only confidence and psychological distress displayed significant improvement, the remainder of the analyses were conducted using these variables. To test the association between improvement in confidence and psychological distress and client characteristics, session character, partial correlations were conducted controlling for pre-session confidence and distress. Pre-session confidence was controlled for when examining relationships involving post-session confidence and pre-session distress was controlled for when examining relationships involving post-session distress. In addition, both pre-session confidence and distress were controlled when examining the relationship between post-session confidence and distress. To determine whether depth and smoothness would predict improvement in confidence and distress over and above client characteristics, a series of regression analyses were conducted. Prior to conducting the regression analyses, tests for relevant assumptions were conducted. To control for the broad range in session duration, number of words and session duration were included in subsequent analyses. These were highly correlated in both regressions (i.e., .80). Although collinearity statistics (i.e., Tolerance and VIF) indicated that that it was within accepted limits, session duration was removed and the number of words retained on the assumption that it was a better indicator of the session “length” than duration (due in part to typing speed of both participant and counsellor). In addition, Mahalanobis distance scores indicated multivariate outliers. One outlier was identified, related to the participant’s number of words. In this case, the participant was retained but the number of words was removed. No other

outliers were identified and residual and scatter plots indicated the assumptions of normality, linearity and homoscedasticity were all satisfied (van Wier et al., 2009). In addition to controlling for the length of the session, when analysing change in readiness to change and psychological distress, we controlled for individual differences in pre-session scores. This method of analysis assists with overcoming the regression to the mean effect (Australian Bureau of Statistics, 1997; Rodda, Lubman, Iyer, & Dowling, 2014). As recommended by Hosmer and Lemeshow (1989) potential predictor variables were included in the regressions based on a liberate criterion for significance with post-confidence and post-session distress ($p < 0.10$) in the bivariate associations. Dummy coding for the regression analyses were gender (0=male, 1=female), age (0=<35 years, 1=>35 years), preferred gambling activity (strategic=0, non-strategic=1), preferred mode of gambling (0=online/phone, 1=face-to-face). Continuous variables included number of words (180-2978), gambling severity (0-27), readiness to change (1 = low-10 = high), psychological distress (1 = low-10 = high), preferred mode of help-seeking (1-10), session smoothness (1-7), and session depth (1-7).

7.3 Results

7.3.1 Impact of web-based counselling

Participants rated their pre-session readiness to change highly in terms of importance (M=9.4, SD=1.3) and readiness (M=9.2, SD=1.6). Each of these scores increased from the pre- to post-session evaluation (M=9.6 SD=1.3, $d=.05$, and M=9.3, SD=1.5, $d=.09$ respectively), but these increases were not statistically significant (importance, $t(228) = 1.4$, $p=.17$, and readiness, $t(228) = 1.4$, $p=.16$). In contrast, low levels of confidence to resist an urge to gamble were reported at session commencement (M=4.1, SD=2.7). Following the intervention, confidence increased

significantly by an average of 1.5 ($t(228) = -9.4$, $p < .001$), with a medium effect size of $d = 0.56$. As shown in Figure 4, participants also indicated high levels of psychological distress at the pre-session evaluation ($M = 7.2$, $SD = 2.7$), which also significantly decreased at the post-session evaluation ($M = 6.0$, $SD = 2.9$) ($t(229) = 7.0$, $p < .001$), with a medium effect size of $d = 0.63$.

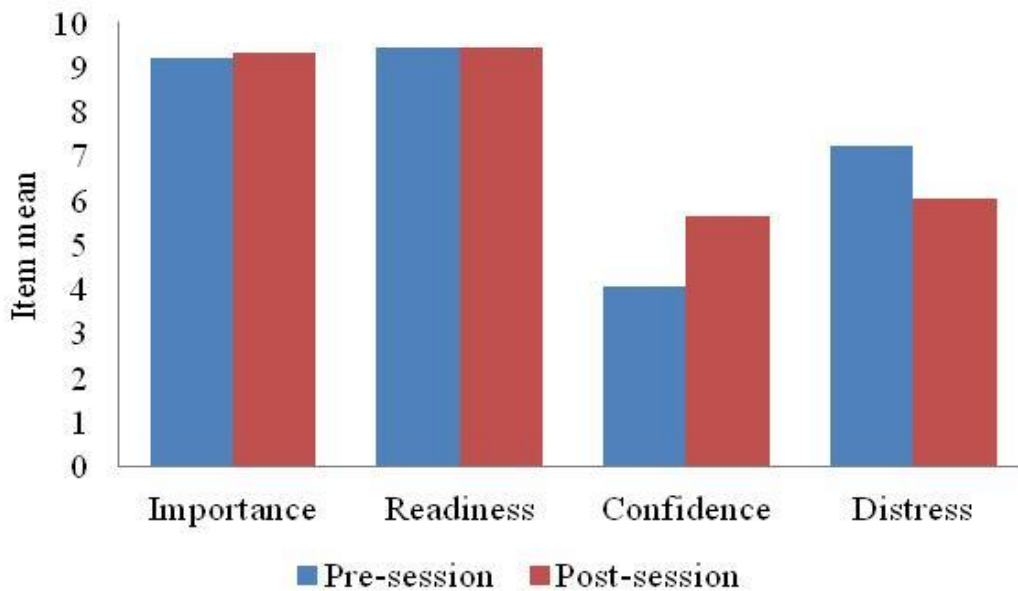


Figure 3: Mean score on readiness and distress before and following a web-based counselling session

7.3.1.1 Association between improvement in readiness and psychological distress with client characteristics and session character

A series of partial correlations explored the associations between session outcomes (confidence and psychological distress), client characteristics (gender, age, preferred gambling activity, preferred mode of gambling, gambling severity, and preferred mode of help-seeking), and session character (depth and smoothness). As shown in Table 12, post-session confidence and post-session distress were strongly correlated. In addition, post-session confidence was significantly related to session depth and smoothness, as well as being under 35 years of age and a preference

for online help-seeking. Post-session distress was significantly associated with session depth and smoothness, betting in venues as well as a preference for online help-seeking.

7.3.1.2 Prediction of improved confidence and psychological distress over and above client characteristics

A hierarchical multiple regression analysis was used to test if the character of the web-based intervention (depth and smoothness) predicted post-session ratings of confidence and psychological distress above and beyond client characteristics. A three stage hierarchical regression was conducted with post-session confidence as the criterion variable. Pre-session confidence and number of words were entered at stage 1 to control for pre-session levels of confidence and the extent of the counselling session. Client characteristic variables correlated with post-session confidence ($p < .10$) were entered at stage 2 and depth and smoothness variables at stage 3. The variables were entered in this order as to measure session impact over and beyond what participants brought into the session. Table 13 shows the results of the regression analysis. Examination of Table 13 indicates that both depth ($p < .001$) and smoothness ($p = .032$) are significant predictors of change in confidence after controlling for pre-session confidence, number of words, and client characteristics.

A separate three stage hierarchical multiple regression was conducted with post-session psychological distress as the criterion variable. Pre-session distress and number of words were entered at stage 1, client characteristics variables correlated with post-session distress ($p < .10$) were entered at stage 2 and depth and smoothness variables at stage 3. Examination of Table 14 indicates that depth was not a predictor of change in distress after controlling for pre-session distress, number of words and client characteristics ($p = .91$). However, smoothness was a significant predictor of change in distress after controlling for pre-session distress, number of words and client characteristics ($p < .001$).

Table 11: Partial correlations controlling for pre-session confidence and psychological distress across session outcomes, client characteristics and session character

	2	3	4	5	6	7	8	9	10
1. Post-session confidence	-.36**	.44**	.37**	-.12	-.20**	.24	-.10	-.04	-.21**
2. Post-session psychological distress		-.27**	-.34**	-.01	.13	-.12	-.18**	.06	-.21**
3. Session depth			.68**	-.01	.02	.08	.05	-.03	.29**
4. Session smoothness				.01	.06	.09	.11	-.01	.26**
5. Gender (F)					.39**	.43**	.15*	.21**	-.04
6. Age (>35)						.19**	.14*	.10	-.17*
7. Preferred gambling activity (non-strategic)							.38**	.19**	-.03
8. Preferred mode of activity (in venue)								.04	-.12
9. PSGI gambling severity									-.14*
10. Preferred mode of help-seeking (online help)									-

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 12 Summary of hierarchical regression analysis for variables predicting post-session confidence

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Pre-session confidence	.63	.06	.59**	.58	.06	.54**	.53	.05	.49**
Number of words	.00	.00	.11*	.01	.01	.09	.00	.00	.05
Gender (F)				-.48	.34	-.08	-.40	.30	-.07
Age (>35)				-.62	.33	-.11**	-.84	.30	-.15**
Preferred mode of help-seeking (online)				.17	.06	.14**	.04	.06	.04
Session depth							.50	.14	.25**
Session smoothness							.30	.14	.14*
Adjusted R^2 change		.36			.05			.12	
F for change in R^2		60.51**			6.08**			25.51**	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 13 Summary of Hierarchical regression analysis for variables predicting post-session psychological distress

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Pre-session psychological distress	.67	.06	-.50**	.65	.06	.58**	.62	.06	.56**
Number of words	-.01	.00	-.11*	-.01	-.00	-.10	.00	.00	-.08
Age (>35)				.64	.32	.11*	.77	.31	.13*
Preferred gambling activity (non-strategic)				-.37	.35	-.06	-.30	.35	-.05
Preferred mode of gambling (in venue)				-1.2	.41	-.16**	-.93	.39	-.13*
Help-seeking preference (online help)				-.19	.07	-.16**	-.11	.07	-.09
Session depth							-.02	.15	-.01
Session smoothness							-.51	.15	-.23**
Adjusted R^2 change		.37			.06			.05	
F for change in R^2		64.81**			5.89**			10.41**	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

7.4 Discussion

This study provides a first examination of the outcomes of a single session of web-based counselling involving a large cohort of adult problem gamblers. The findings revealed that participants rated sessions as deep as well as smooth and present to sessions high on importance and readiness and low on confidence to resist an unexpected urge to gamble. In addition, web-based counselling was associated with an increase in confidence and a reduction in psychological distress. Indeed, greater depth and smoothness was related to greater change in confidence scores as well as reduced distress, with session depth and smoothness also predicting improvement over and above client characteristics. Our results extend previous work involving single sessions delivered by telephone or face-to-face for problem gambling (Hodgins, Currie, et al., 2009; Kalafat et al., 2007; Petry et al., 2008; Toneatto & Gunaratne, 2009) and provide evidence in favour of delivering a single session online. Similar to King, Bambling, Reid, et al. (2006), clients reported improved outcomes, even though they received an unstructured intervention not specifically targeting these issues. This is especially relevant to our study in so much as clients were accessing a community-based service via chat and engaged in a counselling process that was not guided by extensive assessment or a treatment manual.

Consistent with a study of clients involved in ongoing treatment delivered online (Reynolds et al., 2013) as well as single session (Cohen & Kerr, 1998; Kuutmann & Hilsenroth, 2012), our participants accessing a single session of web-based counselling also reported positive depth and smoothness ratings. However, in contrast to Reynolds et al., we found ratings of smoothness were higher than ratings of depth. It is unclear whether these findings relate to the nature of a brief single session of counselling, are influenced by the lack of physical, aural or oral characteristics of the modality, or a combination of both. Despite these differences, it appears that

a single session of online counselling can be as deep and as smooth as face-to-face or indeed ongoing interventions delivered online.

Greater depth and smoothness of sessions were related to greater change in confidence and psychological distress. While research investigating these two dimensions has consistently found they are independent (Stiles et al., 1994; Stiles & Snow, 1984), there is limited evidence that they differentially predict treatment outcomes beyond correlational studies and those exploring the counselling process (e.g., therapeutic alliance). The current study suggests that depth and smoothness do vary independently, and are related to differing therapeutic outcomes. In addition, the finding that smoothness predicted change in distress and that depth predicted change in confidence over and above a range of client characteristics suggests the character of the session is important to client outcomes.

These findings have important implications in terms of service design, screening and assessment, clinician training and immediate counsellor responsiveness. First, clients presented with high importance and readiness to change but low confidence to resist and urge to gambling. This suggests brief interventions that apply motivational approaches might be better suited to focus on improving self-efficacy rather than readiness to change. Second, while counsellors typically rate sessions positively when they are deep (Barak & Bloch, 2006), our findings suggest that sessions perceived as easy and smooth were more helpful to distressed clients than those sessions rated as deep and meaningful. However, while distress was not uncommon within the sample, not all clients were in crisis, and it is therefore important to understand whether assisting a client to reduce their distress is a necessary activity that must occur prior to other therapeutic activity. Third, we found clients who had both deep and smooth sessions reported greater increases in confidence to resist an urge to gamble, suggesting that we need to help clients and counsellors prioritise between distress reduction and confidence building when engaging in a

time limited session. However, it is possible that learning to manage distress, which is often a precursor to gambling relapse, acts to increase confidence to manage an urge to gamble.

The current study has exclusively focused on the client, but previous research suggests that counsellor factors can impact on session evaluations. For example, Cummings, Slemon, and Hallberg (1993) found clients of more experienced counsellors reported greater depth as well as smoothness than those working with less experienced or novice counsellors. In addition, less experienced counsellors also rated their sessions as deeper than more experienced counsellors. This was in part explained by the focus of the counselling sessions where more experienced counsellors reflected on the development of client insight and less experienced counsellors reflected on the client emotional state and the counsellors' own performance in the session (i.e., self-critique). Indeed, online counselling requires an additional set of technical and communication skills over and above that required for traditional therapy. This includes basic technical skills such as typing proficiency and speed as lengthy delays in response time can be disengaging for both the client and counsellor (Bambling, King, Reid, & Wegner, 2008), high verbal communication skills to avoid misunderstanding (i.e., there is no other non-verbal communication such as eye contact or smiling available) as well as time management (text reduces words spoken in an hour) and heightened skills in identifying and responding to heightened distress and risk of harm. Future research could consider including counsellor experience as well as the content of sessions as a means of further understanding the process of achieving smooth and deep sessions online.

The current study is important in providing new information on the process and outcomes of online counselling, but it is not without limitations. Firstly, the outcome measures were limited to single item readiness rulers and research on the use of rulers as outcome measures is still developing. However, there have now been multiple large scale studies involving non-treatment

seeking samples suggesting readiness rulers are reliable and valid (Abar et al., 2012; Abar et al., 2013; Boudreaux et al., 2012). Second, our response rate was comparable with other treatment studies conducted online but there may be issues associated with generalizability. In addition, it would be helpful to know whether these findings are substantiated over the longer term. Third, while we identified confidence to change and psychological distress as important outcome variables for a single session of online counselling for problem gambling, it is possible that there are other outcomes that could be aligned to supporting client goals (e.g., general well-being). Future research might also consider how the content of counselling sessions is aligned with these outcomes and how the content relates to session evaluations.

Services that provide an immediate response report high rates of participation across a range of health areas (Urbis et al., 2003) and it is perhaps surprising that there is limited evidence that explores the impact of providing interventions at a time when the client is experiencing the impact of their behaviour. The great majority of research into the treatment of problem gambling has been focused on clients engaged in an ongoing therapeutic program. This is despite good evidence accumulated over the past 15 years suggesting that a self-help workbook or telephone call even as brief as ten minutes can have a significant impact on problem gambling (Hodgins et al., 2001; Petry et al., 2008). The finding that a single session can impact change for gamblers is consistent with a growing literature that suggests that one session of counselling is sufficient for successful outcomes for a broad range of disorders (Talmon, 1990). Although longer term follow-up is required, the current study extends the available literature through the finding that a brief single session of online counselling can improve outcomes and is experienced positively by gamblers, at least in the short term.

8 General Discussion

This research provides preliminary evidence for the utility of online counselling for problem gambling. Using multiple methodologies, the aim of the investigation was to explore the usefulness and benefits of online counselling from the perspective of the gambler. This thesis provides a comprehensive snapshot of who attends online counselling for problem gambling and reported gambler characteristics (Chapters 3 & 4), as well as determining readiness for change amongst this new cohort of help seekers (Chapter 4). The thesis then investigated clients' presenting issues and motivations for choosing online counselling (Chapters 5 & 6) examined their experience of online counselling (Chapters 4, 6 & 7) and conducted an initial exploratory study of their response to a single online session (Chapter 7). This research is the first to comprehensively examine online counselling for problem gambling and provides important baseline information that will inform future research into brief intervention approaches for problem gambling specifically, as well as for the delivery of online counselling generally. The following sections will discuss the results of the combined studies in terms of who attends and why as well as explore the client experiences and response to a single online counselling session.

8.1 Who attends online counselling for gambling problems?

The most consistent demographic and individual variables that emerged from the series of studies were gender, age, gambling severity, treatment seeking status, readiness to change and psychological distress. Over 60% of chat clients were male with a steep decline in presentation beyond 30 years of age. In comparison, the age of females was evenly distributed across age groups and did not indicate the same sharp decline as male clients. This is different to the demographics of Australian telephone and face-to-face clients (Jackson, Dowling, Thomas, &

Holt, 2008; Productivity Commission, 2010; Rodda, Hing, et al., 2014). For example, males reported significantly more problems than females associated with wagering, casino gambling and sports betting, and placed their bets more often via the internet (Gainsbury et al., 2011). Chapter 4 indicated males were over-represented in Subtype 2 where readiness to change was high (but not as high as subtype 1) and confidence was low (but not as low as subtype 1). This is similar to previous research involving gamblers seeking help via a helpline that found that males were less ready to change when contacting a helpline than females (Ledgerwood et al., 2012). This may in part explain why males were more motivated than females by convenience and less by the immediacy the medium provided, as reported in Chapter 5.

Age differences were found in relation to readiness and motivations for online counselling. Chapter 4 indicated gamblers in the most extreme readiness group (Subtype 1 with very high readiness and very low confidence) were more often older than 35 years (rather than 35 years or younger). In addition, Chapter 5 reported those aged over 40 years were more likely than younger people to use online counselling as an entry point into the service system and also more likely to recommend the service due to its potential for confidentiality and anonymity. These findings are aligned with the older demographic that typically attends face-to-face services in Australia (Jackson et al., 2008; Productivity Commission, 2010). Importantly, those under 40 years were more likely to recommend the service due to it being helpful. It seems that, for younger people, online counselling is a means of help-seeking and possibly a means of accessing treatment.

Chapter 3 reported that almost all gamblers accessing the service were classified by the PGSI as problem gamblers. Higher gambling severity was correlated with gender (i.e., female) as well as type of gambling (i.e., EGMs). In addition, gambling severity was a predictor of readiness subtype, with greater gambling severity evident in the group with the highest readiness and

lowest confidence (subtype 1). Given these findings, it is unsurprising that gamblers reporting higher gambling severity more frequently chose chat rather than email (Chapter 3), as it offers an immediate (rather than delayed) response.

Compared with gamblers accessing face-to-face and helpline services, this thesis found higher rates of online gambling, where one in five gamblers preferred to do their gambling online. This is consistent with previous research involving online help-seekers accessing forums (Wood & Wood, 2009) as well as chat based services in the UK (Wood & Griffiths, 2007).

Online counselling attracts a high rate of new treatment seekers. Chapter 3 reported seven out of ten clients were new to treatment and more often younger than 30 years of age (rather than 30 years or older). This is consistent with other online research indicating that online modalities are attractive to this group (Young, 2005). Indeed, this research examining client attitudes towards online counselling suggests that for a proportion of people, online counselling is a first step to 'try out' counselling, as well as the first time disclosure occurs with another person. As reported in Chapter 6, some of our participants were explicit about using online counselling as a first step in help-seeking.

The findings of this combined suite of studies provide the first comprehensive set of characteristics of online help-seekers. Online counselling in Australia is accessed more often by gamblers who are more often male (than female) and younger than 40 years of age. Almost all online counselling clients were classified as problem gamblers and the vast majority were first time treatment seekers. Online counselling attracts higher rates of online gamblers than most Australian telephone or face-to-face problem gambling services.

8.2 Why do gamblers choose online counselling?

Four out of five gamblers were ready to change their gambling but reported co-occurring low confidence to manage an urge (Chapter 4). Gamblers rated importance and readiness to change highly (9.4 and 9.2 out of 10 respectively). Such high readiness was an unexpected finding. Previous gambling research has found that baseline levels of readiness predicts longer term outcomes (Ledgerwood et al., 2011; Petry, 2005; Wohl & Sztainert, 2011; Wulfert et al., 2006) and strength of commitment to change (Hodgins, Ching, et al., 2009). Although readiness rulers have been used to our knowledge once previously in gambling research (Diskin & Hodgins, 2009), their derived scores have not been reported. This thesis reports on the first administration of readiness rulers to online treatment seekers. The findings of this study extend research by providing initial evidence that gamblers are ready to change when seeking help online.

It is much more common for stage of change screens to be used in both community (Wohl & Sztainert, 2011) and treatment-seeking (Petry, 2005) samples of problem gamblers. For example, using an adapted version of the University of Rhode Island Change Assessment, Petry (2005) reported that almost 40% of a treatment-seeking sample was ambivalent towards change, and that just 33% of the sample was actively in a change state. The difference between the findings of Petry (2005) and the current research are possibly due to measurement issues (i.e., readiness rulers and stage of change questions possibly measure constructs). Alternatively, it may be the differing nature of the treatment setting. In our study, gamblers contacted a service at the time they were ready to seek help whereas gamblers in Petry's research were recruited via community advertising. This may also explain why this thesis found almost 70% of chat sessions were conducted outside of traditional business hours and why gamblers preferred the immediacy of chat far more than email (when offered a choice, 85% of clients chose chat and the remaining 15% chose email).

Chapter 6 described readiness in further detail. In our study, readiness was related to

stopping or limiting gambling but was also related to controlling urges, limiting time and money and regaining control. In addition, gamblers discussed the importance of needed behaviour change in terms of being related to the impact on finances, relationships and family. Since data collection for this thesis commenced, research involving helplines has similarly found that gamblers present with high readiness to change (Ledgerwood et al., 2013; Ledgerwood et al., 2011).

In addition to importance and readiness, a third ruler that measured confidence to manage a gambling urge was administered. Gamblers typically reported lower confidence at session commencement (average of 4 out of 10 where a rating of 10 represents high confidence in managing an urge). This score was significantly lower than the high scores reported for importance and readiness. This pattern of high readiness and low confidence is similar to that reported by illicit drug users and smokers screened in an emergency setting (Abar et al., 2012; Abar et al., 2013). Gamblers in this study reported a similar pattern but with more extreme scores (higher on readiness and lower on confidence). In addition, clients described issues associated with confidence during counselling sessions (Chapter 6) as a shortfall in resources to manage urges or meet treatment goals.

Almost half of gamblers accessing the chat service did so while experiencing a crisis (Chapter 6). This was not unexpected given that distress is associated with the consequences of problem gambling (American Psychiatric Association, 2013) and gamblers typically seek treatment in response to a crisis situation (Evans & Delfabbro, 2005). Chapter 5 reported gamblers were attracted by the immediate and quick access to a counsellor. In this situation, contact was typically in response to distress related to gambling behaviour and wanting to communicate with someone immediately: *It was late at night and I was very upset and crying so I would not have made any sense trying to talk to anyone.* A desire for emotional relief may

partially account for the speed of immersion found in this thesis and other studies examining presenting issues (King, Bambling, Lloyd, et al., 2006; Leibert et al., 2006).

In Chapter 7, reports the use of a ruler, similar to those for readiness, to measure the current state of psychological distress at the start of the online counselling session. Gamblers reported high levels of psychological distress (approximately 7 out of 10), which is also aligned with a previous study involving helpline callers who reported negative emotions as a motivator for making a call to a gambling helpline (Rodda, Hing, et al., 2014). High levels of presenting distress are commonly reported in online help-seekers more generally (Urbis Keys Young, 2003). Previous research has found that online counselling clients were often not only distressed but were more distressed than telephone counselling clients (Gustafson, 2011; King et al., 2006). Consistent with these findings, Chapter 6 reported that gamblers presented with strong negative language in the opening phrases of their counselling session. Negative emotions and negative descriptions of themselves were also common.

Gamblers presented to online counselling for a range of reasons. Chapter 5 reported the largest study to date of motivations for online counselling over telephone or face-to-face counselling. This study identified four main motivations including anonymity (including privacy and confidentiality), convenience (including access and flexibility of delivery), service system access, and a preference for features inherent in the modality (i.e., typing over talking). Overall, these findings are consistent with the reasons children choose online counselling (King, Bambling, Lloyd, et al., 2006) and why clients access ongoing counselling in an online setting for a broad range of disorders (Leibert et al., 2006). The identified motivations suggest online counselling is likely to contribute to what is already know about help-seeking (Evans & Delfabbro, 2005; Hing, Nuske, & Gainsbury, 2011; Suurvali et al., 2009). Reported feelings of shame, stigma and pride that prevent help-seeking are overcome by the anonymity afforded by

online counselling. Structural issues associated with opening hours, travel, cost and wait lists are met with 24-hour access from a location of the client's choosing (e.g., home or work or a library) at no cost and with no waiting time. Further, for some clients, seeking help was an impulse in response to the absence of the need for an appointment as well as advertising in venues, which arguably circumvents lack of awareness (or denial as reported in the barriers literature) of gambling problems.

8.3 What is the experience of gamblers who access online counselling?

Gamblers reported positive experiences after accessing online counselling. Chapter 5 indicated that 85% of gamblers would recommend online counselling to another person and of these, 43% recommended it because it helped. When gamblers engaged in a single session online, Chapter 6 reported sessions involved a detailed discussion of their history and to a lesser extent developing and exploring future options and strategies. When gamblers were asked to evaluate the character of sessions, Chapter 7 indicated sessions were typically rated as deep and meaningful as well as easy and comfortable.

Our studies suggest gamblers presenting to online counselling experience psychological distress, a strong readiness to change and also low confidence to manage an urge. Taken together, these results might indicate that gamblers may want to take advantage of their high state of readiness and seek methods to improve negative emotions or self-efficacy related to managing urges. However, upon interrogation of counselling transcripts a different picture emerged. Gamblers spent a great deal of counselling time telling their story, with less time spent developing strategies and options and almost no time at all exploring readiness or self-efficacy. These findings are not unique to gamblers accessing online counselling. Chardon et al. (2011)

found that children accessing a generalist online service predominantly involved talking about the past.

Despite the findings that counselling sessions predominantly involved story-telling, gamblers rated their experience of online counselling positively. Sessions were evaluated positively and ratings of depth and smoothness were equivalent to those reported in ongoing counselling work as well as face-to-face settings for other conditions (Reynolds et al., 2013). Moreover, ratings were well above the cut-offs for a 'good session' (Friedlander et al., 1985). Given our findings that gamblers typically experienced psychological distress at session onset, it is perhaps surprising that gamblers rated sessions as smooth (as well as easy, comfortable, pleasant and relaxed). In addition, gamblers rated sessions as deep (as well as meaningful, full, special, powerful and valuable) even though sessions primarily involved storytelling.

8.4 How do gamblers respond to a single session of online counselling?

Gamblers responded positively to a single session of online counselling. A single session of online counselling resulted in a significant increase in confidence and a significant reduction in distress. This was similar to a study by King, Bambling, Reid, et al. (2006) that reported a significant improvement following a single session of online counselling with children presenting with non-specific concerns. Also similar to King and colleagues, online counselling sessions analysed in this study were unstructured and therefore did not specifically target readiness and distress (Chapter 6). In addition, ratings of depth and smoothness predicted changes in readiness and distress over and above client characteristics and pre-session levels (of readiness and distress). Essentially, clients who evaluated their session positively experienced greater immediate impact from having engaged in an online counselling session. Chapter 5 indicated

that, for some clients, there was a preference for typing over talking; it is therefore possible that these same clients experienced a better immediate impact. An alternative explanation is that readiness and distress improved just by speaking with another person. Crisis helplines typically report that callers experience a reduction in distress after having talked with a volunteer (Kalafat et al., 2007). However, our study found that not all gamblers rated sessions positively. It would therefore be clinically relevant to identify the mechanisms associated with sessions rated as smooth and those that were deep.

8.5 Limitations and future research

This study is, to our knowledge, the first to comprehensively examine the utility of online counselling for problem gambling. There are, however, several limitations that have been identified across the thesis. Quantitative data was collected via self-report and directly entered by gamblers before a counselling session. A benefit of self-report in online settings is that there is a great deal less missing data than traditional paper and pencil methods. But there are also challenges in using self-report data in a community setting in that clients leave the registration without having completed a session, or do not wait for a session to start when there is a delay. In these situations, the setting for data collection has changed and it is not known if self-report is impacted by the client's location (e.g., work, home) or physical state (e.g., intoxication). This thesis, however, was not limited to self-report data only. Use of multiple methods of data collection helped to mitigate issues with single methods of data collection. Chapter 6 used transcripts of actual counselling sessions. The analysis of transcripts reported herein is a first for problem gambling. It is possible that transcripts could be used to further substantiate self-report data (e.g., levels of distress) in future research.

Second, post-session ratings were completed immediately after talking with a counsellor. Completing ratings immediately after a counselling session is common in online research (Reynolds & Stiles, 2007) and the Session Evaluation Questionnaire is intended for administration immediately following a counselling session (Stiles et al., 1994). However, it is possible that completing these measures immediately following a session allowed little time for reflection, integration or actions towards completing activities discussed in sessions. Further, it may be that people felt they needed to be more positive than they felt. It is not known whether these positive ratings persist beyond the timeframe of the session.

Third, as previously outlined in the studies, there are potential issues with generalisability of the research. The papers related to characteristics (Chapter 3) and readiness (Chapter 4) included all possible online counselling clients over a set time period and therefore accurately represented gamblers accessing this service over the data collection period. However, a subsample of clients was used for analysis in Chapters 5 to 7, whereby the study was conducted with those clients who agreed to participate in the follow-up survey (17% of the entire sample of online clients). As indicated in Chapters 5 to 7, the sub-sample used had fewer people younger than 40 years compared to the total sample (but still more than is typically represented in help-seeking populations for gambling) and also more clients who had previous experience of counselling or were currently seeking help than the total sample.

Fourth, the outcome variables used in Chapter 7 were limited in terms of their selection as well as administration. Participants were not able to be followed up beyond the post-session survey (Chapter 7), and the outcome variables were limited to constructs that could reasonably be expected to immediately change as a consequence of accessing online counselling. The use of rulers as a research and clinical tool is relatively new. Over the course of this research these rulers were administered in community settings with non-treatment seeking people in emergency

department waiting rooms (e.g., Abar et al., 2012) but their psychometric properties in treatment seeking samples is not well established. It would be helpful to know if change in readiness reported from the pre to post-session evaluation was maintained over a longer period of time. In addition, readiness is just one outcome that could change as a result of completing a counselling session. Future research should investigate other variables that might be just as important to longer term improvement.

Fifth, motivations for online counselling described in Chapter 5 were identified via a series of open-ended questions. The results of this large study are important in that they provide the first comprehensive look at the motivations for online counselling. It is possible, however, that some barriers to help-seeking for gambling are not easily identified without prompts. There is an urgent need for the development of a rating scale related to motivations for choosing one service over another. Multiple new themes such as immediacy and privacy were identified in the current research, and those such as convenience and typing over talking, are different to other studies involving general help-seeking for problem gambling (Hing et al., 2011; Pulford et al., 2009; Suurvali et al., 2011). It would be helpful to test and continue to expand knowledge of the possible motivations for choosing one service over another by exploring motivations across modalities (i.e., online, telephone and face-to-face). Although the number of service options continues to increase, there is very limited evidence to guide or even make an evidence informed recommendation on the service most suited to individual client needs.

Sixth, this research primarily viewed online counselling from the perspective of the gambler. It examined gamblers' characteristics, motivations, and readiness and impact of a session and exclusively examined the gamblers' role in the online counselling session. This is important as it is likely that counsellors also impact on the utility of online counselling. Data for Chapters 5 and 7 were collected at the conclusion of the counselling session and it is likely that

the nature of the counselling exchange influenced these findings. Moreover, the impact of the counsellor on ratings of the character of the session (Chapter 7) is unknown. There was an attempt to overcome this potential bias by sampling transcripts for Study 5 from 25 different counsellors and a similar number of counsellors were involved in the provision of sessions in Chapter 7.

A serious limitation and challenge to the field of online counselling is the lack of rigorous effectiveness trials. To some degree, online counselling has relied on evidence from telephone helplines and the broader internet interventions field. This has meant that despite rapid expansion and implementation, there is limited evidence for its effectiveness. Randomised controlled trials, while clearly desirable, are difficult to conduct in consumer settings. This is due, in large part, to the difficulty in getting a service to agree to participate in research that often involves a non-intervention control condition. In addition, funding bodies are also reluctant to allow services to conduct research when it involves not providing a service (at least in the short term). An alternative is to undertake pragmatic trials in which the effectiveness of online counselling can be tested in real world conditions (Hotopf, 2002). Given the number of questions raised in this thesis there are many ways this could be accomplished. For example, participants could be allowed to choose their preferred type of counselling (e.g., chat) and then be randomly allocated to receive or not receive an enhanced intervention such as online self-directed modules. Alternatively, all gamblers could be randomised to receive standard screening (i.e., PGSI) at registration or alternatively tailored feedback. Online tailored feedback has been shown to be effective for reducing money spent gambling as well as consumption of alcohol (Cunningham et al., 2012; Cunningham et al., 2010).

8.6 Clinical implications

Online counselling has broadly been modelled on helplines. Helplines typically provide information, counselling and support and they have a significant role in funnelling clients into face-to-face services (Productivity Commission, 2010). Similar to helpline, online counselling has been proposed as a viable first step to help-seeking but this time within in a stepped care model. A stepped care model as outlined for problem gambling by Hodgins (2005) suggests clients can increase or decrease the intensity of their help or treatment as required. A stepped care approach offers minimal or brief interventions before more intensive interventions. More intensive interventions are usually described as those that are of higher cost and delivered face-to-face. However, our research found that only a quarter of people stated that they were accessing online counselling as a means of stepping up to other services. For these gamblers, online counselling may have met their treatment needs. It is unclear why increasing intensity of care is seen as progressing towards a face-to-face agency when online interventions can similarly be made more deep and complex. This also speaks to the importance of starting to differentiate help-seeking from treatment. Chapter 5 provides some initial evidence that gamblers access services in crisis but also as a means of gaining information, skills and also confidence in being able to manage their gambling.

It is vitally important that more clinical research is conducted in community settings. This requires new and innovative methodology that reduces the burden on clients and counsellors while providing high levels of evidence that the intervention is effective. As a consequence of the current research, Gambling Help Online now requires an email address for registration. Unique client identifiers allow better tracking of clients in order to manage symptoms and also provide swifter access to services. This simple change in protocol means future research can be conducted

involving longer term follow-up. The effectiveness of the range of services provided by Gambling Help Online (i.e., chat as well as email) can be measured and the utility of the different types of online services can be compared. For example, future research might further explore the differences between chat and email in addition to chat and telephone and face-to-face modalities.

In some ways, single session online counselling is similar in nature to “walk-in-therapy” (Miller, 2008; Slive, McElheran, & Lawson, 2008). This therapy focuses on a brief, pragmatic approach and aims to work towards a client-focused solution in a single 50-minute session. Similar to many online counselling services, it operates without appointments and on the basis that the best time to intervene is when help is needed and when there is high readiness to hear about options and work towards a solution. Surprisingly, there is very limited research investigating the impact of providing an intervention when the individual is ready and willing to change. Moreover, there is very limited research that investigates the most effective response to the readiness of a client in community settings. This is not unique to online counselling and even though helplines have been operating as an immediate needs-based service for more than 30 years, there is no evidence that this is more helpful than providing a reception-based service to make appointment bookings. Future research should identify the impact of immediacy by comparing appointment versus just-in-time interventions delivered by helpline or online services.

Client positive evaluations of online counselling may be a manifestation of the modality. Firstly, approximately one in five online clients said that they used online because they had a preference for typing over talking. There is evidence that telling one’s story can be therapeutic (Richards & Vigano, 2013) and that writing can have positive impacts on well-being (Pennebaker, 1997). Clients spent a great deal of time telling their story and given the constraints of the medium (i.e., typing is slower than talking and significantly reduces the amount of content that can be covered), this seemed to be at the expense of considering possibilities and developing

strategies and options for change. Future research might consider the development of additional screening or story templates to help clients tell their story more efficiently. Given the evidence that story telling can be an intervention in itself, it would be helpful to compare a standard intervention that involves story telling with a template intervention where the counsellor provides feedback and guidance on the text. In addition, for clients for whom confidence to manage an urge is an issue, a very brief self-directed module could be integrated into the counselling process and offered during or after the session.

Based on the findings reported in Chapter 6 it was expected that online sessions evaluated positively also contain evidence of therapeutic alliance. There is good evidence that therapeutic alliance can be established in online counselling (Sucala, 2012). But there have been limited investigations of the outward behavioural indicators typically observed as measure of therapeutic alliance (e.g., smiling or sustained eye contact). In addition, there was a positive relationship between smoothness and depth and the outcome variables of confidence and distress, but it is not clear why. It is possible that these findings were a result of a non-random sample, self-report, or that only the client part of the exchange was assessed. In addition, the study found sessions were rated similarly smooth and deep to other modalities but further research is required to describe the character of depth and smoothness in terms of informing practice. Future research could address this issue by identifying transcripts rated with high and low depth and smoothness. Client characteristics as well as the content of the transcript could then be examined in detail to understand exactly what is contained in a deep and smooth session.

Central to these issues is the assumption that therapeutic techniques and models developed in face-to-face settings can be directly transferred to an online environment. This should be revisited. For example, similar to research involving young people on the Kids Helpline (Chardon et al., 2011), this thesis found the skilled helper model does not easily

translate to an online environment (Chapter 6). Traditional models of counselling process such as Egan's 'Skilled Helper' model (Egan, 2009) may therefore benefit from being adapted to better represent what takes place in online counselling. Nuanced language such as sarcasm or humour as well as negative emotion (e.g., distress) is difficult to detect in this environment.

Misunderstandings and incorrect interpretations are common concerns amongst online counsellors (Dowling & Rickwood, 2014; King et al, 2010). In the future, algorithms might be developed to assist both client and counsellor in becoming aware of ruptures in the counselling exchange.

The current work has provided critical baseline information on how gamblers access, perceive and respond to online counselling. Some three years on from when data collection for this study commenced, funding has recently been provided to conduct longer term follow-up with gamblers (competitive grant from the Victorian Responsible Gambling Foundation) as well as family and friends (grant from Australian Institute of Family Studies). This funding will facilitate important extensions of the current research involving not just online counselling chat clients but also email, community forums as well as very brief self-help modules offered by the Gambling Help Online service.

8.7 Conclusions

Distance-based services such as helplines have attracted a high volume of clients across the world. Online counselling is a natural extension of helpline services and most crisis and specialist helplines now also offer some online support or information. When the Gambling Help Online service was developed and implemented in 2009, the primary aims of the gambling help service model were to (1) attract a new cohort of treatment seekers, and (2) extend the range of services

by directly addressing barriers to treatment (shame and stigma), geographic isolation and hours of operation. The current research suggests these aims have at least in part been met given the high rates of new treatment seekers as well as groups that are typically under-represented in services (i.e., young people and males). In addition, potential issues around shame and stigma have potentially been addressed by offering anonymous access and increasing convenience across a 24-hour period.

The identification of a new cohort of help seekers also brings new opportunities for targeted promotion and treatment. For some time now, it has been agreed that gamblers do not form a single homogenous group (e.g., Blaszczynski & Nower, 2002) and the current research suggests help-seeking problem gamblers are similarly not homogenous (Suoni, Dowling, Jackson, 2014). Differences in uptake of services by gender and age, as well as differing gambling preferences, highlight the need for greater targeting of interventions and health promotion campaigns, as well as more tailored website content. Furthermore, broad structural innovation is important in responding to problem gambling. Help needs to be more than just accessible.

The current body of work has been critical in providing initial baseline evidence that gamblers are willing to access this modality and are primarily a new cohort of treatment seekers. It has also been critical in determining that the motivations for access are driven by a new set of mechanisms, not before seen in the gambling or addictions literature (i.e., convenience and a preference for writing over talking). In addition, the work has provided a never before look inside the online gambling counselling room and provided initial evidence that it makes a difference in the immediate short term. Longer-term follow-up is required to explore the sustained change to confidence and distress and the impact of online counselling on gambling outcomes such as time and money spent, severity, and harms.

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Appendix A: Extended Methodology

This thesis aims to provide the first comprehensive investigation of online help for problem gambling. Addressing issues associated with limited research in community settings, the thesis uses multiple methods and develops new processes for embedding research in this setting.

Interestingly, the perceived benefits of online counselling, including low barriers to treatment and perceived anonymity make it difficult to conduct client follow-up. Moreover, when online counselling was first offered in Australia, there was resistance from service providers and funders as well as clients to providing any screening or requesting any contact information at all. To counter this, leaders in the field have either treated transcripts as secondary data and applied content analysis methods (Barak & Bloch, 2006) or conducted pre-post session testing and investigated variables known to predict longer term outcomes (King, Bambling, Reid, et al., 2006).

Content analysis involves identifying patterns in a sample of the data using a thematic analysis and then sorting the remaining words into these categories and applying quantitative techniques for further analysis (Neuendorf, 2002). This approach was initially developed for use with print and other media (Krippendorff, 2004; Manganello & Blake, 2010). Increasingly, content analysis is being applied to naturally occurring data from a range of settings including community forums, social media and message boards (Bender, Jimenez-Marroquin, & Jadad, 2011; De Wever, Schellens, Valcke, & Van Keer, 2006), and more recently has been used to conduct secondary analysis of online counselling and email session transcripts (Fukkink, 2011; Nieuwboer, Fukkink, & Hermanns, 2014; Paxling et al., 2013). Despite limited access to longer term follow-up with clients, online counselling transcripts contain a considerable amount of information that is not typically available in most standard therapeutic encounters. Indeed, we are

able to view every utterance of the exchange to determine exactly what is said in an online session. Instead of solely relying on client self-report about their experiences of counselling, online delivery affords researchers an opportunity to directly observe their disclosed reasons for seeking help as well as to identify the focus and content of a session.

Critical to measuring the effectiveness of online counselling is determining appropriate outcome measures as well as a methodology that can capture and represent the experiences of gamblers. Consensus amongst leading gambling researchers suggests outcome measures should include measures of gambling behaviour and associated problems (e.g., mental health, relationships, financial legal), quality of life and the processes of change specific to the intervention (e.g., reduction in erroneous cognitions) (Walker et al., 2006). However, these recommendations rely on the target group being accessible for follow-up (i.e., not anonymous), involved in one or more episodes of care, and able to complete often lengthy surveys as a condition of treatment (Walker et al., 2006). There are therefore unresolved issues in what to measure for single session brief interventions delivered in an online setting. For example, research on the reasons for engaging in online counselling suggests that for a proportion of people, online counselling is a first step to 'try out' counselling and for some the first time disclosure occurs with another. For this group, it is unclear whether the agreed outcomes of reduction in harms associated with gambling are applicable. It may be more appropriate to measure a range of outcomes such as those used in telephone based programs (Dale et al., 2009) as well as single session telephone and online programs for children (King et al., 2006). These include treatment experiences, client evaluation of the session (thereby increasing the likelihood of accessing the service again) and increased skills, confidence and self-efficacy required to successfully negotiate tasks required for behaviour change.

A strength as well as limitation of this thesis is related to the setting in which the research

is undertaken. In problem gambling, as well as mental health more broadly, clinical research is typically undertaken away from the everyday people that access services. This trend is especially apparent in relation to distance based services (i.e., helpline and online). Indeed, almost all of what we know about people seeking help for problem gambling is derived from people seeking treatment from face-to-face services. This section provides a brief overview of the process gamblers undertake when accessing the Gambling Help Online program.

Gamblers typically access online counselling via Gambling Help Online via the website homepage, links throughout the website or via a link from other websites (e.g., funding bodies, online gambling providers and community agencies). Brief information related to online counselling is provided on the home page, as well as the online counselling landing page (i.e., the page that launches the online counselling registration). At this point, gamblers are provided with an option of registering for the service or accessing the service on a one-off anonymous basis. Registering involves the provision of an email address that can be used in future contact with the service. Gamblers are then offered a set of terms and conditions outlining the various online programs including chat and email. Once agreeing to the terms and conditions, participants proceed to a series of demographic questions and then complete a screen for gambling severity (i.e., the Problem Gambling Severity (Ferris & Wynne, 2001)). Gamblers are then placed in a virtual waiting room and are provided with an indicator of the number of people in the cue for service. There are no appointments, reception or additional steps between registering and speaking to a counsellor.

When a counsellor becomes available, clients choosing chat are automatically transferred to the virtual chat window. The chat window opens with an automated welcome from the counsellor and an invitation to talk. Concurrently, counsellors are also provided with the client data that was entered by the clients at the start of the counselling process (i.e., demographic

characteristics and gambling severity). Typically, counsellors have just a minute to view the client entered information as clients will often start typing immediately. A session will proceed for around 50 minutes and may involve the provision of pre-prepared materials during the sessions. These materials are typically pages freely available on the website such as tips for cutting down and as a means of covering more content in the session may be integrated into the counselling conversation. A session typically concludes with a referral or invitation to revisit the service at a later time.

The current investigation proposed embedding research into standard practice and involved extensive negotiation with funding bodies and the service provider. In regards to baseline measures, multiple new fields were included in the minimum dataset offered to clients. These additional fields included preferred mode of gambling, previous and current treatment seeking, three readiness rulers (importance, readiness and confidence to manage an urge) as well as a single item ruler measuring current distress. Second, additional fields were made available to counsellors along with the standard data collection. The main reason for making the data available was so that it would be considered in the context of the counselling session. This meant that screening tools needed to have immediate clinical application as well as be appropriate for the research questions. For example, readiness rulers are quick to administer and relatively easy to interpret (Miller & Rollnick, 2002). Third, we adapted the site terms and conditions to include information on the study. All gamblers accessing the service were advised that their data could be used for research, evaluation and training purposes and if willing to proceed agreed to a set of terms and conditions prior to commencing counselling. This meant the only client attrition possible relating to baseline measures is where there are technical difficulties or lost data.

In addition to enhancements to standard data collection, we developed and implemented a

post-counselling survey. Typically, online surveys are developed and delivered in free, easy to use software such as Survey Monkey or Qualtrics. Unfortunately these tools were not able to be embedded in the Gambling Help Online program as it severely limited the ability to link pre-session client data with that provided post-session. As such, we employed developers to build a survey tool that could be embedded in the program. This meant that the client ID allocated at pre-session was linked to post-session data. In addition, this method meant we were able to link data collection to associated transcripts which were stored in a different online database. Microsoft Access queries were then established to periodically extract pre-session and post-session data as well as export of transcripts into an Excel database.

Community settings offer new challenges to promoting research and indeed counsellors impose one of the most significant barriers to recruitment. Our experience of recruitment to other studies involving helpline and online callers is that, not surprisingly, counsellors are not expert in attracting research participants. To respond to this problem, we embedded a link from the chat window to the post-session survey. At the time of development, the site did not support pop-up windows and this meant that a link to the exit survey was provided in the chat window and appeared when the counsellor or client pushed a button to terminate the session. To highlight the study, the link was in bold and coloured red, different to the black text used in the counselling session.

Each of these changes to the website required approval from the service provider and funding body. The service is provided by Turning Point and changes to the site involved internal and external technical expertise as well as internal and external testing. Counsellors received training in how to interpret the new data fields but did not receive any specific training on responding to distress or readiness beyond issues that might have been discussed in clinical

supervision. In addition, counsellors were briefed on the study via a series of group and individual information sessions. Briefings related to background on the project, the types of questions in the post-session survey and also expectations related to client and counsellor anonymity during data analysis and write up of the project.

Funding arrangements for Gambling Help Online mean that every state and territory as well as the commonwealth government of Australia were involved in approving changes to the site as well as involved in the approval of this research. An external evaluation of Gambling Help Online occurred during the course of this research. As a result of negotiations, the post-session survey development and implementation was funded by the Department of Justice (approximately \$14,000) and a small amount of data was shared with an evaluation team. This report was an internal document only and not released for public consumption. The source of data being related to the PhD was noted in the final document.

Appendix B: Survey instrument

Pre-counselling survey instrument

Please tell us a little bit about yourself. This information will be sent to your counsellor during counselling sessions. This can save time in the counselling session and let you focus on the things most important to you.

1.	Gender	Male	Female	Other
2.	Age group	< 18 years, 18-24.... 60-64, 65 years or older		
3.	Cultural background	ABS		
4.	Postcode	Open field		
5.	What type of gambling are you concerned about?	Gaming Machines Horse/Dog Races Casino Table Games Illegal Gaming Other	Lottery Products Sports Betting Card Games Stock Markets	
6.	What is your preferred method of gambling?	Face-to-face Online	Telephone	
7.	How did you hear about the service?	Advertising Internet Promotional material Previous client Word of mouth	Family and friends Other professional Poster/venue notice Television advertising Unknown	
8.	Relationship to gambler	Self Parent Child Student Parent Friend	Partner Sibling Professional Other relative Student	
9.	Is this the first time you have ever made contact with a counsellor about your gambling concern?	Yes	No	
10.	If not, how else have you received counselling about gambling in the past?	Face-to-face Chat from other site Chat from this site Other	Email from this site Over the phone By mail	
11.	How important is it for you that you limit/stop your gambling?	On a scale of 1 to 10, where 1 is not at all important, and 10 is extremely important, where would you say you are?		
12.	Where does limiting/stopping gambling fit on your list of priorities?	On the same scale from 1 to 10 where 1 is not a priority at all and 10 is the most important priority, where would you say you are?		
13.	How confident are you that you could deal with an unexpected urge to gamble?	On the same scale from 1 to 10, where 1 is not at all confident and 10 is extremely confident, where would you say you are?		

14.	Right now, how upset are you?	On the same scale from 1 to 10 where 1 is not at all upset and 10 is extremely upset, where would you say you are?			
15.	The following questions relate to your gambling behaviour in the last 12 months. Thinking about the past 12 months...	Never	Some-times	Most of the time	Almost always
a.	Have you bet more than you could really afford to lose?	0	1	2	3
b.	Have you needed to gamble with larger amounts of money to get the same feeling of excitement?	0	1	2	3
c.	When you gambled, did you go back another day to try to win back the money you lost?	0	1	2	3
d.	Have you borrowed money or sold anything to get money to gamble?	0	1	2	3
e.	Have you felt that you might have a problem with gambling?	0	1	2	3
f.	Has gambling caused you any health problems, including stress or anxiety?	0	1	2	3
g.	Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	0	1	2	3
h.	Has your gambling caused any financial problems for you or your household?	0	1	2	3
i.	Have you felt guilty about the way you gamble or what happens when you gamble?	0	1	2	3

Post counselling survey instrument

This survey is designed to gather information about the effectiveness of our online gambling counselling program. We hope to use the findings of this study to help improve our services. Please mark the appropriate number to show how you feel about the online session you just completed:

a	Bad	1	2	3	4	5	6	7	Good
b	Difficult	1	2	3	4	5	6	7	Easy
c	Valuable	1	2	3	4	5	6	7	Worthless
d.	Shallow	1	2	3	4	5	6	7	Deep
e.	Relaxed	1	2	3	4	5	6	7	Tense
f.	Unpleasant	1	2	3	4	5	6	7	Pleasant

g.	Full	1	2	3	4	5	6	7	Empty
h.	Weak	1	2	3	4	5	6	7	Powerful
i.	Special	1	2	3	4	5	6	7	Ordinary
j.	Rough	1	2	3	4	5	6	7	Smooth
k.	Comfortable	1	2	3	4	5	6	7	Uncomfortable.
16.	How important is it for you that you limit/stop your gambling?	On a scale of 1 to 10, where 1 is not at all important, and 10 is extremely important, where would you say you are?							
17.	Where does limiting/stopping gambling fit on your list of priorities?	On the same scale from 1 to 10 where 1 is not a priority at all and 10 is the most important priority, where would you say you are?							
18.	How confident are you that you could deal with an unexpected urge to gamble?	On the same scale from 1 to 10, where 1 is not at all confident and 10 is extremely confident, where would you say you are?							
19.	Right now, how upset are you?	On the same scale from 1 to 10 where 1 is not at all upset and 10 is extremely upset, where would you say you are?							
20.	In an overall general sense, how satisfied were you with the treatment you received?	On the same scale from 1 to 10 where 1 is not at all satisfied and 10 is the extremely satisfied, where would you say you are?							
21.	Is online counselling your preferred method of accessing help or support?	On the same scale from 1 to 10 where 1 is not at all upset and 10 is very much so, where would you say you are?							
22.	What made you decide to use online counselling over other types of assistance? (telephone or face-to-face)	Open text field							
23.	Would you recommend online counselling to someone concerned about a gambling issue?	yes/no Why is that? Open text field							

Appendix C: Thesis derived articles during candidature



Simone Rodda
Dan I Lubman
Kathleen Latage

Problem gambling

Aetiology, identification and management

Background

Gambling is a mainstream activity across Australia, with increasing accessibility. It is also a significant public health issue, with around 395 000 Australians experiencing harm from problem gambling.

Objective

This article reviews current evidence relating to the classification and prevalence of problem gambling in Australia, why problems develop, and how to assess and manage gambling presentations within primary care.

Discussion

People affected by problem gambling are not a homogenous group in terms of course or onset. Screening is important, especially where financial problems are present or when there are other conditions that commonly co-occur (such as depression, anxiety, substance use disorders and nicotine dependence). Effective management involves a nonjudgemental and empathic approach, which may include referral to telephone or online services, face-to-face problem gambling programs, financial counselling, psychological and pharmacological interventions.

Keywords

gambling; behaviour, addictive; general practice; mental disorders

typically the most common issue for those presenting for treatment. However, the recent explosion in online wagering providers and sports betting overcome many potential barriers to gambling such as stigma and geography and there are growing concerns that the cost of gambling to the community is likely to continue to rise.³ The term 'problem gambling' is used in the Australian context to describe harms associated with difficulties in limiting time and/or money spent on gambling (Neal, Delfabbro, & O'Neil, 2005), and is intended to encompass a continuum of severity that includes pathological gambling.

This article discusses the prevalence of problem gambling in Australia, why problems develop, and how to assess and manage gambling presentations within primary care.

Classification of problem gambling

In 1980, for the first time, pathological gambling was classified as a disorder of impulse control within the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III).⁴ Criteria focused on the damage caused by a failure to resist the impulse to gamble. At this time, there was very little research on gambling, highlighted by the fact that the first gambling-specific academic journal only appeared in 1985. Subsequent reviews argued that problem gambling shared many characteristics with substance use disorders,⁵ which led to the remodelling of pathological gambling's DSM-III-R criteria to include items on preoccupation, tolerance, withdrawal and repeated efforts to quit or cut down (*Table 1*).^{5,6}

Despite DSM-III-R criteria being grounded in a familiar framework, researchers and treatment providers were dissatisfied. There were concerns that some items were ambiguous

Australia has a longstanding fascination with gambling. Over the past 200 years, unregulated gambling on coin, dice and card games has developed into a large and powerful gambling industry, with regulations on horse race betting commencing in the late 19th century (the first associated public holiday was observed in 1877) and further growth in casino gambling from the 1970s.¹ The subsequent introduction of the modern electronic gaming machine in the early 1990s resulted in a considerable increase in community spending on gambling, amounting to \$19 billion in 2008–09.²

While over 70% of Australians buy a lottery ticket or place a bet every year,² problems related to electronic gaming machines are

Table 1. DSM development for pathological gambling

DSM-III (6 items)
<ul style="list-style-type: none"> • The course is chronic and progressive and characterised as a failure to resist the impulse to gamble • Focus on damage to the individual or family (work, relationships, deception, legal, financial problems and bailouts)
DSM-III-R (9 items)
<ul style="list-style-type: none"> • Major revision from harm focused to criteria modelled on substance use disorders • Two financial items retained from previous edition: chasing lost money and gambling in spite of financial harms
DSM-IV (10 items)
<ul style="list-style-type: none"> • Retain substance use criteria from previous revision • Escape introduced in response to modern gaming machines • Lying to others to conceal gambling behaviour introduced • Illegal acts and bailouts reintroduced from DSM-III
DSM-V (? items – likely to be included as a behavioural addiction)
DSM = Diagnostic and Statistical Manual of Mental Disorders

or repetitive, that crucial criteria from DSM-III had been omitted⁷ and that withdrawal, arguably a cornerstone of addiction, was not a common response to ceasing gambling.⁸ Rosenthal also argued that diagnostic criteria should identify differences between pathological gambling and nonpathological gambling and account for its progressive nature.⁸

In response to these concerns, a survey was developed to inform the development of DSM-IV and distributed to 275 gamblers seeking treatment in the United States.⁷ The final DSM-IV criteria retained DSM-III-R items on withdrawal, tolerance and preoccupation and reintroduced legal problems from DSM-III (albeit with softened wording – arrests for illegal acts changed to committed illegal acts).⁹ Additionally, researchers recognised increased access, female participation and problems associated with gaming machines, and included a new item – gambling as a means of escape (*Table 2*).⁷

Given this history, it is not surprising that there is a current debate about whether to relocate pathological gambling from the impulse control disorders to behavioural addiction in DSM-V. As with concerns around the notion of addiction raised 25 years ago, researchers are still exploring the phenomenon of withdrawal and tolerance. Recent research suggests that 25% of people with pathological gambling experience restlessness or irritability, while

40% cite other withdrawal-like symptoms, such as disappointment and guilt, when trying to change their gambling behaviour.¹⁰ Those with more severe problem gambling are more likely to report withdrawal and tolerance experiences than those with less severe problems;¹¹ some researchers argue that reports of tolerance actually reflect increasing spending in an attempt to recoup losses rather than increasing bets to maintain levels of affect (which is different to substance use disorders).¹² In a similar fashion, 'withdrawal' could be conceptualised as a loss of specific stress reduction or coping strategies rather than an actual physiological state.¹²

How common are problems associated with gambling?

Problem gambling is a significant public health issue in Australia, costing between \$4.7 billion and \$8.4 billion per year.² Estimated prevalence rates are between 0.5% and 1.0%, with a further 1.4–2.1% at risk of problems developing, equating to over 395 000 Australians.² Gambling is typically a relapsing remitting condition, with relapse rates around 75%.¹³ Although there is little research on recovery, many do recover with or without professional help; most people accessing government funded treatment agencies report reductions in gambling involvement.²

How problem gambling develops

Across Australia, there are almost 200 000 electronic gaming machines in 6000 venues,² seven times the number of McDonald's outlets.¹⁴ Gaming venues are overrepresented in lower socioeconomic areas,¹⁵ and the geographic accessibility of gaming venues appears to be related to the incidence of problem gambling.¹⁶

Access to gambling is an integral component of the Blaszczynski and Nower pathways model, which incorporates a biopsychosocial approach to conceptualising problem gambling.¹⁶ The model proposes all gamblers experience a degree of behavioural conditioning, which occurs through a combination of access, conditioning (classical and operant), development of faulty cognitions (eg. overestimating the amount of control over random events) and chasing (trying to recoup lost money).¹⁷ Within the model, individual vulnerability is considered an important additional pathway into problem gambling. Vulnerabilities include pre-existing mood and anxiety disorders, trauma or poor coping skills, as well as biological factors, such as impulsivity.¹⁷ Accordingly, treatment for gambling should include interventions that also target the underlying condition.

Implications for primary care

Screening and assessment

Problem gambling is associated with high levels of shame and stigma and a nonjudgemental and empathic approach should be adopted when identifying gambling problems. While people who are unemployed or on low incomes are particularly at risk,¹⁸ most people maintain employment and an appearance that there is not a problem. This is particularly pertinent to online gambling, such as sports betting, which is attracting young men with higher than average incomes.¹⁹ The development of therapeutic engagement and an ongoing relationship can facilitate disclosure. While it is not practical to screen all patients for problem gambling, it is helpful to raise the issue when patients present with the following clinical features:

- indications by patient or others that gambling

Table 2. Typical criteria for pathological gambling

- Is preoccupied with gambling
- Needs to gamble with increasing amounts of money
- Has repeated, unsuccessful efforts to control, cut back or stop
- Is restless or irritable when trying to cut down or stop
- Gambles as a way of escaping from problems or relieving mood
- After losing returns to win it back
- Lies to family members, therapist or others
- Has committed illegal acts
- Has jeopardised relationships or career
- Relies on others to provide bailout

is being used to improve financial problems

- signs of stress, depression and/or anxiety
- disrupted sleep, changed eating patterns
- history of alcohol or nicotine dependence
- unexplained loss of time or money
- dissatisfaction with quality of life.

Relevant sociodemographic factors include:^{20,21}

- reports of social isolation or poor relationships
- family history of gambling or problem gambling
- legal and financial difficulties
- non-English speaking backgrounds and recent immigrants.

People with problem gambling experience high rates of co-occurring conditions, including depression, anxiety, substance use disorders and nicotine dependence.²² In addition, population health surveys have found high rates of co-occurring depressive symptoms and stress related issues.²³ It is therefore important to screen for gambling problems when these conditions are present.

Use of a screening tool can be helpful in eliciting a history of gambling and associated harms, and the following are particularly suitable within a primary care setting:

- the 1-item problem gambling screening (ie. ‘have you ever had an issue with gambling?’)²⁴
- the 3-item Brief Bio-Social Gambling Screen²⁵ assesses withdrawal, lying and financial difficulties and the three-item NODS-CIP²⁶ assesses lying, preoccupation and attempts to control or cut down gambling – these tools can be administered in a couple of minutes
- the 9-item Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index²⁷ closely resembles DSM-IV criteria and

is the most common tool used in Australia to screen for problem gambling (Table 3).

Management

People experiencing problem gambling often feel ashamed about their gambling and will conceal the behaviour and associated consequences.

Therefore, a nonjudgemental and gentle approach that addresses both the gambling and potential harms is required. Motivational interviewing techniques improve the likelihood of change. Employing reflective listening can assist patients to set their own goals, which can be enhanced by employing a readiness ruler: ‘on a scale of one to 10, how important is it for you to change your gambling?’ If the score is low, it is helpful to explore the benefits and costs of gambling, with questions like ‘what are the

good things about gambling?’ and ‘what are the less good things?’ Typically clients talk about excitement and escape versus loss, guilt, regret and remorse.

If the score is high, indicating a readiness to change, it is helpful to ask a follow up question related to confidence levels – ‘on a scale of 1 to 10 how confident are you in resisting the urge to gamble?’ If confidence is high, ask how they plan to go about changing their gambling behaviour. Many people with gambling problems experience low confidence in resisting the urge to gamble. It is helpful to build confidence by normalising lapse and relapse and identifying opportunities to learn about gambling triggers. Relapse is typically triggered by a combination of internal (eg. negative affect, stress) and external (eg. pay cheque, bills in post, venue inducements) factors that build towards an overwhelming urge to act that is supported by erroneous cognitions (eg. selective recall of previous wins).²⁸

For some people it is helpful to ask whether they have considered talking to someone about their gambling. This can be an opportunity to refer to a specialist gambling treatment agency (available via phone, online or face-to-face). A summary of referral options is outlined in Table 4. Some people may be experiencing harms from gambling, but are not ready to change. It is helpful to discuss harm minimisation measures, such as reducing access to cash in a venue, protecting their assets (eg. second signature on

Table 3. The Problem Gambling Severity Index (PGSI)²⁷

The following questions relate to gambling behaviour in the past 12 months. Thinking about the past 12 months ...

- Have you bet more than you could really afford to lose?
- Have you needed to gamble with larger amounts of money to get the same feeling of excitement?
- When you gambled, did you go back another day to try to win back the money you lost?
- Have you borrowed money or sold anything to get money to gamble?
- Have you felt that you might have a problem with gambling?
- Has gambling caused you any health problems, including stress or anxiety?
- Have people criticised your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
- Has your gambling caused any financial problems for you or your household?
- Have you felt guilty about the way you gamble or what happens when you gamble?

Never = 0; sometimes = 1; most of the time = 2; almost always = 3
A score greater than 8 indicates probable problem gambling

Table 4. Management resources for problem gambling

- Free face-to-face counselling is available for problem gambling across Australia by calling 1800 858 858
- A free, confidential, 24/7 helpline (1800 858 858) is available in every state and territory, and provides counselling, information and referral for gamblers and concerned family members. Self help booklets and printed service information are also available from these helplines
- Online services appear attractive to those who experience high levels of shame and stigma. Accessed most often by young men, 70% of people accessing this service have never previously accessed treatment. Compared with other treatment modes, clients state that it is easy to access, easy to talk and convenient. The national online counselling service (www.gamblinghelponline.org.au) is available 24/7 and provides real time chat and email support
- A four to six session semi-structured telephone counselling program (Ready to Change) is available in Victoria, Queensland and Tasmania, and can be accessed by calling 1800 858 858
- www.gamblinghelponline.org.au/helping-others/assistance-for-professionals.aspx has links to state government resources for professionals
- Financial counselling

their mortgage) or minimising alcohol use while gambling. This approach keeps the door open for when the person is ready to take the next step.

In addition to motivational interviewing, cognitive behavioural therapy, cognitive therapy, behaviour therapy and brief interventions are recommended for problem gambling.²⁹ Cognitive behaviour therapy may also be helpful where gambling and co-occurring conditions co-exist, however, research is scant on how best to address concurrent issues. While each of these therapeutic techniques has been found to be effective in reducing time and money spent on gambling, briefer interventions may also be useful. For example, a Canadian study comparing motivational interviewing, behaviour therapy and cognitive therapy with a minimal intervention (feedback on assessment and practical strategies) produced reductions in DSM-IV symptoms comparable with longer term interventions.³⁰

A larger trial determining the effectiveness of different psychological approaches is currently being undertaken in Victoria. Pharmacological treatments for problem gambling are in their infancy, with some evidence that treatment with naltrexone may reduce cravings or positive feelings associated with gambling.³¹ Antidepressants may be prescribed where there

is a concurrent diagnosis of depression and/or anxiety, however there is a lack of evidence to support their use in the absence of these conditions.

Although little evidence exists on matching severity of problem gambling and type of intervention, those with comorbid mental health issues may benefit from referral to specialist providers located in government funded agencies as well as Medicare funded treatment with psychiatrists and psychologists.

Family and friends

Family and friends affected by gambling comprise around 20–25% of help seeking populations and there is very limited research as to how and when this group seeks help. It has been noted that family and friends are significant in assisting the gambler seek help and improving gambling outcomes.³² However, they also experience significant harms associated with problem gambling, including poor mental health, family violence and increased financial problems.³³ It may be useful to ask whether anyone in the family experiences problem gambling, particularly when there are financial difficulties. Problem gambling treatment services also offer free counselling and financial advice for families and friends (*Table 4*).

Key points

- Problem gambling is a significant public health issue in Australia costing between \$4.7 and \$8.4 billion per year.
- People with problem gambling experience high rates of co-occurring conditions, including depression, anxiety, substance use disorders and nicotine dependence.
- Screening for problem gambling can be simple, using tools such as the 1-item: 'have you ever had an issue with your gambling?'
- When problem gambling is identified, motivational interviewing can facilitate change.
- There are a range of free accessible treatment options in Australia, which include face-to-face, telephone and online modalities.

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Conflict of interest: Dan Lubman has received payment for lectures from AstraZeneca and Janssen.

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Characteristics of Gamblers Using a National Online Counselling Service for Problem Gambling

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Published online: 8 January 2013
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Abstract Immediate interventions for a range of health concerns are increasingly being delivered online due to their ease of access and potential to attract new treatment cohorts. This paper describes the development and implementation of a national Australian real time chat and email service for problem gambling. Between September 2009 and September 2011, over 85,000 people visited *Gambling Help Online*. In addition, 1,722 people engaged in real time chat with trained gambling counsellors, while 299 accessed the email support program. Almost 70 % of people accessing these programs were seeking treatment for the first time, with email contacts significantly more likely to be new treatment seekers (78.0 %) compared with chat clients (68.1 %). Chat clients were more likely to be male than female and aged under 40 years, while email clients, while still highly accessed by young males, were more often female and aged over 40 years. These initial findings suggest that online counselling provides an important alternate mode of service delivery, which is attractive to new treatment seekers. Further research is required to determine the efficacy and impact of this service type on long-term gambling outcomes.

Keywords Gambling · Internet · Chat · Email · Counselling · Treatment

Introduction

A broad range of freely accessible problem gambling treatment services are currently provided across Australia. This includes state-wide helplines, face-to-face counselling and financial advice, as well as professionally moderated support groups. Although males are

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more likely to experience problem gambling than females, and younger people are at greater risk (Department of Justice 2009; Delfabbro and Le Couteur 2009), people seeking treatment are more likely to be female, middle aged and experiencing problems associated with electronic gaming machines (EGMs) (Jackson et al. 2005). While a range of services are offered, research suggests that for some people pride, denial of the problem or difficulty accessing services will prevent them from seeking help (Evans and Delfabbro 2005; Pulford et al. 2009).

Internet interventions have been found to be effective across a broad range of mental health disorders (Spek et al. 2006; Barak et al. 2008). They range from self-guided modules and tailored self-assessment to clinician-supported interventions, such as group support and online counselling. Online counselling is typically delivered via real time chat (synchronous) or email (asynchronous), with most publically funded single-session interventions typically provided anonymously (e.g., *Kids Helpline*, *Counselling Online*, *Lifeline*, *Gamcare*).

Internet interventions have the capacity to increase the accessibility of treatment, particularly for people with disorders that are highly stigmatised. Initial research in this mode suggest ease of access and potential for anonymity are particularly attractive to females who gamble online (Wood and Wood 2009). Typically accessed outside traditional business hours (Swan and Tyssen 2009), the structural characteristics of online services, such as the absence of physical or verbal cues to identity and direct access from home or work, enhance opportunities for help-seeking. This is possibly why some studies report up to 85 % of people accessing online counselling are new treatment seekers (Young 2005).

There is a growing body of research on gambler characteristics and uptake of online gambling (e.g., (Potenza et al. 2011; Mark Griffiths et al. 2011; Gainsbury et al. 2012), however research into online counselling for gambling is scant (M. Griffiths 2005; Gainsbury and Blaszczynski 2011). To date, empirical research has included investigations of search terms and strategies in online help-seeking (Lee 2011), self-directed interventions with minimal support such as via email or telephone (Carlbring and Smit 2008; Casey et al. 2009), feedback to online self-assessment (Cunningham et al. 2012) and content analysis of posts and a survey of participants using message boards for problem gambling (Wood and Wood 2009). Counselling online, delivered via real time chat or email, has been limited to an evaluation of the United Kingdom GamAid program (R. T. A. Wood and Griffiths 2007). This program, which provides information, screening and referral via real time chat, attracted high rates of female gamblers, with a preference to gamble and access help online.

Recognising that online counselling has the potential to extend the reach of existing services, Australian state and federal governments recently funded a single national website for the online treatment of problem gambling. Launched in September 2009, the primary aims of the service are to (1) attract a new cohort of treatment seekers and (2) extend the range of current services by directly addressing barriers to treatment such as shame and stigma, geographic isolation and hours of operation.

Two counselling options, real time chat and email support, were developed within the wider Gambling Help Online platform. Developed over a 9-month period and informed by a literature review and environmental scan of mental health and gambling websites, support materials were also developed which included information on gambling issues, interactive self-assessments, strategies for regaining control, accessing support and helping others. Website functionality, content and branding was informed by focus groups, which were conducted across several Australian states (Queensland, New South Wales and Tasmania). At-risk/problem gamblers and their family and friends were unanimous in the selection of the name *Gambling Help Online*, and suggested that the site should be friendly, trustworthy, professional and accessible anonymously.

Over the initial 24 months of service delivery, the *Gambling Help Online* website attracted high volumes of visitors. This included 109,859 visits by 85,703 visitors. New visitors stayed on the site for 2:16 min and viewed an average of 2.9 pages (Turning Point Alcohol and Drug Centre 2011). Approximately 22 % of visitors returned more than once, and when returning stayed longer (average duration 4:05 min) and viewed more pages (3.65 pages viewed). Google analytics indicated that site content was also frequently viewed, with 336,467 page views including a self-assessment for problem gambling risk (15,959 views) and self-assessment of gambling spend (7,344 views). Content pages most viewed included helping others (11,392 views), regaining control (5,107 views), signs of a problem (4,796 views) and maintaining change (4,242 views).

While providing an accessible source of information on problem gambling, a key component of the program is its counselling options. Almost 40,000 views of pages describing online counselling were accessed which describe the features and functionality of the chat and email programs. Little is known of who accesses online counselling in Australia, and in particular those accessing online counselling for problem gambling. This paper describes the characteristics of people accessing chat and email programs over the first 2 years of *Gambling Help Online*, and examines whether the program did attract a new cohort of treatment seekers.

Method

Participants

Over the initial 2-year period of operation, 2,869 people accessed real time chat and email support. As we were interested in individual gambler characteristics, we excluded repeat sessions as well as contacts not enquiring about their own gambling (e.g., administrative enquiries, students, professionals, venue workers). While approximately 83 % of clients accessing the service did so related to concerns about their own gambling, 17 % of contacts were from family and friends, and these were also excluded from data analysis. The final dataset included 2021 unique clients who accessed real time chat (85.2 %) and email support (14.8 %) between mid-September 2009 and mid-September 2011.

In November 2010, two new data collection fields were introduced, documenting preferred mode of gambling and treatment seeking status. Specifically we asked ‘what is your preferred method of gambling’ and ‘is this the first time you have ever made contact with a counsellor about your gambling concern?’ Data for these variables were available for 956 chat and 168 email clients included in this study.

Measures

Data reported in this paper were entered by the client and included demographic information (i.e., gender, age, postcode, cultural background), knowledge of service, whether treatment had previously been sought, gambling involvement (relationship to gambler, type and mode of gambling) and a measure of gambling severity. The nine-item Problem Gambling Severity Index (from the Canadian Problem Gambling Index) was selected to screen for gambling severity due to its frequent use in face-to-face problem gambling treatment agencies and its reported good internal consistency, test–retest reliability and criterion validity with measures of gambling involvement (Ferris and Wynne 2001), as well as its recent use in other studies involving online data collection methods (R. T. Wood

et al. 2007; Gainsbury et al. 2011). Scores range from 0 to 27, with participants who score between 8 and 27 classified as problem gamblers.

Gambling Help Online Counselling Programs

The two counselling components of Gambling Help Online are real time chat and email support. Both of these programs are accessible via the Gambling Help Online website and are offered to anyone concerned about gambling. To access these programs, participants enter via the website homepage, or links throughout the website, and are offered a set of terms and conditions outlining the programs. Participants then proceed to a series of demographic and gambling related questions, with the responses provided to the counsellor at session commencement (chat or email).

Real Time Chat

Clients can register or access anonymously, with the provision of an email contact the only difference. Real time chat is offered 24/7 and works similarly to instant messaging, where both the counsellor and client type in a secure environment. The amount of content covered in an online session is about half of that in a face-to-face or telephone session, so push-page technology was developed to introduce previously developed content which then becomes a source of discussion within the counselling session (e.g., ways to cut down/quit, strategies for money management). A chat session typically lasts around 45 min with around one-third of registered chat clients returning for two or more counselling sessions. However, the proportion of returning clients is likely to be significantly underreported as this accounts only for those who registered (as opposed to anonymous access). While most clients talk to a different counsellor during each treatment episode, the transcripts of registered clients can be viewed at each visit. Registered clients also have a 'my profile' page which holds referral information, results of any assessments (e.g., gambling severity) and previous counselling sessions.

Email Support

In response to focus group concerns around the term counselling (which they thought would be a barrier to help-seeking for some people), it was decided to differentiate real time chat and email by referring to it as email support. Throughout the website, email support is promoted as 'got a question get an answer' and 'wanting to do it yourself? Tell us about your plans'. Similar websites that provide chat and email support report email to be more popular (BoysTown 2011), however given that many gamblers need immediate support after they have lost money, we expected that the immediacy of real time chat would be more attractive than a delayed response provided via email.

Email support is provided via the same secure site as the real time chat. Initial client emails are responded to within 24-hours and clients can switch between email support and real time chat during their engagement with the service. A client is allocated the same counsellor for two to three emails a week for approximately 6 weeks. The average number of emails exchanged between counsellor and client is 4.4, with a range of 2–30 email exchanges.

Counsellors responding to chat requests have qualifications in psychology or social work with training and expertise in the area of problem gambling and online counselling.

In developing the service, we determined that email was likely to attract clients engaged in multiple exchanges and was more likely to reflect typical ongoing problem gambling counselling work than single session chat. As such, counsellors responding to email requests are registered psychologists or social workers, which is equivalent to the qualification requirement in at least one face-to-face gambling service in Australia. These clinicians also provide mentoring and training to those providing chat services as well as direct service provision to chat clients.

Data Collection and Analysis

Data was extracted from a Microsoft Access database and analysed using SPSS, version 18. Data were screened for inconsistencies including missing values, outliers and violations of statistical assumptions prior to analyses. Scales with less than 5 % of cases were recoded into a single category, such as other types of gambling (which included lotteries, keno, E-bay, illegal gambling, stock markets and bingo). The reporting of ethnicity as Australian or Aboriginal was maintained, with all other responses recoded into regional groupings (i.e., Africa, Americas, Asia, Europe and Oceania) (United Nations 1998).

Sample characteristics in terms of demographic and gambling involvement were assessed using descriptive statistics. Differences between chat and email were analysed via a series of Chi square procedures or analyses of variance where data was continuous. There were some comparisons where numbers were too small to meet the underlying assumptions of the test. Where this occurred, trends have been reported and noted throughout. Tests for normality and homogeneity of variance were conducted, and as it was found that scores on the PGSI were highly skewed, a reflected square root transformation was performed (Tabachnick and Fidell 2007).

Results

Differences Between Chat and Email

As shown in Table 1, gamblers accessing real time chat were more often male ($\chi^2(1) = 76.9, p < .001$) and while email support also attracted a higher proportion of males, that difference was not significant. Significant differences emerged between programs with a higher proportion of males accessing online chat than email support ($\chi^2(1) = 4.80, p < .05$). Although females comprised just 40.4 % of the sample, they comprised 46.2 % of email clients.

The majority of participants were aged under 40 years ($M = 34.5, SD = 11.8$). Significant differences emerged between chat and email across all age groups, with those under 40 years more likely to engage in chat rather than email (72.2 % vs. 56.9 %), while those over 40 years accessed email more often.

Participants were asked to list the main type of gambling that had resulted in problems. The most problematic form of gambling reported was EGMs. There were no significant differences between chat and email on any gambling type indicators, however due to small differences across the range of gambling options, fewer people identified EGM gambling in the chat group compared to email. The mode of gambling was predominantly land based at a venue (76.1 %), with 16.6 % of participants stating that their preferred mode was online (desktop PC, smart phone or digital television) and only eight people reporting a

Table 1 Characteristics of people who access real time chat and email support

<i>n</i> and %	Chat	Email
Gender (% male)	1043 (60.6)*	161 (53.8)
Age		
Under 20	86 (5.0)	8 (2.7)
20–29	680 (39.5)*	99 (33.1)
30–39	478 (27.8)*	63 (21.1)
40–49	272 (15.8)*	65 (21.7)*
50–59	160 (9.3)	50 (16.7)***
60 or older	46 (2.7)	14 (4.7)*
Gambling type		
EGM	1149 (66.7)	217 (72.6)
Horses/dogs	271 (15.7)	39 (13.0)
Casino (Table)	104 (6.0)	15 (5.0)
Sports bet	87 (5.1)	12 (4.0)
Card games	52 (3.0)	5 (1.7)
Other	59 (3.4)	11 (3.7)
Preferred mode gambling		
Face-to-face	720 (75.3)	133 (79.2)
Internet	167 (17.5)	22 (13.1)
Other/unsure	68 (7.1)	11 (6.6)
Ethnicity		
Australian	1186 (68.9)	212 (70.9)
Aboriginal	20 (1.2)	3 (1.0)
Oceania	60 (3.5)	12 (4.0)
Asian	240 (13.9)	37 (12.4)
European	176 (10.2)	32 (10.7)
American	17 (1.0)	1 (0.3)
African	23 (1.3)	2 (0.7)

* $p < .05$, ** $p < .01$,
 *** $p < .001$

preference for telephone betting. Most participants reported their ethnicity as Australian, followed by an Asian background, with no differences evident between services.

Almost all participants were problem gamblers ($n = 1961$, 92 %) with a range of scores between 8 and 27 ($M = 21.2$, $SD = 4.5$). A small number of people screened on the PGSI as not at risk ($n = 5$) or at low to moderate risk for a gambling problem ($n = 13$). A one-way between groups analysis of variance (ANOVA) was used to investigate the type of service accessed and severity of gambling. Participants accessing chat reported significantly higher scores on the PGSI than those using email (untransformed means were $M = 21.3$ vs. $M = 20.3$, $F(1,1977) = 13.37$, $p < .001$), with females scoring higher than males using chat ($F(1,1682) = 12.59$, $p < .001$) and email ($F(1,283) = 5.69$, $p = .018$).

Over 70 % of people accessing real time chat did so during evening, overnight or weekend periods. There was no difference in services used during overnight or weekend periods, but email was used more often during business hours than chat (37.8 % vs. 30.7 %, $\chi^2(1) = 5.98$, $p = .014$).

Counselling functionality was limited to people with an IP address originating in Australia. Victoria (35 %) and New South Wales (36 %), the biggest states in terms of populations also had the highest proportion of chat and email participants, followed by

Queensland (16 %) and South Australia (6 %). Aligned with their smaller population, fewer participants originated from Tasmania (2 %), Western Australia (2 %), the Australian Capital Territory (1 %) and the Northern Territory (<1 %). Compared with the total sample, three states had significantly higher proportions of clients choosing email over chat, including Western Australia ($\chi^2(1) = 9.97, p = .004$), Tasmania ($\chi^2(1) = 4.06, p = .044$) and Queensland ($\chi^2(1) = 8.324, p = .005$). In contrast, opposite trends were noted with the Australian Capital Territory (ACT), with only 2 out of 29 participants choosing email.

Gender Differences within Chat and Email

While few differences were found between chat and email on client characteristics, there were significant differences within services by gender. As shown in Fig. 1, over 60 % of chat clients were males, with over half aged under 30 years. In comparison, the age of females was evenly distributed and did not indicate the same sharp decline over 40, as seen in males accessing chat.

As shown in Table 2, there were also significant gender differences for chat clients in types of gambling, with females almost exclusively engaged in EGM gambling. Compared with females, males accessing the service reported significantly more problems associated with wagering, casino gambling and sports betting, and placed their bets more often via the internet. Compared with females, there were significantly higher rates of Asian male gamblers accessing the chat service (18.1 %).

Similar trends in age and gender were found in people accessing email. Those aged less than 30 years were significantly more often male than female (54.2 % of males vs. 14.5 % of females). Somewhat differently than chat, there was a strong skew towards older women, with 70.3 % of females accessing email aged over 40 years. Again, there was a significant difference in type of gambling, with almost 90 % of females and 58 % of males experiencing problems with EGMs. There were significantly more males than females of Asian background accessing the email support program as well as significantly more females of European background.

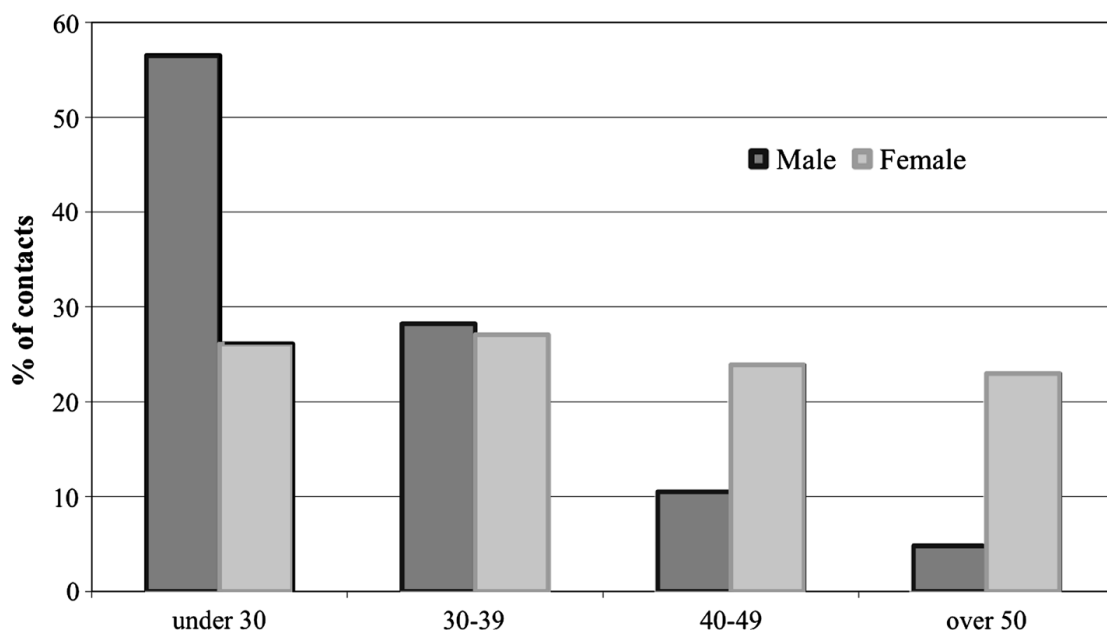


Fig. 1 Age and gender of participants using chat

Table 2 Client characteristics by gender within chat and email

<i>n</i> and %	Chat		Email	
	Male	Female	Male	Female
Gender	1043* (60.6)	679 (39.4)	161 (53.8)	138 (46.2)
Age				
Under 30	589 (56.5)***	177 (26.1)	87 (54.2)***	20 (14.5)
30-39	294 (28.2)	184 (27.1)	42 (26.1)*	21 (15.2)
40-49	110 (10.5)	162 (23.9)***	20 (12.4)	45 (32.6)***
Over 50	50 (4.8)	156 (23.0)***	12 (7.5)	52 (37.7)***
Gambling type				
EGM	538 (51.6)	611 (90.0)***	93 (57.8)	124 (89.9)***
Horses/dogs	257 (24.6)***	14 (2.1)	36 (22.4)***	3 (2.2)
Casino (table)	93 (8.9)***	11 (1.6)	11 (6.8)	4 (2.9)
Sports bet	82 (7.9)***	5 (0.7)	11 (6.8)**	1 (0.7)
Card games	45 (4.3)***	7 (1.0)	5 (3.1)	0
Other	25 (2.4)	29 (4.3)*	5 (4.1)	6 (4.3)
Method of gambling				
Face-to-face	423 (71.1)	297 (82.3)***	72 (73.5)	61 (87.1)*
Internet	134 (22.5)***	33 (9.1)	15 (15.3)	7 (10.0)
Other/don't know	38 (6.4)	31 (8.6)	11 (11.2)	2 (2.9)
Ethnicity				
Australian	671 (64.3)	515 (75.8)***	114 (70.8)	98 (71.0)
Aboriginal	11 (1.1)	9 (1.3)	2 (1.2)	1 (0.7)
Oceania	35 (3.4)	25 (3.7)	5 (3.1)	7 (5.1)
Asian	189 (18.1)***	51 (7.5)	28 (17.4)**	9 (6.5)
European	114 (10.9)	62 (9.1)	10 (6.2)	22 (15.9)**
American	7 (0.7)	10 (1.5)	1 (0.6)	0
African	16 (1.5)	7 (1.0)	1 (0.6)	1 (0.7)

* $p < .05$, ** $p < .01$, *** $p < .001$

Treatment Seeking Status

Almost 70 % of people accessing chat and email between November 2010 and September 2011 were seeking treatment for the first time. People using email were significantly more likely to be new treatment seekers (78.0 %) compared with chat clients (68.1 %, $\chi^2(1) = 6.59$, $p = .011$). New treatment seekers using chat were more likely to be male than female (72.3 % vs. 62.2 %, $\chi^2(1) = 12.68$, $p < .001$), with no difference by gender for email contacts.

Approximately 25 % of clients had previously sought treatment, including face-to-face (61.7 %), telephone (17.5 %), online at this site (12 %), online at another site (3.3 %) and other (5.5 %). There was no difference by previous treatment seeking between services or within services by gender.

Of the 56 people currently seeking treatment, this was most often face-to-face (42.9 %). Clients also nominated chat (23.2 %), email (14.3 %), telephone (10.6 %), other website (3.6 %) and other (5.4 %). Almost all of those currently seeking treatment accessed chat

rather than email (54 out of 56 clients). There was a significant difference in the proportion of female chat clients (9.1 %) currently seeking treatment compared to male clients (3.5 %, $\chi^2(2) = 13.27, p < .001$).

Differences between new, previous and current clients' gender, age, method of gambling and ethnicity were also found. New treatment seekers were significantly more often male than female (64.7 %) compared with current treatment seekers (37.5 %, $\chi^2(2) = 18.75, p < .001$). New treatment seekers were also more often aged under 30 years (50.3 %) compared with previous (28.7 %) or current clients (25.0 %, $\chi^2(2) = 48.12, p < .001$). Current clients were significantly more often aged 30–39 (57.1 %) compared with new (23.0 %) or previous clients (32.5 %, $\chi^2(2) = 36.52, p < .001$). Clients aged between 40 and 49 years had accessed treatment more often in the past (22.4 %) compared with new (15.3 %) or current (8.9 %) treatment seekers ($\chi^2(2) = 10.16, p = .006$). While no differences were found by type of gambling, fewer current treatment seekers accessed their gambling face-to-face (62.5 %) compared with new (75.1 %) or previous (81.5 %) treatment seekers ($\chi^2(2) = 10.66, p < .005$). Current treatment seekers were significantly more likely to be of Asian background (26.8 %) compared with new (13.2 %) or previous (14.3 %) treatment seekers ($\chi^2(2) = 1.961, p < .001$).

Discussion

This study is the first to examine the characteristics of people accessing chat and email support services for problem gambling in Australia. Based on the first 2 years of *Gambling Help Online*, these data suggest that chat is a far more popular option than email for accessing counselling support online, with 85 % of the 2021 unique clients accessing chat rather than email support. While chat was more frequently sought outside traditional business hours, email support was accessed more often during the day. While there has been little research comparing the uptake or attractiveness of these modalities, the current study found a higher proportion of chat versus email uptake, which is markedly different to data reported by other online (non-gambling support) services (BoysTown 2011). Real time chat provides an immediate interaction with another person, which may be attractive after-hours when the person has either just been gambling or is thinking about the problem. Email may be more popular during business hours when people are engaged in other activities, as chat is less amenable to interruption.

The characteristics of people accessing chat and email programs differed. Chat clients were more likely male than female and aged under 40 years. Email support, while still highly accessed by young males, was patronised more frequently by women among those aged over 40 years. The high rate of males accessing this online service is markedly different to service data reported elsewhere (Wood and Wood 2009).

Previous studies suggest that four out of five people accessing treatment services have problems associated with EGM gambling (Delfabbro and Le Couteur 2009). While our findings indicate that nine out of ten women experience problems with EGMs, only 56 % of males reported EGM gambling as their primary source of problems, which is considerably different to data reported by Australian face-to-face and helpline services (Productivity Commission 2010). Given that 22 % of male gamblers preferred to gamble via the internet, it is possible that those gambling online also have a preference to seek treatment via an online modality. The same reasons cited for preferring online gambling (convenience, ease and comfort of their own home) may also make online counselling equally attractive (R. T. Wood et al. 2007).

Email was accessed proportionally more often in Western Australia, Tasmania and Queensland. Whether this is due to differences across states in terms of demographics, promotion of the online service, access to face-to-face services or other factors is difficult to determine, with limited data available to compare service access to problem gambling programs across different states. Whether people are choosing online support as a preference or because of other factors (e.g., lack of awareness of other services, individual or structural barriers) remains to be investigated.

We were interested in whether the service was attracting a new cohort of treatment seekers. We found that 7 out of 10 people accessing the service were new treatment seekers, with almost 80 % of email clients never previously seeking treatment for a gambling problem. New treatment seekers were more often younger (less than 30 years), and when using chat were more likely to be male than female. Compared with new treatment seekers, current or previous treatment seekers were more often aged 30–40 years. People currently seeking treatment were significantly more likely to be female and engage in chat rather than email support.

In comparison to the number of website visits, less than 5 % engaged in a counselling option. Knowledge of the service is still growing, however there has been an exponential growth in demand for online counselling since its inception. Due in part to advertising, word of mouth, referral and return visits, we expect that demand will continue to grow similar to the experience of *GamCare* in the UK. Indeed, since it began around 10 years ago, *GamCare* online contacts have grown to over 11,000 during 2010/11, almost half that of the complementary telephone helpline (*GamCare* 2011).

Limitations

It is important to acknowledge several limitations. The data presented is self-report and directly entered online by clients accessing the online service prior to commencing a counselling session. While corroboration of self-report has been identified as important in determining the accuracy of gambling behaviour and impacts (Walker et al. 2006), the anonymous nature of this mode of intervention limits this opportunity. Nevertheless, data collection online has advantages in that missing data is significantly reduced (i.e., electronic forms will not generally save with incomplete questions). Self-report instruments developed for paper and pencil administration also appear to maintain their psychometric properties when delivered online (Ritter et al. 2004). However, influences including location (e.g., work, home), physical (e.g., intoxication) and psychological (e.g., distress) condition may impact administration validity (Barak and Buchanan 2004). While online administration of the PGSI has been conducted elsewhere (Gainsbury et al. 2011), we found higher PGSI scores than that reported by other treatment-seeking populations (Walker and Blaszczynski 2010). We have noticed that many clients have recently experienced harms from gambling, sometimes within minutes of completing screening tools, and this recency effect may distort recall of gambling behaviours. Identifying the time since the person last placed a bet, and/or reapplying the screen at another time may further validate these high scores.

Clinical Implications

The primary aims of this service were to (1) attract a new cohort of treatment seekers and (2) extend the range of current services by directly addressing barriers to treatment such as shame and stigma, geographic isolation and hours of operation. Our findings suggest that

up to 70 % of people accessing the site have never sought treatment before. Of those that had sought treatment, 38 % had typically accessed single session interventions online or by telephone. If one or more single session intervention/s are the only treatment sought, identifying the ingredients of a successful online intervention are critically important. Indeed, it is timely to consider to what extent those engaging in a counselling option (chat or email) and those visiting the website subsequently seek more formal treatment.

Games involving strategy (i.e., wagering, sports betting, casino games) were reported as the source of problems by almost half of male gamblers using chat. While further research is required, we suspect that this rate of non-EGM problems is higher than reported by helplines and face-to-face services, and warrants urgent attention. If this pattern continues or expands to other treatment modalities, counsellors will require additional training to better understand a wider range of betting options and modes, not just EGM gambling.

This study did not directly identify reasons for using the service (e.g., shame/stigma, geographic location). However, previous research has suggested that relative anonymity provided by the internet is attractive to people with gambling problems (Wood and Wood 2009). In this study, there were higher than expected proportions of males identifying as from an Asian background accessing chat and email, and higher proportions of female Europeans accessing email. Whether the relative anonymity is especially attractive to people from different cultural backgrounds, or those experience shame/stigma, requires further investigation.

The sign-in process outlined in the current paper is not without its problems. In an effort to reduce barriers to entering the service, an option between anonymous and registered was provided with the only difference being the provision of an email contact. The current research highlights challenges in this method, including an inability to differentiate new and returning client sessions, determine improvement in symptoms reported at each visit or reliably identify the differences in characteristics between those who are new or returning to the service (as we know that many anonymous clients identify as being previous clients). The current research also attempted to reduce the dataset to unique clients by removing those with registered repeat sessions and where anonymous repeat sessions were clearly identifiable (e.g., same postcode, ethnicity, age, gambling problem). However, it is possible that there was still replication of anonymous data. As such, it is recommended that online counselling services align themselves with other professional sites where sign-up is required, albeit with minimal identifying data.

Conclusion

Our findings indicate the value of multi-modal service options for problem gambling, and suggest that online support is attracting a new cohort of treatment seekers. Differences in uptake of services by gender and age, as well as differing gambling preferences, highlight the need for greater targeting of interventions and health promotion campaigns, as well as more tailored website content. Further research is needed to determine how these interventions work in improving readiness to change and symptom management both within and between sessions. While understanding who uses online counselling for problem gambling in Australia, it would be helpful to know the perceived usefulness of the service and how therapeutic focus and processes (e.g., identification and management of negative affect) relate to short and longer-term gambling outcomes.

Acknowledgments The authors would like to acknowledge the efforts by states and territories in forming a collaborative funding agreement for *Gambling Help Online*, and in particular the Victorian Responsible Gambling Foundation for their ongoing support. We would also like to thank all the counsellors involved in providing the *Gambling Help Online* service, as well as Orson Rapose for his assistance in data extraction. Lastly, this work would not be possible without the willingness of people affected by problem gambling to access this new modality.

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Original Paper

Web-Based Counseling for Problem Gambling: Exploring Motivations and Recommendations

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Abstract

Background: For highly stigmatized disorders, such as problem gambling, Web-based counseling has the potential to address common barriers to treatment, including issues of shame and stigma. Despite the exponential growth in the uptake of immediate synchronous Web-based counseling (ie, provided without appointment), little is known about why people choose this service over other modes of treatment.

Objective: The aim of the current study was to determine motivations for choosing and recommending Web-based counseling over telephone or face-to-face services.

Methods: The study involved 233 Australian participants who had completed an online counseling session for problem gambling on the Gambling Help Online website between November 2010 and February 2012. Participants were all classified as problem gamblers, with a greater proportion of males (57.4%) and 60.4% younger than 40 years of age. Participants completed open-ended questions about their reasons for choosing online counseling over other modes (ie, face-to-face and telephone), as well as reasons for recommending the service to others.

Results: A content analysis revealed 4 themes related to confidentiality/anonymity (reported by 27.0%), convenience/accessibility (50.9%), service system access (34.2%), and a preference for the therapeutic medium (26.6%). Few participants reported helpful professional support as a reason for accessing counseling online, but 43.2% of participants stated that this was a reason for recommending the service. Those older than 40 years were more likely than younger people in the sample to use Web-based counseling as an entry point into the service system ($P=.045$), whereas those engaged in nonstrategic gambling (eg, machine gambling) were more likely to access online counseling as an entry into the service system than those engaged in strategic gambling (ie, cards, sports; $P=.01$). Participants older than 40 years were more likely to recommend the service because of its potential for confidentiality and anonymity ($P=.04$), whereas those younger than 40 years were more likely to recommend the service due to it being helpful ($P=.02$).

Conclusions: This study provides important information about why online counseling for gambling is attractive to people with problem gambling, thereby informing the development of targeted online programs, campaigns, and promotional material.

(*J Med Internet Res* 2013;15(5):e99) doi:[10.2196/jmir.2474](https://doi.org/10.2196/jmir.2474)

KEYWORDS

Internet; motivation; gambling; counseling; Web-based interventions; health services accessibility

Introduction

Internet interventions have the potential to cover large geographical areas at low cost and reach marginalized and difficult-to-reach populations [1]. Their potential for anonymity and convenience has increased access to information and counseling to groups such as young men [2], in addition to attracting new treatment seekers [3]. Particularly relevant to highly stigmatized disorders, such as problem gambling, Web-based (online) counseling has the potential to address common barriers to treatment, including shame and stigma [4,5]. Indeed, shame has been identified as a significant barrier to help seeking for problem gambling, as well as a reason for gamblers wanting to recover without formal assistance and not wanting others to know about the problem [6-8]. Research on Internet interventions and problem gambling has included investigating the effectiveness of self-directed Internet therapies [9], online peer-support groups and message boards [10,11], and tailored feedback on assessment [12]. With the exception of an evaluation of a UK program which provided the first publicly funded synchronous real-time chat intervention for problem gambling [13], no further research has been published on online counseling (ie, synchronous real-time chat) and problem gambling.

Research conducted in online counseling environments has typically attempted to identify similarities and differences to the therapeutic alliance found in face-to-face or telephone counseling [14]. Online counseling shares similarities with these other forms of counseling in that it is synchronous and involves at least 2 parties, but the lack of verbal, aural, and physical cues, argued to be critically important to the development of therapeutic alliance, is absent. Indeed, the disadvantages of online counseling have been well documented, and include a lack of audio and visual cues, limited capacity to develop a therapeutic alliance, and modality issues, such as typing speed, consent, privacy, and comfort with the medium [4,15,16]. Although legitimate concerns, it is possible that some clients find these issues attractive and as perceived benefits of online counseling.

The motivations of people involved in ongoing online treatment were captured in a small study by Cook and Doyle [17], who interviewed clients in their third or later session of predominately email counseling for a range of issues, including mental health and relationships. They found motivations for using email and chat included viability (believing this mode would be effective), disinhibition (lowered embarrassment or fear of judgment), cost, travel, the ease of developing an honest client-therapist relationship, and confidentiality/flexibility. In addition, clients said the benefits of a documented written text meant there was the capacity to read over and reflect on counseling sessions. This study has been used extensively as the basis for why people access online counseling, but the themes were based on the responses of only 9 participants, with just 3 engaged in real-time chat. Since this time, multiple studies have examined motivations of those engaged in appointment-based (often involving a cost) services and identified a number of additional motivators, including convenience, privacy and anonymity, face-to-face wait times,

and access to specialized services [3,17-19]. To date, Leibert et al [18] conducted the only study to consider motivations as well as perceived advantages and disadvantages of using online counseling. This study found the reasons for using online counseling were similar to the perceived advantages (ie, anonymity, flexibility, emotional expression).

There is minimal research involving free online counseling without an appointment. However, investigations of motivations for using real-time chat provided without appointment have been conducted with clients and counselors of the Kids Helpline, an Australian telephone and online service providing counseling to young people. One of these studies attempted to identify the motivation for using online counseling over telephone or face-to-face counseling by recruiting young people waiting for a real-time chat counseling session into online focus groups [19]. A range of motivational factors emerged, including privacy and an emotionally safe environment (eg, reduced exposure, privacy, control), and issues around time (more time to reflect).

Although these studies are important in identifying why people use online counseling, there are several constraints that may limit their generalization to immediate interventions. These include relatively small sample sizes (some as low as 9 participants), as well as a lack of clarity on the modality of service offered (ie, typically email rather than chat). Studies have also tended to focus on the lack of face-to-face elements rather than possible benefits associated with their absence, and only 1 study involving adolescents directly asked about motivations for accessing counseling online over telephone or face-to-face services [19]. In addition, participants in these studies have predominately been drawn from ongoing appointment-based counseling, with limited research into the experiences of those accessing free services without appointment. Lastly, few studies have sought to explore motivations for using online counseling as well as the impact of their experience on reasons for recommending that modality to other people with a similar problem.

The aim of the current study was to determine reasons for choosing and recommending online counseling. Based on previous research examining ongoing clients involved in a range of online modalities (eg, chat, email), as well as young people engaged in brief interventions provided via real-time chat, we expected themes to emerge associated with anonymity, confidentiality, flexibility, and factors associated with the modality (ie, record of session). We did not expect that cost, therapeutic alliance, and counselor credentials, which are similar to telephone and face-to-face services, would be a reason for using or recommending online counseling over other options. In addition, recent research on barriers to help seeking for problem gambling [8] indicate shame and stigma to be barriers to engaging in professional and nonprofessional help among younger people (18-39 years of age). As such, we expected motivations for accessing online counseling would differ by age, with younger clients (<40 years) being more likely to endorse factors around shame and embarrassment than older clients.

Method

Participants

There were 241 participants with concerns about their own gambling, who accessed online counseling offered by the Australian national online counseling site Gambling Help Online [20] between November 2010 and February 2012. Six participants left both open-ended questions blank and were removed, leaving a final sample of 235 participants. Participants were more often male (57.4%) than female (42.6%), and ages ranged from younger than 30 years (30.6%), between 30 to 39 years (29.8%), between 40 to 49 years (20.9%), to older than 50 years (18.8%). Participants were most often engaged in nonstrategic forms of gambling, including electronic gaming machines, lotteries, bingo, and Keno (70.6%), than strategic forms of gambling, such as wagering, casino gambling, and sports betting (29.4%). A preference to gamble online was reported by 16.9% of participants. All participants were classified as problem gamblers as measured by the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (CPGI) [21] (mean 21.6, SD 4.0, range 8-27). Almost two-thirds of participants (62.1%) were new treatment seekers for problem gambling, with 33.6% having received counseling previously and 3.8% currently seeking treatment at another service. Participants with previous help seeking had accessed face-to-face (68.8%), telephone (15.1%), chat or email help from Gambling Help Online (9.7%) or other sources, such as international websites (6.5%). Most sessions occurred outside traditional business hours, including evenings and weekends (69.8%), and participants represented all states across Australia, except the Northern Territory.

Participants were offered an electronic exit survey at the completion of an online counseling session. The survey was provided as a link when a counseling session was terminated and was not promoted by the counselor or pop-up technology. The response rate for completing the exit survey was 17.1%. This response rate is comparable to online surveys that do not involve follow-up reminders, pop-ups, or other methods to increase participation [22,23].

To determine the representativeness of the current sample, the demographics of participants were compared with the total population of 1219 clients who completed a real-time chat counseling session with Gambling Help Online between November 2010 and February 2012. Chi-square (χ^2) analysis indicated that there were fewer participants younger than 40 years ($\chi^2_1 = 27.1$, $P < .001$), and significantly more participants who had previously sought counseling online, via telephone or face-to-face ($\chi^2_2 = 12.3$, $P = .002$), in the research sample than the total client group. There were no significant differences between groups in terms of gender, ethnicity, severity, type, or mode of gambling.

Procedure

Participants were offered an exit survey at completion of a counseling session via Gambling Help Online. This service provides real-time chat and email support to approximately 1500 people affected by problem gambling each year. Gamblers,

family, and friends can access the service anonymously by completing a brief demographic survey and registering with an email address. Available 24/7, this service provides immediate free access to professional counselors without an appointment [24].

The service primarily provides counseling, information, and referrals for a range of gambling concerns. Brief interventions via reactive (inbound) helplines typically include brief assessment, feedback, and advice (eg, limiting time and money, scheduling alternative activities). Provided as single sessions, counselors responding to chat requests have qualifications in psychology or social work with training and expertise in the area of problem gambling. A typical session is delivered over a 45-minute period, although the amount of content covered online is approximately half of that discussed in face-to-face or telephone environments.

As part of a larger study, ethics approval was granted from the University of Melbourne's Human Research Ethics Committee (ID: 1034028) and the Department of Justice's Human Research Ethics Committee (JHREC) CF/10/17108. The exit survey was delivered at the end of the counseling session and contained 2 open-ended questions designed to elicit the motivations for choosing online counseling over other modalities. These included (1) What made you decide to use online counseling over other types of assistance (eg, telephone helpline, face-to-face counseling)? and (2) Would you recommend online counseling to someone concerned about a gambling issue (yes/no)? Why is that? The overall survey included a range of post-session indicators and took between 10 and 15 minutes to complete. On completion, participants saved the survey, which was stored in a secure online database.

Data Analysis

The open-ended responses pertinent to this study were analyzed using content analysis [25]. This method was chosen because client responses were diverse (ie, 1 word to full-sentence responses) and we were interested in capturing novel and new themes as well as the extent of similarity of experience. In addition, this method of analysis allowed us to examine responses against previously developed categories and use an inductive approach to expand these new categories to represent the motivations of participants engaged in online counseling. Responses were capped at 200 characters and ranged between 1 and 52 words. Responses were typically brief, with participants responding with an average 11 words (median 8, IQR 4-15). When new categories emerged that were distinctly different to those previously reported, the researchers developed new labels and descriptions for these categories that were added to the dataset. Two of the researchers developed categories independently that captured all of the data (SR and ND), with a third researcher arbitrating differences and contributing toward the final category development (DL). To ensure categories were mutually exclusive, a number of categories were combined (eg, privacy and confidentiality) and subcategories developed.

Once initial categories were established, 2 researchers coded the entire sample and continuously checked categories with each other to ensure consistency (SR and AB). Responses varied from 1-word descriptions to sentences involving multiple

reasons for using online counseling. As such, the unit of analysis was ideas or themes. For example, responses such as “access” and “I find it easier to access” were coded as *accessibility*. Responses including multiple ideas were coded into multiple categories. For example, the response “easy to use in comfort of home, safe, less confrontational” was coded into 2 categories, *access from home* and *comfortable*. Items that were ambiguous or not relevant to the motivation for treatment seeking were excluded from analysis (eg, “I have a gambling problem”). Participant quotes reported in this paper have been provided verbatim except with minor alterations to spelling. Words added to assist readability are indicated within parentheses.

Following the initial analysis to identify themes and develop categories, 2 raters undertook 3 hours of training in the application of the data dictionary (ie, definitions of categories and subcategories). They each coded 30 responses for the 2 open-ended questions (13% of the sample). As described by Neuendorf [25], the results of pilot testing were used to improve and adapt the coding dictionary before final coding and items with low responses were collapsed into single categories. Items were checked for interrater reliability using Cohen’s kappa (κ), which calculates percent agreement while correcting for chance. Scores of .41 to .60 indicate moderate agreement, .61 to .80 substantial agreement, and .81 to 1 almost perfect agreement [26]. A high interrater agreement was achieved ranging between .89 and .98. Eleven items were then resolved via consensus between the 2 raters, with a third researcher (DL) providing arbitration where consensus was unable to be reached.

To determine whether participants experienced online counseling differently according to age, gender, gambling type, and previous treatment experiences, data were analyzed via a series of chi-square procedures or *t* tests where data were continuous. A McNemar nonparametric test was used to determine change in reasons for use over reasons for recommending across the sample. Proportions reported throughout the results relate to the number of participants who freely reported each item rather than how many of the sample agreed with that reason.

Results

Participants

There were 222 participants who provided 351 reasons for using online counseling (13 participants did not respond to this question). Reasons reported by participants fell into 4 broad categories: (1) confidentiality and anonymity, (2) convenience and accessibility, (3) service system access, and (4) therapeutic medium. The same 4 broad themes emerged as to why people recommended online counseling, with the addition of access to helpful professional support. A total of 229 participants provided 311 reasons for recommending the service (6 participants were excluded due to insufficient information for classification).

Confidential and Anonymous

Over one-quarter (27.0%) of participants mentioned issues around confidentiality and privacy as reasons for choosing online counseling over telephone or face-to-face counseling, and 21% stated that this was a reason for recommendation. For

some participants, online counseling provided a discrete option that could be engaged in without others knowing. This may be due to the gambling itself being hidden from others or the act of seeking help being hidden. For some, online counseling provided a safe, private, and secure option where family, friends, or coworkers would not overhear the individual discussing the problem: “My phone bills are viewable by work or family; I don’t wish to be traced to calling for help” (male, 30-34 age group).

Anonymity was described as “not as daunting,” “not exposed,” and “not sharing problems with people you know.” It was viewed as an enabling factor to speaking about the problem, often for the first time: “It enabled me to face up to the fact that I have a gambling problem and talk to someone anonymously. It is the first time I have spoken to anyone about my despair over not being able to control my gambling” (female, 55-59 age group).

There was concern about being judged and embarrassment about having a gambling problem. Some participants described their experiences of having a gambling problem as a “disgrace,” and that they were “ashamed” and frequently embarrassed. For some, help seeking was “demeaning,” with 1 participant saying that they were able to admit the problem, but not accept the embarrassment of disclosure. For others, embarrassment had prevented exploration of phone or face-to-face options: “I feel very embarrassed about even ringing making an appointment and/or meeting someone face to face. After tonight I have more confidence about eventually consulting with a counselor; in the meantime, I feel it’s given me an avenue of help” (female, 60-64 age group).

Again, anonymity appeared to be an enabling factor for overcoming embarrassment and talking to a counselor online. Some participants separately related embarrassment to the benefits of anonymity and privacy. Indeed, when exploring why they would recommend the service, participants discussed feeling less judged and having increased control over the session: “It’s easy to be honest about feelings when anonymous. It is very difficult to talk about the extent that problem gambling affects all areas of life. Online appears less judgmental and the option is always there to switch off and run away if need be” (female, 55-59 age group).

Convenience and Accessibility

Over half of participants (50.9%) stated that the reason they chose online counseling over telephone or face-to-face counseling was due to convenience, although only one-quarter (25.8%) cited convenience as a reason they would recommend online counseling to others.

Almost one-quarter (24.3%) of participants said they chose online counseling because it was easy, simple, flexible, convenient, and accessible. For some, easy access referred to being able to reach the service when experiencing difficulty: “The least effort to get counseling when you feel really down” (male, 30-34 age group).

Two time factors emerged, one around immediacy and the other around 24-hour access. Participants said they were attracted by the immediate and quick access to a counselor. In this situation,

contact was typically in response to distress related to gambling behavior and wanting to speak with someone immediately. For others, accessing online counseling was a spontaneous decision that was facilitated by the absence of an appointment process: "It was available; I saw the literature at the club earlier tonight and thought I'd give it a go" (female, 40-44 age group, 3:14 am).

Similarly, 24-hour access was attractive as it provided a help-seeking option at a convenient time, including evenings, overnight, and weekends. A small number of participants described a preference for accessing online counseling from home. For these participants, the physical comfort and not having to go to an office was attractive. For others, online counseling provided a low cost option in which a landline was not available to call a helpline (mobile telephone calls to helplines are charged at standard call rate).

Service System Access

Approximately one-third (34.2%) of participants stated the reason for using online counseling was related to service system access, although only 17.3% cited service system access as a reason for recommending online counseling to others. Specifically, 16.7% of participants identified online counseling as a good first step in both disclosing the gambling problem for the first time and accessing counseling: "I thought that it was a good place to start to get a feel for what I should and may expect from going to see a counselor face to face. It was a good first step and the online counselor provided information for me to go see a counselor" (male, 30-34 age group).

Sixteen participants cited dissatisfaction with other help (7.2%). This included a range of issues, such as wait lists or helplines not answering and unsatisfying interactions with counselors from other services. Some participants said they had tried everything else and were seeking a different perspective. In addition, 4 participants said that they did not know what other services were available or were not able to find any information on other options.

Referral to online counseling via advertising, word of mouth, and referral from other services was stated as a reason for using online counseling by 16 participants. Advertising and word of mouth were the reasons 11 participants came to the site, and included online and television advertising, as well as information found via search engines, gambling venues, or other websites. Two participants said that they chanced across the site and decided to "give it a go." For 5 participants, online counseling provided a referral to other forms of help: "Initially did online counseling to enquire about face-to-face counseling. It was also an opportunity to experience it for the first time" (male, 35-39 age group).

Only 3 participants stated they used online counseling as an adjunct to other treatment. For these participants, it was a method of accessing support between counseling appointments, for relapse prevention, or when their counselor was unavailable.

Therapeutic Medium

Thirty-three participants (26.6%) reported that they preferred online counseling to face-to-face or telephone counseling

because of modality-specific features, with 17.9% citing these factors as a reason for recommendation. This included a preference to talk to, or through, a computer rather than face to face. For these participants, the experience of chatting online was viewed as easier than talking face to face or via the telephone: "It's easier to talk to a screen" (female, 25-29 age group).

Participants identified a range of online counseling features as attractive, including the extended delivery time (ie, time to think and reflect), the capacity to review and save transcripts, as well as the act of writing over speaking. One participant also suggested this was a reason for recommending online counseling: "It's less pressure. Writing actually makes you think about the situation in a logical [way]. Helps make order out of chaos" (male, 40-44 age group).

Eight participants reported that it was easier to express emotions using online counseling compared to telephone or face-to-face counseling. This was particularly the case where there was extreme distress and associated embarrassment: "It was late at night and I was very upset and crying so I would not have made any sense trying to talk to anyone" (female, 35-39 age group); "I do not like talking on phones and I prefer to cry without anyone seeing me" (female, 30-34 age group).

A few participants (4.5%) specifically stated that online counseling was more relaxed, comfortable, and less confronting than telephone or face-to-face counseling: "Less confronting at the moment, it's easier when things are so bad to be anonymous" (female, 60-64 age group).

Lastly, 6 participants reported that the online platform facilitated more open and honest communication than phone or face-to-face modalities. This was also the case when participants reflected on why they would recommend online counseling: "It is discreet and allows for complete honesty with the anonymous counselor and yourself" (male, 30-34 age group).

In this case, the participant identified anonymity of the counselor as important. Indeed, a range of factors described previously, including anonymity, lack of physical presence, and the perception that they felt less judged appeared to facilitate honest communication.

Helpful Professional Support

Few participants stated that they used online counseling because they thought it would provide access to professional and helpful support, but almost half of participants (43.2%) stated that this was a reason to recommend online counseling. Helpful professional support was highlighted as helpful for improving mood (eg, emotional regulation), confidence in resisting urges (eg, awareness of triggers), and addressing gambling cognitions (eg, alteration of gambling-related cognitions about winning): "I gained useful facts that opened my eyes and helped me realize that the machine is designed to make money and for you to lose it" (male, 20-24 age group).

Eighteen participants reported that they experienced the relationship with the online counselor as nonjudgmental and understanding, and indicated that the counselor knew what they were going through. Participants said counselors provided

“thought-provoking questions” without “sugar-coating it.” Being able to access an independent/neutral professional was viewed as helpful in problem solving. In this situation, the counselor was viewed as empathic, expert, and credible: “Because I feel much better in myself and I didn’t feel judged in any way” (female, 30-34 age group).

Online counseling was recommended as a source of information and/or strategies. This included referral to other services and exploration of treatment options. Some participants described online counseling as “putting them in the right direction” and helping them to find the right resources: “They helped me out. They came back with answers; phone numbers, just general help. It was just nice to know there was someone on the other side, reading your problems and telling you their opinion” (female, 25-29 age group).

Overall, 87.7% of participants said that they would recommend online counseling to someone with a gambling problem. Fourteen participants (6.3%) stated that they did not like the medium or that it was generally unhelpful. Ten participants (4.5%) had specific issues with the counselor, involving miscommunication, a perceived lack of listening skills, or the delivery of empathy. Lastly, a small number of participants (2.1%) experienced problems with the technology itself, premature disconnection, or service dropout.

Differences in Reported Motivations by Key Demographic and Help-Seeking Variables

We found few demographic differences between gender, age, gambling type (strategic and nonstrategic), preferred modality (face-to-face, online, or phone), severity of problem gambling, help-seeking experiences (new, current, or previous treatment seeking), time of contact, and reasons for using online counseling. However, those older than 40 years were more likely to use online counseling as an entry point into the service system (38.7%) compared with those under 40 years (26.1%; $\chi^2_1 = 4.2$, $P=.045$), whereas those engaged in nonstrategic betting (eg, electronic gaming machines) were more likely to be motivated to use online counseling as an entry point into the service system (36.0%) compared with strategic gamblers (19.3%; $\chi^2_1 = 6.8$, $P=.01$). Those older than 40 years were more likely to recommend it because of its privacy and potential for anonymity (25.8%) compared with those younger than 40 years (14.8%; $\chi^2_1 = 4.4$, $P=.04$), whereas those younger than 40 years (47.2%) were more likely than those older than 40 years (31.2%) to recommend online counseling because it was helpful ($\chi^2_1 = 5.9$, $P=.02$).

Given the similarities of response between motivations and recommendations, we were interested in the degree of movement between these 2 variables. In terms of movement between motivations for use and reasons for recommending, 84 (35.7%) participants changed their initial response about convenience when asked why they would recommend online counseling. Of these, 18 (7.7%) participants changed their response to convenience (from another motivation), whereas 66 (28.1%) did the reverse ($\chi^2_1 = 26.3$, $P<.001$). For service access, 67 (28.5%) participants changed their initial response, with 49

(21.0%) participants subsequently not identifying it as a reason for recommendation, whereas 18 (7.7%) did the reverse ($\chi^2_1 = 13.4$, $P<.001$). There was also a significant change in the proportion of participants endorsing helpful professional advice, with 93 (39.6%) participants subsequently endorsing helpfulness as a reason for recommendation, and only 3 the reverse ($\chi^2_1 = 82.5$, $P<.001$). There was no significant change in the proportion of those endorsing anonymity/privacy or therapeutic medium. That is, those who endorsed these reasons did not significantly alter their response when asked why they would recommend online counseling.

Discussion

Principal Findings

This exploratory study provides a first look at the reasons why people choose online counseling over telephone or face-to-face counseling and why they would recommend it to someone else with a gambling problem. As expected, themes around anonymity and confidentiality emerged, as well as flexibility, albeit within the larger theme of convenience and accessibility. Openness of expression overlapped with a range of factors associated with the therapeutic modality, including a preference for writing instead of talking. Therapeutic alliance and counselor credentials, which are similar to telephone and face-to-face services, were not a reason for using online counseling, but access to helpful professional support as well as the development of a therapeutic alliance was a reason to recommend online counseling. The hypothesis that younger people would endorse more factors around shame and stigma than older people was not supported.

The findings of this study indicate that motivations for using online counseling over telephone or face-to-face counseling is in response to barriers, such as shame and stigma, and accessibility [7,27], but there are important differences, such as being able to easily reach help when experiencing distress or when highly motivated. Although our findings on age and gender by shame or stigma differed to those reported by Hing et al [8], we did find that males were more motivated than females by convenience and less by the immediacy the medium provided. In addition, younger people were also more likely to recommend online counseling due to its convenience than people older than 40 years. Clearly, the environment in which counseling is accessed is increasingly relevant in online counseling, where privacy is of concern during business hours, possibly when the individual is help seeking from a place of employment.

Congruent with previous research involving those engaged in a range of Internet interventions, concerns around anonymity and privacy, as well as easy and convenient access, emerged [10]. Anonymity in previous studies has been related to “perceived anonymity” [17], anonymity such that others are not aware of their treatment seeking [3], and being physically unseen by the counselor [18]. We found that anonymity was typically associated with an absence of identifying personal information (eg, their name), as well as both theirs and/or the counselor’s physical presence. Adolescents contacting the Australian Kids

Helpline reported that the privacy of being online involved not wanting others to know that counseling was being sought at that moment (eg, late at night when others are asleep, or being overheard on the phone) [19]. These findings are also consistent with previous research, with online clients reporting greater concerns about their own physical environment (eg, being heard by someone else in the house) than helpline callers, who reported fears of the Internet being unsafe [28].

In addition to differences between face-to-face, telephone, and online environments, the current research identified important differences between immediate and appointment-based online interventions. Our study involved those accessing a free service that provided an immediate intervention. The intervention typically involves motivational interviewing and/or behavioral strategies [29] following a brief screen of gambling severity and the immediate impact of problem gambling (ie, level of distress). Although these therapeutic interventions have been found effective for problem gambling, there has been almost no research on the effectiveness of these interventions delivered at a time when the participant is eager, ready, and willing to talk. Indeed, participants talked about being highly motivated to act, which was often in response to distress, anger, or anxiety. A desire for emotional relief may partially account for the speed of immersion found in this and other studies [18,19], whereby the participant is already thinking about their concern prior to the counseling session commencing.

Despite participant uptake of anonymous online counseling, there is scant research on the clinical benefits of providing an immediate intervention. It is perhaps surprising given widespread funding for helpline and online services across most areas of mental health, that minimal research exists on the impact of providing an intervention at the moment the person is experiencing harm. Over the past 3 years, the advent of smartphones and other mobile devices has significantly increased the frequency of interventions occurring at the time of the event (eg, low mood) [30,31] rather than at some future time (ie, akin to appointment-based services). In addition, the utility of immediate interventions have also been explored in the context of emergency departments versus primary care, suggesting 85% of presentations relate to non-life-threatening issues [32]. In this setting, the presentation is not related to an accident or emergency, but patients present because of a range of factors, including convenience and access. A model by Padgett and Brodsky [33] of accident and emergency presentations suggests an interaction of predisposing issues (eg, social support), enabling factors (eg, accessibility), and perceived need (eg, level of distress), and partially explains why our participants would choose online over telephone or face-to-face services.

Few participants chose online counseling because it would provide helpful professional support, but when asked why they would recommend it to someone with a gambling concern, the fact that the intervention helped became important. Previous research involving clients in ongoing treatment indicated viability was a reason for choosing online counseling [17]. Although a few participants mentioned service viability as a motivator, the main theme that emerged in our study was related to helpfulness of professional support. Given that it could be

expected that telephone and face-to-face services also provide helpful professional support, we suspect that the immediacy of the intervention, that is at the right time and right place, was important.

Participants were primarily asked the reasons for recommending online counseling to obtain additional information related to their motivations. Indeed, responses were similar across motivations and recommendations, except for the emergence of helpful professional support. Understanding the characteristics and experiences in relation to movement between these variables could have practical implications in terms of clinician training and evaluating service effectiveness. For example, shame and embarrassment is repeatedly reported as a concern for highly stigmatized conditions, but there is minimal literature describing how interventions and services best address this issue. In practical terms, it would be helpful to know whether it is clinically more important to address the reason for presenting to a service (ie, anonymity) or to provide an intervention that addresses the presenting issue (ie, gambling). Indeed, our study indicated that some participants did not shift perspective (ie, were motivated by anonymity and also provided this as a reason for recommendation), whereas others did shift (ie, motivated by anonymity and would recommend online counseling because it helped).

Limitations

This research is the first to explore motivations of an adult population accessing immediate, online counseling for problem gambling. However, there are several limitations that need to be considered. First, participants in this sample were older than the population from which they were drawn and more often had sought help previously. Individual experiences combined with a slightly older demographic may mean that the motivations of some groups, including younger people, were underrepresented. In addition, we had expected issues around shame and stigma to be more frequently reported by younger than older participants. Our sample was slightly older than the total online counseling population, but still younger than other research involving adult gamblers (ie, 61% of our sample was younger than 40 years of age). It is possible that stigma is an issue for any age group or that issues such as access and convenience are more relevant for this population.

Second, surveys of help-seeking motivations are bound by the context and source of participants. As with the current study, they are typically cross-sectional, not capturing shifting motivations to change or motivations or readiness to seek treatment (eg, influence of gambling harms, social pressure, and time since last bet). Indeed, most previous surveys have involved clients of face-to-face or helpline counseling services, or identified perceived barriers of individuals not currently seeking help. Typically, these surveys have not been offered at the time the help was being sought and were retrospective reports. Although our study examined motivations at the time the decision was made, it is possible these reports were biased by their experiences of accessing the service.

Third, whether motivations are better identified via open-ended questioning or rating scales needs further investigation. As suggested by Pulford et al [7], many barriers to help seeking

for gambling are not identified until prompted. Our study found approximately half of the sample were motivated by convenient and easy access, but it is possible that this was important to a larger proportion of the sample. In addition, the use of qualitative research methods allows us to be fairly confident that we are representing the views of participants, but there are issues with drawing conclusions related to the impact of motivations on recommendations. For example, we found significant movement between motivations and recommendations on convenience, service access, and helpfulness, but no significant change in anonymity/confidentiality and therapeutic medium. It is possible experiences, including the degree to which participant expectations are met, influence reasons for recommendation. Often client surveys include a question about whether the service would be recommended, typically as an indicator of satisfaction or rates of referral. However, responses may well be a better indicator of what happened in the intervention and whether they met participant expectations, rather than as an indicator of referral, which is possibly unrealistic when highly stigmatized conditions are involved. Indeed, service usage statistics for Gambling Help Online indicate that fewer than 10% of clients state their knowledge of the service was derived via a referral from a family member, friend, or professional.

Conclusions

In summary, we found that reasons for choosing online counseling over telephone or face-to-face services include issues of confidentiality/anonymity, accessibility, service system access, a preference for features of the therapeutic medium, and professional support. Given the rapid expansion of service systems in response to the opportunities presented by technology, it is timely to identify the motivations for using services so that they can be better targeted, promoted, and configured. Most front-end gambling services, including telephone and online, are established at least in part to refer people to face-to-face services, but our research suggests referral to services that cannot be accessed at a convenient time or place, or where a referral is deemed unnecessary, requires further investigation. Ultimately, this would require the development of an evidence base, which demonstrates the uptake, usage, focus, and effectiveness of all clinical interventions on offer. This should also identify the dimensions of the counseling session that contributes toward perceived helpfulness, including the impact of counselor qualifications and counseling methods (including session focus, therapeutic techniques, and mechanics of online counseling) on client outcomes. Given many online clients indicate that online counseling was not just a first step, but the only step in changing behavior, there is an urgent need to develop and evaluate online single session interventions. To do this effectively, the reasons people are drawn to different services need to be further examined.

Acknowledgments

The authors would like to acknowledge the efforts by states and territories in forming a collaborative funding agreement for Gambling Help Online and in particular the Victorian Responsible Gambling Foundation as contract managers. We would also like to thank all the counselors involved in providing the Gambling Help Online service, as well as Orson Rapose for his assistance in data extraction. Lastly, this work would not be possible without the willingness of people affected by problem gambling to access this new modality.

Conflicts of Interest

None declared.

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Abbreviations**CPGI:** Canadian Problem Gambling Index**PGSI:** Problem Gambling Severity Index

Edited by G Eysenbach; submitted 19.12.12; peer-reviewed by R King, S Gainsbury, M Krausz; comments to author 21.01.13; revised version received 14.03.13; accepted 07.04.13; published 24.05.13

*Please cite as:**Rodda S, Lubman DI, Dowling NA, Bough A, Jackson AC**Web-Based Counseling for Problem Gambling: Exploring Motivations and Recommendations**J Med Internet Res 2013;15(5):e99**URL: <http://www.jmir.org/2013/5/e99/>**doi: [10.2196/jmir.2474](https://doi.org/10.2196/jmir.2474)**PMID:*

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Appendix D: Non-thesis derived articles published during candidature



Short Communication

The impacts of problem gambling on concerned significant others accessing web-based counselling



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HIGHLIGHTS

- CSOs of gamblers frequently access the Australian web-based counselling site
- CSOs were mostly young intimate partners who accessed the site after hours
- Emotional distress, relationship, social life and finances were most common
- Family members reported similar impacts but friends reported lower impacts
- The findings can inform the development of web-based interventions for CSOs

ARTICLE INFO

Available online 13 April 2014

Keywords:

Gambling
Internet
Family
Significant others
Impact
Counselling
Treatment

ABSTRACT

The ‘concerned significant others’ (CSOs) of people with problem gambling frequently seek professional support. However, there is surprisingly little research investigating the characteristics or help-seeking behaviour of these CSOs, particularly for web-based counselling. The aims of this study were to describe the characteristics of CSOs accessing the web-based counselling service (real time chat) offered by the Australian national gambling web-based counselling site, explore the most commonly reported CSO impacts using a new brief scale (the Problem Gambling Significant Other Impact Scale: PG-SOIS), and identify the factors associated with different types of CSO impact. The sample comprised all 366 CSOs accessing the service over a 21 month period. The findings revealed that the CSOs were most often the intimate partners of problem gamblers and that they were most often females aged under 30 years. All CSOs displayed a similar profile of impact, with emotional distress (97.5%) and impacts on the relationship (95.9%) reported to be the most commonly endorsed impacts, followed by impacts on social life (92.1%) and finances (91.3%). Impacts on employment (83.6%) and physical health (77.3%) were the least commonly endorsed. There were few significant differences in impacts between family members (children, partners, parents, and siblings), but friends consistently reported the lowest impact scores. Only prior counselling experience and Asian cultural background were consistently associated with higher CSO impacts. The findings can serve to inform the development of web-based interventions specifically designed for the CSOs of problem gamblers.

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1. Introduction

The gambling problem of one individual has direct negative effects on many ‘concerned significant others’ (CSOs) (Kalischuk, Nowatzki, Cardwell, Klein, & Solowoniuk, 2006). Although most available research

is based on intimate partners and children, there is limited evidence that other CSOs, such as parents, grandparents, friends, employers and colleagues, are also affected, although possibly to a lesser extent (Kalischuk et al., 2006; Patford, 2007). International empirical evidence suggests that the CSOs of problem gamblers experience intimate relationships and family environments characterised by low satisfaction, conflict, deficient interpersonal communication, and confusion of roles and responsibilities (Dowling, Smith, & Thomas, 2009; Hodgins, Shead, & Makarchuk, 2007; Kalischuk et al., 2006). There is also evidence that the intimate partners and children of problem gamblers

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experience impaired emotional and physical health and high rates of maladaptive behaviours (Hodgins, Shead, et al., 2007; Vitaro, Wanner, Brendgen, & Tremblay, 2008; Wenzel, Oren, & Bakken, 2008).

Several studies have explored the most common issues for the CSOs of problem gamblers. The most common issues for face-to-face treatment-seeking CSOs in an Australian study were relational, followed by intrapersonal, family, and financial issues (Crisp, Thomas, Jackson, & Thomason, 2001). Exploration of a Norway population database found that the most commonly reported effects of gambling by CSOs were family conflict and worsening family financial situations, followed by reduced physical health, reduced mental health, and less contact with family and friends (Wenzel et al., 2008). A New Zealand study found that professional help-seeking for CSOs was motivated by financial problems, followed by emotional factors, wanting to prevent the gambling from becoming a major problem, isolation from friends and family, and problems with spouse or partner (Bellringer, Pulford, Abbott, DeSouza, & Clarke, 2008). An Australian study of telephone help-seeking CSOs revealed that they were motivated to seek help because of concerns that the gambling might develop into a major problem, negative emotions, problems in maintaining normal daily activities, concerns about the welfare of dependents, and physical health concerns (Hing, Tiyce, Holdsworth, & Nuske, 2013). Although few studies have investigated factors associated with different types of CSO impact, there is some evidence that male CSO gender is associated with financial impacts (Crisp et al., 2001), higher emotional consequences, negative gambler consequences, and gambling problem severity are associated with CSO relationship dissatisfaction (Hodgins, Shead, et al., 2007), and a spousal relationship, young CSO age, and emotional and behavioural consequences are associated with CSO psychological distress (Hodgins, Shead, et al., 2007).

Given the symptoms experienced by CSOs, it is not surprising that they frequently seek counselling. Internationally, CSOs comprise up to one-third of clients presenting to gambling face-to-face treatment agencies (Crisp et al., 2001; Productivity Commission, 2010), helplines (Clifford, 2008; Griffiths, Scarfe, & Bellringer, 1999), and web-based services (Rodda & Lubman, 2013; Rodda, Lubman, Dowling, & McCann, 2013; Wood & Griffiths, 2007). Despite these high rates of help-seeking, there are few empirical investigations of CSO characteristics. The available literature suggests that treatment-seeking CSOs are more likely to be females aged between 30 and 65 years of age (Crisp et al., 2001; Hing et al., 2013; Wood & Griffiths, 2007). There is, however, evidence from a community-recruited sample that female gender, young age, city residence, and divorce are associated with CSO status (Wenzel et al., 2008).

It has been suggested that most CSOs will engage in lower intensity interventions, such as self-help telephone or online support (Hing et al., 2013). Indeed, recent research involving family and friends accessing an Australian web-based program found this modality attractive due to its potential for anonymity, discreteness and ease of access (Rodda, Lubman, Dowling, & McCann, 2013). To date, however, there is no information available exploring this group of help-seekers. The aims of this study were to describe the characteristics of CSOs accessing web-based counselling offered by the Australian national web-based counselling site, explore the most commonly reported CSO impacts using a new brief scale (the Problem Gambling Significant Other Impact Scale: PG-SOIS), and identify the factors associated with different types of CSO impact.

2. Method

2.1. Participants and procedure

The sample comprised all CSOs accessing the web-based counselling (chat) service offered by the Australian national site Gambling Help Online between December 2010 and September 2012 ($n = 366$). Web-based counselling is offered as real time chat, without an appointment and via any internet enabled device. Excluding repeat sessions and

contact not enquiring about their own or a CSO's gambling problem (e.g., administrative enquiries, students, professionals, venue workers), approximately 83% of clients accessing the real time chat and email support service did so in relation to concerns about their own gambling, with the remaining 17% contacting the service in relation to the gambling of a CSO (Rodda & Lubman, 2013). Ethics approval was granted from the University of Melbourne's Human Research Ethics Committee (ID: 1034028) and the Victorian Department of Justice's Human Research Ethics Committee (JHREC) (ID: CF/10/17108).

2.2. Measures

There are currently no published measures to evaluate the impact of problem gambling on CSOs. Measures that assess CSO impact for substance use disorders (Kirby, Dugosh, Benishek, & Harrington, 2005; Orford, Templeton, Velleman, & Copello, 2005) have not been adapted for use with the CSOs of problem gamblers and comprise too many items for brief screening. The six-item Problem Gambling Significant Other Impact Scale (PG-SOIS) (Appendix 1) was therefore specifically developed for use by the chat counselling service. In the substance use measures and problem gambling research, CSO impact is generally described and evaluated across six broad domains of functioning: financial, emotional distress, interpersonal relationship, social life, employment, and physical health (Crisp et al., 2001; Dowling et al., 2009; Hodgins, Shead, et al., 2007; Kalischuk et al., 2006; Kirby et al., 2005; Orford et al., 2005). The substance use measures tend to use a current version with a multiple frequency response format. The PG-SOIS was therefore designed to evaluate the degree of impact across the six areas of functioning in the previous three months using a frequency response format from (0) *Not at all* to (3) *Often*. Given the scarcity of problem gambling CSO research, it was intended that this scale be analysed in terms of each domain.

Single items employing drop-down responses were administered before participants undertook a web-based counselling session. These included gender, age group, postcode, cultural background, gambling activity of concern, preferred mode of gambling (e.g., telephone, venue, online), relationship to the gambler (e.g., self, partner, parent), previous gambling counselling experience, and mode of previous counselling (e.g., face-to-face, telephone, chat, email). The time of day the web-based counselling service was accessed was also collected.

2.3. Data analysis

There was no missing data as participants were required to answer all items. Descriptive statistics were employed to describe the characteristics of CSOs and problem gambling impacts. Because of the ordinal and negatively skewed nature of the PG-SOIS data, a series of non-parametric tests (independent samples Mann-Whitney tests and Spearman's correlations) were employed to explore the factors associated with each CSO impact domain.

3. Results

As indicated in Table 1, participants were most often intimate partners who identified their cultural background as Australian. Most were female and under 40 years of age. They represented all Australian states and territories and approximately two-thirds accessed the service outside of traditional business hours. Although most participants indicated that the current session was the first time that they had accessed counselling about the gambling problem, participants with counselling experience had previously accessed both face-to-face (56.0%) and telephone counselling (44.0%). Most participants were concerned about electronic gaming machines (EGMs). Although a significant proportion of participants could not identify the preferred mode of gambling, over half stated that the preference of the gambler was to gamble in a venue such as a hotel, club or casino.

Table 1
Characteristics of CSOs accessing web-based counselling (real time chat) ($n = 366$).

Characteristic	Proportion of sample (n, %)
Family member	
Partners	22 (60.9%)
Children	65 (17.8%)
Parents	28 (7.7%)
Siblings	19 (5.2%)
Friends	19 (5.2%)
Other family members	12 (3.3%)
Gender (female)	306 (83.6%)
Age category	
Under 20 years	21 (5.7%)
20 to 29 years	151 (41.3%)
30 to 39 years	103 (28.1%)
40 to 49 years	56 (15.3%)
50 to 59 years	26 (7.1%)
Over 60 years	9 (2.5%)
Cultural background	
Australian	240 (65.6%)
Asian	56 (15.3%)
European	45 (12.3%)
Oceanic	17 (4.6%)
African	5 (1.4%)
American	3 (0.8%)
Time of day	
Business hours	124 (33.9%)
After hours	156 (42.6%)
Weekends	86 (23.5%)
Counselling experience	
First contact	297 (81.1%)
Previous counselling	56 (15.3%)
Current counselling	13 (3.6%)
Gambling activity of concern	
Electronic gaming machines (EGMs)	159 (43.4%)
Horse/dog race betting	64 (17.5%)
Casino table games	32 (8.7%)
Sports betting	27 (7.4%)
Bingo	22 (6.0%)
Card games	15 (4.1%)
Keno	3 (0.8%)
Lottery products	1 (0.3%)
Other	43 (11.7%)
Preferred mode of gambling	
Venue	206 (56.3%)
Online	38 (10.4%)
Telephone	5 (1.4%)
Other	7 (1.9%)
Unknown	110 (30.1%)

The most commonly endorsed impacts reported by CSOs (Table 2) were emotional distress and impacts on the relationship, followed by impacts on social life and finances. Impacts on employment and physical health were the least commonly endorsed.

CSOs with different relationships to gamblers displayed the same pattern of impacts (Table 2). The highest impacts were generally reported by children and partners, followed by parents and siblings. However, there were few significant differences in impact scores between the family members. Children reported significantly higher scores than partners only on social life impacts ($z = -2.76, p = .006$). Children reported significantly higher impacts on financial ($z = -2.27, p = .02$) and social life ($z = -2.81, p = .005$) impacts than parents, and partners reported significantly higher impacts on the relationship than parents ($z = -2.73, p = .006$). Siblings did not differ from any other CSO group on any type of impact. In contrast, friends consistently reported the lowest impacts. Friends reported significantly lower impacts than children (financial, $z = -2.28, p = .02$; emotional, $z = -3.77, p < .001$; relationship, $z = 2.10, p = .04$; social life, $z = -2.76, p = .006$), partners (financial, $z = -2.09, p = .04$; emotional, $z = -4.61, p < .001$), and parents (emotional, $z = -3.10, p = .002$).

Females reported significantly higher emotional impacts than males ($z = -2.49, p = .01$) and participant age was significantly positively associated with physical health impacts ($r(N = 366) = .18, p = .001$).

Participants of Australian cultural background reported significantly lower financial ($z = -2.44, p = .02$), social life ($z = -2.49, p = .01$), and employment ($z = -2.51, p = .01$) impacts than their non-Australian counterparts. Participants of Asian cultural background reported significantly higher emotional ($z = -1.99, p = .047$), relationship ($z = -1.99, p = .047$), social life ($z = -2.20, p = .03$), and employment ($z = -2.67, p = .007$) impacts than their non-Asian counterparts. Participants with counselling experience reported significantly higher relationship ($z = -2.04, p = .04$), social life ($z = -3.00, p = .003$), employment ($z = -4.40, p < .001$), and physical health ($z = -2.67, p = .01$) impacts than participants for whom this was the first counselling contact. Time of day accessing the service and the gambling activity of concern were not significantly associated with any type of CSO impact.

4. Discussion

The characteristics of CSOs accessing web-based counselling from the Australian national service are most often young intimate partners. Like problem gamblers accessing the same service (Rodda & Lubman, 2013; Rodda, Lubman, Dowling, Bough, et al., 2013), they tended to access the service on evenings and weekends and were first-time treatment seekers. These findings, which suggest that web-based counselling provides an immediate alternative mode of service delivery that attracts a new cohort of younger CSOs, highlight the value of multimodal service options for CSOs and the need for targeted interventions and health promotion campaigns.

All CSOs displayed a similar profile of impact, with emotional impacts and relationship issues the most commonly endorsed impacts. In contrast with previous findings of higher impacts in spouses (Hodgins, Shead, et al., 2007; Hodgins, Toneatto, et al., 2007), there were few significant differences in impacts between different groups of family members. These findings, which may reflect an increased awareness of problem gambling in the community, highlight the need for further research to expand the impacts of problem gambling beyond intimate partners and children. The findings suggest that interventions for all CSOs should address impacts related to the emotional distress, interpersonal relationships, finances, and social life of CSOs. Unfortunately, despite their frequent presentation to treatment services, the empirical evaluation of interventions specifically designed for the CSOs of problem gamblers has been slow to evolve (Hodgins, Toneatto, et al., 2007; Makarchuk, Hodgins, & Peden, 2002; Rychtarik & McGillicuddy, 2006). Moreover, to date, there are no empirical investigations of web-based interventions for CSOs. Further research investigating the efficacy of CSO interventions delivered across different modalities is required.

Only counselling experience and cultural background were consistently associated with CSO impacts. The higher impacts reported by CSOs with counselling experience may suggest that CSOs who are more impacted by problem gambling seek multiple modes of counselling across time. Web-based counsellors should also expect the lowest impacts for CSOs of Australian ethnicity and the highest impacts for CSOs of Asian ethnicity. Moreover, in parallel with problem gamblers accessing the service (Rodda & Lubman, 2013), a higher than expected proportion of CSOs reported an Asian cultural background. Taken together, these findings suggest that CSOs from Asian cultural backgrounds are highly likely to report CSO impacts and to access web-based counselling. These findings may indicate that while acculturation issues are involved in the development of gambling problems in individuals from Asian cultural backgrounds, they are willing to seek external support for these problems despite belonging to a collectivist culture. Further research is required to explore the degree to which particular characteristics of the online environment, such as anonymity and convenience, are attractive to people from different cultural backgrounds.

The findings of this study must be interpreted in light of the self-report nature of the data. Contextual influences, such as location

Table 2
Factors associated with CSO impacts ($n = 366$).

	n	Financial (M, SD)	Emotional (M, SD)	Relationship (M, SD)	Social life (M, SD)	Employment (M, SD)	Physical health (M, SD)
Family member							
Partners	223	2.31 (0.87)	2.77 (0.54)	2.65 (0.61)	2.14 (0.87)	1.80 (0.96)	1.66 (1.06)
Friends	19	1.74 (1.19)	2.00 (1.05)	1.89 (1.15)	1.74 (1.10)	1.32 (1.29)	1.21 (1.23)
Parents	28	2.04 (0.88)	2.79 (0.42)	2.25 (0.89)	1.89 (0.92)	1.86 (0.89)	1.71 (1.01)
Children	65	2.40 (0.88)	2.78 (0.41)	2.48 (0.73)	2.38 (0.98)	1.83 (1.11)	1.65 (1.14)
Siblings	19	2.16 (1.12)	2.53 (0.77)	2.32 (0.95)	2.05 (1.13)	1.74 (1.19)	1.47 (1.22)
Gender							
Male	60	2.18 (1.03)	2.42 (0.96)	2.33 (0.97)	2.12 (1.01)	1.87 (1.07)	1.65 (1.12)
Female	306	2.27 (0.91)	2.75 (0.51)	2.54 (0.71)	2.13 (0.92)	1.75 (1.01)	1.60 (1.09)
Australian cultural background							
Australian	235	2.16 (0.99)	2.64 (0.69)	2.48 (0.80)	2.04 (0.96)	1.68 (1.02)	1.59 (1.09)
Non-Australian	131	2.43 (0.78)	2.79 (0.46)	2.56 (0.68)	2.29 (0.86)	1.94 (1.01)	1.63 (1.10)
Asian cultural background							
Asian	56	2.45 (0.74)	2.86 (0.35)	2.68 (0.64)	2.36 (0.88)	2.32 (0.74)	1.82 (1.08)
Non-Asian	310	2.22 (0.95)	2.67 (0.65)	2.48 (0.78)	2.09 (0.94)	1.67 (1.03)	1.57 (1.09)
Time of day							
Business hours	124	2.31 (0.88)	2.77 (0.51)	2.52 (0.69)	2.14 (0.87)	1.77 (0.99)	1.66 (1.06)
AH/weekends	242	2.23 (0.95)	2.66 (0.66)	2.50 (0.80)	2.12 (0.97)	1.77 (1.04)	1.59 (1.11)
Counselling experience							
Counselling experience	73	2.33 (0.96)	2.68 (0.62)	2.64 (0.69)	2.37 (0.94)	2.05 (0.93)	1.89 (1.07)
First contact	293	2.24 (0.92)	2.70 (0.62)	2.47 (0.77)	2.07 (0.93)	1.70 (1.03)	1.54 (1.09)
Gambling type							
Strategic	185	2.31 (0.87)	2.70 (0.62)	2.58 (0.76)	2.14 (0.90)	1.81 (0.95)	1.61 (1.03)
Non-strategic	139	2.24 (0.95)	2.74 (0.55)	2.51 (0.74)	2.17 (0.95)	1.79 (1.06)	1.64 (1.13)
TOTAL SAMPLE	366						
Any endorsement (%)		91.3	97.5	95.9	92.1	83.6	77.3
Mean		2.25	2.70	2.51	2.13	1.77	1.60
Standard deviation		0.93	0.62	0.76	0.94	1.02	1.09
Median		2.5	3.0	3.0	2.0	2.0	2.0

(e.g., work, home), physical factors (alcohol intoxication), and psychological factors (e.g., distress) may impact on the validity of the administration of the measures (Barak & Buchanan, 2004). While a strength of this study is that all clients completed the measures, caution is required when generalising the findings to other CSO populations. Moreover, there may be a need to conduct more stringent scale development processes with the PG-SOIS as there may be other impacts that should be measured. Despite these considerations, this study is the first internationally to describe the characteristics of CSOs accessing web-based counselling and explore the impacts of problem gambling on different CSO groups. The findings can serve to inform the development of web-based interventions specifically designed for the CSOs of problem gamblers.

Role of the funding source

N/A

Contributors

All authors designed the study. ND and AJ developed the PG-SOIS and SR and DL administered it via the Australian national web-based counselling service. ND and SR conducted literature searches and conducted the statistical analysis. ND wrote the first draft of the manuscript and all authors contributed to and have approved the final manuscript.

Conflict of interest

No authors have any interests that might be interpreted as influencing the research. At the time of conducting the research, ND and AJ were employed by the Problem Gambling Research and Treatment Centre, which was supported by the Victorian Responsible Gambling Foundation. Gambling Help Online is collaboratively funded by Australian states and territories and is contract managed by the Victorian Responsible Gambling Foundation. The Victorian Responsible Gambling Foundation and the state and territories had no involvement in the current publication.

Acknowledgments

The authors would like to acknowledge the efforts by states and territories in forming a collaborative funding agreement for Gambling Help Online and in particular the Victorian Responsible Gambling Foundation as contract managers. We would also like to thank all the counsellors involved in providing the Gambling Help Online service. Lastly, this work would not be possible without the willingness of people affected by problem gambling to access this new modality.

Appendix 1

The Problem Gambling Significant Other Impact Scale (PG-SOIS)

The following questions may help you determine if someone else's gambling is affecting you in some way. In the last three months, how often:

1. Have you or your family experienced financial hardship as a result of the other person's gambling?
2. Have you experienced feelings of sadness, anxiety, stress or anger due to the other person's gambling?
3. Has the quality of your relationship with the other person been affected by his/her gambling?
4. Has your social life been affected by the other person's gambling?
5. Has your ability to work or study been affected by the other person's gambling?
6. Has your physical health been affected by the other person's gambling?

Response format:

- (0) Not at all
- (1) Rarely
- (2) Sometimes
- (3) Often

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Information and communication technologies in reducing alcohol and other drug-related harms

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In 2009 it was estimated that over a quarter of the world's population used the Internet and that five billion people owned a mobile phone. Over 65 per cent of Australian households have Internet access and 90 per cent of 16–29 year-olds use the Internet daily.¹

The integration of the Internet and wireless technologies into everyday life has greatly expanded opportunities for service providers to cost-effectively reach greater numbers of people. Information and communication technologies (ICT)

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are increasingly preferred methods of providing and accessing health information and treatment, and appear to be of particular appeal to younger populations. There is a growing body of evidence supporting the use of online and technology-based interventions for reducing harms related to alcohol and other drugs (AOD), including the potential to access new and difficult-to-reach populations.

This paper provides a summary for AOD practitioners of ICT best practice in preventing and reducing AOD-related harms. In addition to a review of the relevant literature, views of key informants were sought and current examples of ICT implementation in the field are provided. The paper concludes with practical strategies for development and implementation and expected ICT future directions.

Information and communication technologies for alcohol and other drug-related harms

ICT refers to an electronic means of storing and sharing information, such as the Internet, email, short message service (SMS) texting and wireless connections. Within the health field, Internet and mobile technologies are widely used from managing data and using electronic health records, through to delivering interventions at both the population and individual level.

The efficacy of ICT has been demonstrated in treating a variety of mental health issues, including mood, anxiety, sexual or adjustment disorders, as well as relationship issues, headaches, gambling concerns, and eating disorders.^{2–8} Reviews of the

AOD and ICT literature have shown promising outcomes in delaying the age of first use, reducing alcohol and drug consumption and/or preventing risk. These include decreasing alcohol consumption in adults^{7,9-11} and young people,¹² within primary care,¹³ at work,¹⁴ as well as reducing substance abuse.^{12,15}

The following section describes types of ICT including websites, self-assessment, moderated forums, self-directed therapy and e-counselling. It also includes a summary of the research literature as relevant to primary prevention, harm reduction and treatment. The technology available to deliver programs is changing quickly, however it is hoped that this paper will provide a snapshot of what works and the importance of incorporating ICT into service delivery. As such, a series of case studies and practical approaches for integrating emerging developments into current practice is included.

Health promotion websites

The most predominant use of ICT for primary prevention is through the wide variety of health promotion websites. Harm reduction and health promotion websites are generally operated by government or not-for-profit organisations and are especially common for youth related issues. Web resources may be AOD specific, part of a broader youth health or mental health promotion site, or be operated by agencies that also provide counselling and treatment services.

Sites aimed at young people, people who use AOD, or their families and friends, provide a wide range of education materials and tools. These include information on substances and their health effects, consumption statistics, strategies for quitting or cutting down and relapse prevention. Websites are also progressively incorporating varied and interactive modes of content delivery, using multimedia and “social media” as a means of promoting harm prevention messages.

Social media are web-based or mobile technologies that are interactive and

enable content to be created and exchanged within communities. These technologies include video sharing, blogs, and social networking services. Internet users, and young people in particular, are no longer just consumers of information but are active contributors of content. Websites such as YouTube allow people who use AOD to post a video accessible by anyone in the world using the Internet, while “wiki” type sites enable communities to collaboratively write, edit, and link documents and web pages. Social networking services (SNS) such as Facebook and Twitter are online services that allow an individual to manage a profile and communicate between a selected group of users at specific websites.¹⁶ This technology’s potential for promoting harm reduction messages is particularly significant since it is estimated that 97 per cent of Australian 16–24 year-olds own a mobile phone with almost all using social networking services on a regular basis.¹

There are many Australian examples of youth-focused health promotion and harm reduction websites. The online resource **www.tuneinnotout.com** includes drug and alcohol information and provides access for young people to relevant podcasts, videos, peer-developed content, and blog articles as well as enabling people who use AOD to comment and create their own site content. Similarly, the Australian Government’s *Don’t Turn A Night Out Into A Nightmare* campaign (**www.drinkingnightmare.gov.au**) aimed to encourage teenagers and young adults to think about their choices about drinking alcohol. Along with an information website, the campaign included a Facebook page with videos, photos of campaign events and an interactive game (**www.facebook.com/nationalbingedrinkcampaign**). Also covering topics related to AOD, the ReachOut.com web-based initiative (**www.reachout.com.au**) provides information and support to help young people improve their understanding

and response to mental health issues and includes blogs, a peer forum and a YouTube channel.

Online approaches to AOD prevention and health promotion are relatively new and evidence about their efficacy is somewhat inconsistent. A recent review of web-based interventions for problematic use of AOD in young people found that interventions to prevent the development of alcohol-related problems in those who do not currently drink appear to have minimal impact.¹² However, web resources can widely disseminate information, potentially reduce stigma and increase access for young people who may need support, but either do not yet recognise the need or are not ready to seek professional help. For example, an evaluation of the cannabis and mental health site, **www.highsnlows.com.au**, found that 40 per cent of visitors over a five-month period were seeking information for the first time.¹⁷ The ReachOut.com website received over one million unique visitors in 12 months. Additionally, a survey of over 1500 site visitors indicated that 71 per cent were experiencing high levels of psychological distress, but that almost half this group (47 per cent) did not report they were visiting the site looking for help,¹⁸ suggesting that young people may be using the site to better understand their issues and options.

Health promotion websites and online resources appear to be useful components for AOD use prevention programs for adolescents and young adults. The attractiveness of ICT does however introduce risk to both client and provider. Websites often contain information that is not evidence based. A study by Eysenbach and Kohler observed participants searching for health information and found few participants recalled the website that provided them with the information.¹⁹ People are unlikely to differentiate between good and not so good sites in terms of information provided. Whether this is harmful to the individual is not

yet known but providers should aim to provide evidence-based information that is referenced and contained within a professionally branded website (for more information on developing ICT for AOD see page 9).

Self-screening and assessment websites

Early screening and brief interventions to motivate behaviour change are effective and widely used methods in addressing AOD use, particularly in adolescents and young adults.²⁰ Online information and service provider websites are increasingly using secondary prevention interventions such as screening and assessment, and feature existing or adapted tools for self-scoring AOD use or mood. They provide information for self assessment (i.e. know the signs of a problem), and may use assessment tools as a component of sign-up to a program. The tools and “quizzes” encourage interaction with the website and greatly increase the reach of the assessment material. Well-utilised websites can screen large numbers of people, as demonstrated by the **www.alcoholscreening.org** site, which has tested the risky drinking behaviour of over one million people.

After answering questions or a quiz, the type and level of interaction with online screening and assessment varies. The client may manually calculate a score, enter data where a score is computed, or receive a summary score, personalised/normative feedback (where test norms are presented the person can then see where they fit against the rest of the population) or feedback with options. Online tools frequently make use of visual aids and animation to present this advice, and the options offered may include suggestions on what to do next, other modules to complete or options for treatment. Generally, results are available immediately or are emailed to the person.



CASE STUDY 1

Online youth health information with question and answer forum

**Somazone: www.somazone.com.au
Australian Drug Foundation**

About the program

Somazone is an online resource for young people aged 14–18 years, providing information and support for a range of health and wellbeing issues including mental health, relationships and AOD use. First launched in 1999, the website includes fact sheets, a searchable service directory, advice and links for getting help, a shared stories section and a question and answer (Q&A) forum.

Outcomes, ICT and harm reduction

Young people can anonymously submit a relevant personal story to *Somazone*, or ask a question which is answered by a volunteer health professional and published on the site in 1–3 weeks. Site users can also comment on stories and email pages of interest via the “send to a friend” function.

- The Q&A forum can be searched by categories such as “drugs”, which includes information listed by substance type and topics such as “quitting and cutting down”.
- Youth participation and organisational partnerships are key features; young people were involved in the original development of the site and provide the majority of content, and partnerships with other organisations provide expertise and support.
- There have been over 400 000 visits to the site in 2010, with around 25 per cent from Australia.
- Marketing includes other website links, postcards/promotional material, search engine optimisation and Google AdWords.

Challenges and considerations

Somazone covers sensitive topics and moderation is important. Guidelines are used to try and balance retaining the contributors’ own voices and language, while ensuring relevance for other young people and preventing publication of inappropriate material.

Young people, like many Internet users, are increasingly using and expecting up-to-date sites and instantaneous communication (e.g. Facebook updates). While *Somazone* does not provide an immediately responsive experience, it is consistently updated and improved and is still highly interactive, using a delayed publication approach that minimises costs and potential for risk.



CASE STUDY 2

Online screening and intervention

The OnTrack program: www.ontrack.org.au
Institute of Health and Biomedical Intervention, Queensland
University of Technology (QUT)

About the program

OnTrack provides online psychological treatment and resources for Australian adults experiencing a range of mental health and wellbeing issues, including risky drinking and low mood. The website includes information sheets, help-seeking advice and quizzes about drinking and mood. Treatment programs use motivational therapy and CBT, can be guided by clinicians or self led and can be accessed for free, at any time and in any sequence.

Outcomes, ICT and harm reduction

- Quizzes provide tailored feedback and can be accessed without user registration.
- The intervention programs use therapeutic strategies found to be effective in trials of face-to-face treatment and remote therapy such as postal correspondence^e and are currently being evaluated.
- Over 10 000 people have visited the site including 300 practitioners.
- Site users with quiz scores indicating a high risk of alcohol dependence and/or more severe mental health issues are advised to seek clinical supervision.
- Early findings from the alcohol programs indicate positive changes in drinking behaviours, with some people benefiting from only minimal use of the program activities.

Challenges and considerations

While remotely-delivered mental health and AOD-use treatment has the potential to avert risk through early detection of problems, it also raises concerns about responding to risk and crisis. This site provides crisis support contact details, obtains contact details of users at program registration and advises clinical supervision where appropriate.

A challenge for this, and many online programs, is to maintain and increase engagement with the site particularly, via clinician referral. As use of online therapies are promoted, and geographic and socio-economic barriers to Internet access reduce, there is an opportunity to reach large populations of people, many of whom may not have other means to access psychological treatment or support.

e. See program website for list of relevant research:
<https://www.ontrack.org.au/web/ontrack/about/previous-research>

Research suggests that the presentation of online tools in either active or passive platforms influences AOD client outcomes. Personalised feedback has been found to be more effective than education/information alone,²¹ and more effective than online assessment (e.g. collecting baseline data prior to an intervention) without any feedback.²² Motivational interviewing techniques are commonly used in face-to-face assessments and the inclusion of these elements in online personalised feedback programs has also shown positive outcomes.

The *Check Your Drinking*

(www.checkyourdrinking.net)²¹

and *Drinkers Checkup*

(www.drinkerscheckup.com)²³

online assessments have shown effectiveness in shifting readiness to change and willingness to consider treatment. Human interaction may improve outcomes of Internet-delivered programs, however the provision of a personalised guide to represent self-assessment data has also been shown to be more engaging than text-based responses.²⁴ In the future, personalised motivational feedback may be more often delivered via digital guides than as text or images.

As well as increasing access, online screening and assessment tools using personalised feedback may be particularly attractive to younger groups and to people uncertain whether they want to change or engage in treatment. Research involving almost 30 000 people was conducted with users of the online *QuitCoach* program (www.quitcoach.org.au), which offers tailored feedback and advice for smoking cessation. The study showed online service users were younger, less nicotine dependent and less likely to have already quit when compared with users of the Victorian Quit telephone helpline.²⁵

Moderated forums

The development and use of online spaces for discussion and advice are utilised by both clinicians and the community. Moderated forums, also called message boards, communities, peer-to-peer or Internet support groups, can provide peer-to-peer stories or information, operating as a stand-alone site or with psycho-education materials provided on the website, email support or structured self-help programs.²⁶ In this way, they may be considered health promotion resources, secondary prevention or a treatment modality, depending on the type of board and activity of the person using AOD. Usually a sign-up is required to post information or engage in discussion, although they are commonly open access and allow unregistered viewers or “lurkers”.

Recognising that Internet-delivered interventions are attractive to those experiencing barriers to face-to-face treatments (e.g. shame and stigma, or geographical isolation), moderated forums for alcohol use have been developed (e.g. www.alcoholhelpcenter.net).²⁷ Posts within this Canadian forum include specific strategies (e.g. urge management), success stories and general encouragement from the moderator and peers. Over the first nine months of service, 155 members had joined the site with about one-third posting messages. Moderators encouraged member activity by initiating threads with questions and educational content.

There are a range of potential risks arising in discussion forums, particularly where submitted comment appears on the message board immediately. Typically a professional moderates the forum to ensure posts adhere to organisation policies, such as excluding identifying information, abusive or offensive messages and excluding and responding to suicidal posts.

One of the largest forums relating to drug use was initiated in the harm reduction community and moderated by peers. Bluelight (www.bluelight.ru) is an international message board, which includes Australia-specific content, and aims to educate the public about responsible drug use by providing information and promoting free discussion. It is an anonymous space and people actively taking drugs can talk to each other about harm reduction and receive accurate information from a range of sources that is easy to understand. The site has a Wiki project, blogging access, is optimised for smart phones and has a presence on Twitter. While it is not an example of ICT application by service providers, it is a source of information that is frequently visited for information on new drug trends and current concerns by a broad range of people who use AOD.

Evidently, online forums and other applications of social media may evolve from the wider community or be initiated and delivered by organisations. The creation of online communities has begun to be harnessed in diverse ways by the AOD and health sectors, such as the blog sharing sites *Between the lines*, a drug discussion site (www.betweenthelines.net.au) and *Hello Sunday morning*, an alcohol reduction campaign (www.hellosundaymorning.com.au). The latter began as one individual's blog about not drinking for a year and is now a health promotion charity and online community. While there are thought to be positive benefits of peer-led forums and SNS for promoting harm reduction messages, such as a degree of credibility with young people and/or people who use drugs, there does appear to be a role for organisations to engage with these technologies.

While many professionally moderated and open non-moderated forums operate, research on their effectiveness

is still developing.²⁶ Initial research suggests that forums may have better outcomes if people who use AOD are encouraged to discuss behaviour-change and strategies rather than focusing on symptoms.²⁸ They may also be a useful adjunct to other treatment modalities such as providing post-treatment support for face-to-face AOD programs.²⁹ Although evidence on the efficacy of using social media for health promotion and intervention is still limited, and some risks may exist for organisations relating to online discussion of illegal drug use, it has been noted that there is great potential for improved use of forums, message boards and chat rooms for health promotion and harm reduction.³⁰

Wireless and mobile technology

Mobile phone applications and SMS are increasingly being applied as tools for health promotion, harm reduction and therapeutic intervention. Text messages are used both as unidirectional and interactive communication for providing reminders of appointments or medication compliance, advice and information. Health promotion and cognitive behavioural therapy-based messages can assist in relapse prevention or increase engagement in self-guided programs.

SMS text messaging for appointment reminders is usually delivered by a provider using an online platform and has been found to be a cost-effective way of improving appointment attendance.^{31,32} In an Australian youth mental health outreach setting, an audit of SMS exchanges between the client and therapist was helpful in arranging meetings and maintaining contact, while real-time plans and “micro co-ordination” assisted face-to-face meetings.³³

Evidence of the efficacy of SMS for health behaviour change and clinical care is growing but rigorous evaluation studies are limited.^{34,35} Preliminary research emphasises the influence of

using SMS messages that use tailored content and interactivity to improve effect. A New Zealand smoking cessation study indicated positive longer-term outcomes for young people who received personalised messages about managing their urges, relaxation strategies and general health. Messages were sent over 26 weeks with intensive then decreasing frequency. The intervention group had reduced lapses and a higher overall quit rate at completion.³⁶

Of interest, use of SMS for sexual health promotion research also indicates potential for behaviour change. An Australian randomised controlled trial of a 12-month intervention delivering sexually transmissible infections (STI) prevention slogans via SMS and email to young people, reported improved STI knowledge in both sexes, increased STI help-seeking and testing in women, but no impact on condom use.³⁷ While further evaluation is needed, SMS health promotion and support messaging appear low-cost, readily received, and convenient methods with potential for reducing drug and alcohol-related harms.

The text-tips approach is being used by a range of websites and services. The www.meth.org.au self-help website for young people using methamphetamines enables subscribers to receive SMS-delivered tips at a nominated time of the week on topics such as harm reduction and remaining abstinent. Similarly, the Reach Out site offers SMS tips for issues such as stress management during exam periods.³⁸ However, these services found there was low uptake of the text tips relative to the number of website visitors. The use of this potentially effective health promotion technology may be supported by peer workers and mobilisation programs. For example, young people at the Big Day Out music festivals registered and received educational messages about sexual health. Recruitment at these events is high, as is program retention.^{37,39}

CASE STUDY 3

Use of mobile phones and interactive software in primary care

Mobilitytype: The Mobile Tracking of Young People's Experiences
(www.mobilitytype.com.au)

Murdoch Childrens Research Institute

About the program

The mobilitytype program is a mental health assessment and management tool for young people aged 14–21 years. Electronic diaries downloaded onto mobile phones are used to monitor wellbeing. Participants are sent daily prompts to answer questions about their current activities, moods, experience of stress, depression and use of alcohol and cannabis. The real-time data is sent to a secure website, responses are collated and the participant's treating doctor receives a feedback report for use with the young person at their next appointment.

Outcomes, ICT and harm reduction

Young people may have some reluctance to communicate face-to-face with health professionals. Early program trials indicated that using momentary sampling or "real-time" data collection on mobile phones was feasible with young people, had relatively good response rates and diary completion, and some participants showed decreased signs of depression and anxiety.

Early reports from the current RCT trialling the program in primary care indicate:

- General practitioners generally felt the program saved time and enabled cost-effective collection of large amounts of patient information.
- Many young people felt better understood by their doctors and responded positively to using the program and to the process of self-monitoring.

Challenges and considerations

Mobilitytype is a trial and challenges include longer-term funding and investment if wider use by GPs and allied health professionals is to be supported. Feedback from participating GPs appears positive however initial willingness and engagement of health professionals may also be a challenge.

While the current program does monitor alcohol and cannabis use, mobile data collection may also be applicable for more intensive AOD treatment such as additional monitoring and tracking of pharmacotherapy use and medication compliance, and behavioural responses and triggers.

Self-monitoring can raise awareness of behaviours and may lead to behaviour change. Smart phone applications and SMS have been found to be reliable methods of monitoring behaviour.^{40–43} A range of drinking-related applications that track alcohol consumption are now offered for smart phones. Features may include being able to monitor expenses, compare drinking patterns with alcohol-use guidelines, calculate blood alcohol levels and utilise global positioning system (GPS) applications to assist with getting home or finding a taxi (see further information on page 10 for examples). While applications and novel interventions are likely to engage more people, there is a risk that the intervention becomes a game or challenge that may cause harm. To protect the individual, programs should be evidence based and unintended consequences should be explored.

Self-guided interventions

Self-guided programs are evidence-based treatment modules usually involving assessment, motivational interviewing and/or cognitive behavioural therapy (CBT). These programs are commonly delivered across 4–6 sessions via the Internet or as a computer-based resource (e.g. DVD). The efficacy of self-guided interventions with or without support has been demonstrated by numerous randomised controlled trials for a range of issues including anxiety,⁴ depression⁶ and risky drinking.⁴⁴ Generally, support provided by a clinician, coach or administrative staff has better outcomes than no support.³ While self-guided interventions are showing efficacy as stand-alone programs, clients perceive support as important,⁴⁵ and it may have better long-term outcomes for addictive disorders.⁴⁶ Support might be provided via the telephone, email or peer-support via moderated forums.

Programs typically provide modules for assessing the problem followed by preparing and implementing change. For example, a United Kingdom (UK)



program called *Down Your Drink* (www.downyourdrink.org.uk)⁴⁷ combines a three-phase program that starts with decision making (e.g. costs and benefits of current behaviour, assessment and normative feedback). Phase two reflects the action stage of change and incorporates a drinking patterns diary and cognitive approaches (e.g. identifying triggers). The final phase focuses on relapse prevention including cravings, dependence and lapses.

Self-guided interventions may focus on single and dual issue treatment.⁴⁸ Self-guided interventions have shown equivalent efficacy compared to face-to-face treatment in treating alcohol and/or cannabis and depressive symptoms at 12-month follow-up.⁴⁸ In this latter study, participants completed an Internet-delivered brief intervention for depressive symptoms followed by either face-to-face or Internet-delivered treatment for alcohol and/or cannabis.

Modules may also be incorporated into regular treatment to ensure clients receive the most up-to-date evidence-based treatment. Research has shown that clients are positive about self-directed modules and may gain access to content that may have been missed in generalist counselling.⁴⁹ For example, an early intervention program www.moderatedrinking.com found the addition of modules to online or face-to-face groups reduced alcohol consumption and increased the number of abstinent days.⁴⁴

Self-guided interventions are also used in school-based drug education programs and may include teacher discussions of materials. Programs only providing information have been found to be less effective in reducing use than interactive programs on social competence and/or including harm reduction information.²⁰ In Australia, the CRUFAD Schools program (www.crufadschools.org) provides online alcohol and cannabis education, combining computer-based and classroom activity components around issues such as alcohol and the law, consumption, consequences and problem-solving. Subsequent evaluations demonstrated that when compared to those students completing normal health classes, students undertaking the CRUFAD Schools program had significantly better alcohol and cannabis knowledge and a reduction in average weekly alcohol consumption and cannabis use at six-month follow-up.^{50,51}

Programs are often delivered with multiple ICT platforms. Computer-based parenting programs have included CD-ROM type education materials⁵² and more recently, information websites with video instruction. A new Australian web-based prevention program targeting adolescent alcohol misuse, www.parentingstrategies.net, provides parenting guidelines (using an online survey and personalised feedback) and a tailored web-based intervention endorsed by longitudinal research evidence and expert consensus.

E-counselling

E-counselling includes synchronous and asynchronous counselling that may provide early intervention through the provision of information, advice or counselling. Many websites provide question-and-answer information or counselling via email.

Email is a common method of providing contact between a program and a client. It is used across the spectrum of Internet-delivered programs, from requests for information, support within a self-help program (either from a clinician or administrative support), sending information to clients (automated or individually constructed) through to a stand-alone email counselling program.

Email is referred to as asynchronous as both parties do not need to be in the same room at the same time. This mode removes barriers such as geographic location and allows the possibility of the same counsellor at every interaction. There are often limits to the number of contacts/emails (e.g. www.kidshelp.com.au recommends other counselling after four email contacts), but usually there are no limits when there is a fee for service. Despite the proliferation of Internet-delivered interventions without therapist involvement, people prefer to have support if using a website.⁴⁵ In an online survey of AOD websites, participants reported email support was their preference followed by a website with face-to-face support.

Along with email, e-counselling is currently provided in an immediate "chat" mode. Synchronous chat is characterised as exclusively text-based where both client and counsellor are in the same virtual room (similar to instant messaging). The majority of programs can be accessed anonymously or registered where the person may have access to counselling transcripts at follow-up sessions. Similar to telephone help lines, clients usually do not have the same counsellor unless it is a private provider.

Many services provide immediate access to a counsellor (e.g. *Kids Help Line* or *Counselling Online*) or by appointment. There are many free synchronous programs offered in Australia and Europe. These services are usually positioned with a complementary helpline and similarly provide information, counselling and referral.

Research is yet to demonstrate whether text-based therapy works the same as

face-to-face treatments. However, client demographic and usage data suggest that this mode of service delivery is attracting a new cohort of treatment seekers. Swan and Tyssen reported that the AOD-focused *Counselling Online* service (www.counsellingonline.org.au) had a high rate of young, employed and female clients with highest demand on weekends and outside business hours.⁵³ Whether online treatments

CASE STUDY 4

Real-time text-based counselling

Counselling Online: www.CounsellingOnline.org.au
Turning Point Alcohol and Drug Centre

About the program

Counselling Online provides real time text-based counselling for anyone affected by an alcohol or other drug issue. Launched in 2006, it has attracted over 200 000 people to the website from Australia (70 per cent) and internationally (30 per cent). Over 14 000 people were connected with a professionally trained counsellor within a couple of minutes, with an average talk time of around 30 minutes.

Outcomes, ICT and harm reduction

A 2010 evaluation of Counselling Online found high rates of young females accessed the service. Compared with DirectLine (a telephone-based counselling service), there were higher rates of contact after-hours (65 per cent compared with 35 per cent) with a preference towards anonymous contact (75 per cent). Around half of all contacts were associated with alcohol use with 15 per cent reporting cannabis as the drug of concern.

A client survey of a similar program for gamblers provided by Turning Point found that online counselling was valued as:

- easy to access—immediate, 24/7, from the comfort of home
- easy to talk—less tension and shame and easier disclosure
- easy to do privately—fewer interruptions, anonymous, confidential.

Challenges and considerations

Approximately 7 per cent of Australians who visited the site engaged in an immediate counselling session. For some, Counselling Online provides a means of discussing treatment options or engaging in an immediate intervention. While some who visit the site may proceed to community-based interventions, there is an opportunity to engage greater numbers in lower level interventions to reduce harm or increase readiness to engage in treatment. This could include integrated mobile applications that deliver self-help, peer support or monitoring as well as easy escalation to a counselling session.



are as effective as face-to-face is often asked by clinicians and funding bodies. Studies have shown that therapeutic characteristics such as conveying warmth, empathy and trust can be developed in an online environment.⁵⁴ E-counselling potentially addresses some of the barriers to treatment (e.g. structural factors such as geographic location or individual barriers such as shame or stigma) and provides an alternative or adjunct to traditional services.

Summary

Outcome-based studies reviewed above suggest self-assessment and self-guided modules can be effective in harm reduction and prevention of AOD harm. However, health promotion websites and newer technologies such as smart phone applications have limited evidence of efficacy. While there is a growing body of research on Internet-delivered interventions to reduce AOD use, many of these are process studies (e.g. treatment satisfaction, usage statistics, demographic characteristics) rather than demonstrating that the program elicits change.⁵⁵

Evidence for ICT-related primary prevention programs is somewhat inconsistent. However, a range of primary prevention approaches have shown promise and indicate positive effect on AOD use intention and behaviours, providing good principles from which to work. In particular, interventions that can maintain the program over a longer time and include more than one type of strategy, such as social marketing or parental involvement, have shown the most success.⁵²

From a consumer perspective, the anonymity of many health promotion online services can reduce the stigma or embarrassment associated with seeking help, and anonymous online therapy can facilitate faster and more extensive disclosure. In this context,

online programs are being accessed by groups under-represented in traditional services such as young people, women and populations with less severe psychopathology.⁷

Developing information communication technologies support for alcohol and other drug use

From a provider perspective, ICT is often more cost-effective because large numbers of people can be reached, support can be provided at a distance and in places where services are not available.⁵⁶ However, developing an ICT project involves some key steps that are unique to this modality. Areas such as determining geographic reach and program functionality are described below for consideration when scoping out the project.

Clarify program goals. Determining what you are trying to achieve and who you are trying to reach is essential to understanding the type of technologies, if any, that may be successfully applied. For online resources and interventions, understanding program requirements before approaching a web developer saves time and money. For example, if the goal is to improve care following a residential program, then a closed moderated forum might be a relatively inexpensive option to develop and operate. However, if the scoping identifies a requirement to track a client through multiple components of a website, such as their use of message boards, self-help material and email support, then the technology is significantly more complex and expensive. If the goal is to develop an online presence, then social media or SNS provide a relatively basic, low cost option.

Review the evidence and gain consumer input. Together with a literature review, an environmental scan can provide information on similar websites and their use of technology (e.g. email or chat), branding (e.g. images, program name), terms and conditions (e.g. program specifications), language used (e.g. sign-up or register), and the

availability or existing gaps of current service provision (e.g. opening hours).

Consulting the target population is an important process to clearly identify their information and service needs. Focus groups can be employed to ensure that the site provides meaningful content and is presented as a brand that will be engaging and trusted. They can assist in determining people who use AOD's preferences for the service name, logo design and tagline. In addition, consultation can provide input on site features and functionality as well as the format, depth and type of content that should be made available.

Consider geographic reach. The reach of ICT programs is global and limited only by funding arrangements and the type of service being provided. It is possible to limit service access to a specific population (e.g. password required for sign-up) or by geographic location (i.e. can block by IP address at country level) depending on the goals of the program and funding arrangements. Programs may be accessed anonymously or require some version of sign-up if the characteristics of people who are using AOD are of interest (e.g. anonymous users may have limited access to programs, therefore signing up has benefits).

Programs that do not involve human resources, such as unassisted self-help materials or screening tools, may draw larger populations without increasing operating costs if not branded as a location-specific program. Programs such as synchronous counselling require people to deliver the program. Dissemination of such programs may be restricted to delivery within the area of the funding body.

Make content accessible to the target market. The design, content and technology used should be appropriate for the needs and preferences of the target audience. In general, the language should be simple and include short sentences so that content can be read quickly and easily.

CASE STUDY 5

Alcohol and other drug agency's web presence and use of social media

Uniting Care Moreland Hall www.morelandhall.org

About the program

Uniting Care Moreland Hall is a Victorian non-profit agency providing alcohol and other drug treatment, education and training. They have initiated and operated online projects, including the Heads Together social network for the AOD sector, and the Bluebelly online community for sharing methamphetamine harm reduction information.

Outcomes, ICT and harm reduction

Moreland Hall also utilise social media and are currently developing the agency website to increase its interactivity and usefulness, including: a question and answer section, an email contact form, feedback form, ability to comment on news items or share them via email or SNS.

- Online engagement is part of the organisational communications strategy—newsletters and media releases are posted on the website with updates and links via SNS.
- The website's Q&A feature is a small, safe type of interactivity which has provided an additional contact point and useful feedback via the types of questions being asked by the community.
- Facebook engagement is basic, mainly used for communicating news to stakeholders and current/potential or ex-service users.
- Twitter is very active, has been effective for sector communication, building networks and for communicating about and from, conferences and events.

Challenges and considerations

A current focus and challenge is to continue making the organisation's online presence up-to-date and more interactive. Social media generally requires little time or cost however the options and forms are diverse. Moreland Hall is developing a strategy to clarify their aims and interests to more effectively target and engage with different online mediums and audiences.

There are potential risks involved in using the immediate communication of SNS while representing the organisation. Moreland Hall attempt to incorporate SNS into usual processes for external communication, and are developing a specific policy to guide behaviour and expectations.

Professional development in writing for the web is offered on- and off-line by organisations such as Vision Australia.

Given that mobile phones are increasingly used to access websites, organisations should consider mobile optimisation which makes the website easier to view from a mobile (e.g. m.headspace.org.au) but significantly reduces the content. This adds to the cost of building a website but may be an intermediary step between a website and smart phone application (e.g. www.drinkcontrolapp.com).

A recent survey of people who had previously accessed AOD websites, explored what people wanted in an AOD online program.⁴⁵ Information related to the effects of AOD was most often searched for with just over half finding the information that they were seeking within 5 to 15 minutes. Over 80 per cent of respondents said websites should be easy to navigate, available without registration, provide the right amount of information with the ability to download or print information, and pictures and graphics were rated as important interactive features. Being able to ask a question was rated as important whether through posting anonymous questions via a comments section or message board, access to a chat room or a frequently asked questions section.

Engage a range of internal and external expertise. A partnerships approach to website and resource development was highlighted by key informants and may be especially relevant for smaller organisations. Internal or external partnerships are likely to be required for IT expertise, but may also be useful for assistance with developing or sharing specific website content (e.g. evidence-based fact sheets), understanding the target audience or approaches to writing for the web. Building partnerships, including informally via social networking, can help identify current best practice in the field, share ideas on innovative social marketing and promotion activities or assist in resolving technical issues.

Review relevant operating standards.

These are usually determined by the geographic location and type of service (e.g. website, counselling). Privacy legislation should be considered, especially if collecting or storing identifying information or health information records (see for example Rippen & Risk;⁵⁷ Whitehead & Proudfoot⁵⁸). Applicable standards for the provision of online and wireless therapeutic interventions may include:

- Australian Psychological Society (APS) (2008) *Guidelines for providing psychological services and products on the Internet*^a
- Victorian Government (1999) *Guidelines for the development of online counselling and crisis management services*^b
- American National Board for Certified Counsellors (NBCC) (2006) *Standards for the ethical practice of Internet counselling*^c
- The Australian Government's adoption and implementation of *Web Content Accessibility Guidelines version 2.0 (WCAG 2.0)* which provides guidelines for improving website accessibility and usability.^d

These guidelines suggest that online services should provide information about the organisation's privacy and confidentiality protocols, emergency contacts, clear advice to guide people who use AOD's expectations and behaviour, and evidence of efficacy or effectiveness.

Develop administrative website content.

Sometimes left to last, the program terms and conditions can be time consuming and may require external expertise (e.g. legal advice). Websites may also include information on practitioner qualifications, working with minors and accurate and transparent information on who is funding and operating the website.

Other things to consider are that there is a time stamp for the last update, and the website content should meet readability standards in its appearance and design.

Budget for program maintenance.

This includes updating content, site moderation and content management and should be costed at the planning stage. After setting up programs it is tempting to believe that no further work is required. It is common for links, pages and website functionality to break connection with the linking site. Social Networking Services (SNS) and other interactive applications need to be kept "live" and updated, and forums need to be regularly accessed if moderated. Employees should also be aware of organisational policies around employee risk management and online behaviour (e.g. their use of social networking when representing the organisation).

Tell someone about the service.

Think about how and why your audience will know about and make use of your site, application or intervention. The development of online and offline marketing should be considered, and promotion via SNS can highlight a program among the many Internet and/or mobile accessible services. The use of online marketing via a profile page, presence on Twitter or the use of Google AdWords can support more traditional, offline marketing strategies and has considerable potential to increase the use of services and sites. A media release or provision of information to referring websites can assist traffic to the site. These may include the Australian National University (ANU) Beacon (www.beacon.anu.edu.au) portal, which provides an evidence-based rating of services.

KEY INFORMANT TOP TIPS

- Clearly define project objectives and target population.
- Research and review the evidence.
- Involve the target audience.
- Understand the range of expertise required.
- Consider external partnerships.
- Plan funding and resources for ongoing maintenance and updates.
- Consider and develop risk management strategies and policy.
- Develop online and offline dissemination and marketing strategies.

Future directions

Research indicates that no single treatment type or modality is equally attractive or accessible to all populations. At the systems level, this requires a range of flexible, less-intensive treatment responses in addition to mainstream counselling options to meet different client needs. Websites, forums, self-assessments and self-guided treatments are increasingly used in primary prevention as health promotion messages, tools of dissemination, data collection and peer communication.

While ICT for anxiety, depression and tobacco cessation now have a considerable body of research supporting their efficacy, demonstrated efficacy of AOD-related

a. Guidelines require APA member login at <http://www.psychology.org.au> or are available via <http://aipa.groups.psychology.org.au/Assets/Files/EG-Internet%5B1%5D.pdf>

b. Guidelines available at <http://www.mmv.vic.gov.au/Assets/569/1/CounsellingOnline.pdf>

c. Guidelines available at <http://www.nbcc.org/assets/ethics/internetcounseling.pdf>

d. Guidelines available at <http://www.finance.gov.au/publications/wcag-2-implementation/index.html>

programs is still in its infancy. Questions that are still to be answered include the best treatment approaches for different target groups across the population, the dose required for an effective outcome and whether telephone or face-to-face interventions improve efficacy.⁵⁹

In the future, it is expected that Internet interventions will play a greater role within a stepped care approach.⁶⁰ A client that does not improve via an Internet-delivered program may then proceed to a more intense program offered in a face-to-face environment. However, given that for some people their preference is online treatment, researchers are currently examining how a stepped care model may be fully applied within the online environment. Agency funding and health sector support are required to build and maintain programs and to facilitate stepped care. It is expected that the current definition of an episode of care will be expanded to include a range of ICT delivered programs.

High levels of comorbidity between mental health and AOD issues suggest trans-diagnostic treatments might be helpful. They can target multiple disorders at the same time where the clinical features or maintaining factors are similar and have shown initial promising findings in the treatment of emotional disorders.⁶¹ The Internet is also an ideal vehicle for reaching populations

who are unevenly distributed. Culturally and linguistically diverse (CLD) populations can be provided culturally-specific programs with greater reach, and this may be more attractive than what is traditionally offered within face-to-face services.

Consumers have been quick to adopt this new mode of information and treatment delivery and are increasingly taking responsibility for managing their help seeking.⁴⁹ In only a few years, the Internet and mobile technology have exponentially increased the community's access to evidence-based treatments and it is expected that smart phone applications and GPS technology will increasingly provide key information on how to improve behavioural outcomes to both providers and individuals. Compared with traditional modes, Internet-delivered interventions allow users greater control over their treatment-seeking and the intensity or level of treatment received, as well as enabling access at a time and place that is convenient and/or when the problem comes to mind.

Within the context of primary prevention evidence, the range of programs and websites offering interactive tools, activities and the creation of communities may be most engaging for young people and most likely to influence behaviours. Internet-delivered programs will increasingly

fill gaps in service provision and it's not too late for AOD agencies to get involved. This could be adding a message board to maintain client engagement between sessions, incorporating self-directed modules or employing real-time counselling options to prevent relapse.

Acknowledgements

The authors wish to thank the following key informants for their time and expertise to assist the production of this paper:

David Kavanagh, Queensland University of Technology, School of Psychology and Counselling, Institute of Health and Biomedical Innovation

Sophie Reid, Centre for Adolescent Health, Murdoch Childrens Research Institute

Linda Jenner, Director, LeeJenn Health Consultants Pty Ltd

Atari Metcalf, Senior Evaluation Officer, Inspire Foundation

Monica Barratt, National Drug Research Institute

Rick Loos, HealthLink, Turning Point Alcohol and Drug Centre

Anne Collyer, Program Coordinator, Somazone, Australian Drug Foundation

Ray Stephens, Manager Online Projects, Moreland Hall

Further information

Understanding and working with information communications technologies

www.beacon.anu.edu.au provides a portal to health online applications for mental and physical disorders including AOD use. Websites are rated by a panel of health experts based on research into the effectiveness of the Internet-delivered program/website.

www.isrii.org is the website for the International Society for Research on Internet Interventions. The website provides information, program delivery guidelines and has a focus on developing the evidence base for the delivery of Internet interventions.

www.morelandhall.org provides a good example of how web-based seminars can reach greater numbers of people than face-to-face approaches. The seminar also describes how using Web 2.0 can be used to facilitate greater client engagement while reducing harms. The seminar is available at:

http://www.morelandhall.org/index.php?option=com_content&view=article&id=63:seminarseries&catid=14:education-and-training&Itemid=34

www.reachoutpro.com.au is a professional extension to the Reach Out program. It provides professionals with information and advice on how ICT can be applied to enhance the effectiveness of services to young people.

Alcohol and other drugs and information communications technologies

www.adf.org.au is the website of the Australian Drug Foundation and provides links to a range of its programs and services which provide free, quality-assured information on alcohol, other drugs and harm prevention. It includes information about AOD policy and related debates and updates of latest relevant news.

www.adin.com.au provides a powerful search engine where users can search and get access to quality Internet-based AOD information. The *Australian Drug Information Network (ADIN)* is funded by the Australian Government Department of Health and Ageing and managed by the Australian Drug Foundation.

www.alcohol.gov.au is a website provided by the Australian Government Department of Health and Ageing that includes information and fact sheets on alcohol and health.

www.checkyourdrinking.net is a Canadian site providing information and screening with personalised feedback for alcohol use. It is also offered in the moderated forums provided by the same group at **www.alcoholhelpcenter.net**

www.coldhardfacts.health.qld.gov.au is a campaign site of the Queensland Government providing information and harm reduction messages on amphetamines.

www.counsellingonline.org.au provides free real-time chat, 24/7 to anyone concerned about AOD issues. It is provided by a professional counsellor and is operated nationally by Turning Point Alcohol and Drug Centre.

www.crufadschools.org provides a range of Internet-delivered schools-based programs including alcohol and cannabis use. CRUFAD also provides evidence-based effective Internet-delivered programs for depression and anxiety.

www.den.org.au is the website of the Tasmanian Drug Education Network Inc. and aims to reduce AOD-related harm by providing information and a peer-to-peer forum via **www.tuneinnotout.com**. Forums and the website are targeted at people aged 16–25.

www.drinkerscheckup.com is a US program that provides personalised feedback on assessment for alcohol consumption.

www.drinkingnightmare.gov.au is a game about drinking choices and is part of an Australian Government campaign on binge drinking.

www.druginfo.adf.org.au is a website by the Australian Drug Foundation that provides information about the prevention of AOD-related harms. People can search for information about individual drugs, find resources for clients and for professional development, and find out where to get help.

www.hellosundaymorning.com.au is an Australian website that supports people to abstain from alcohol for three or more months. People can post their goals, challenges and successes via a blog or video blog.

www.justaskus.org.au is a site funded by the Australian Government Department of Health targeted at university students providing personalised feedback via self-assessment for cannabis, alcohol and mental health.

www.meth.org.au is a Victorian site providing self-assessment and information for self-management, as well as options for specialist treatment for methamphetamine-related issues.

www.ontrack.org.au provides self-assessment with normative feedback for depression and risky alcohol use. It also provides a self-guided program for alcohol and depression for the user or family and friends.

www.parentingstrategies.net aims to reduce the incidence of adolescent alcohol misuse by providing parents with evidence-based information. It also provides a tailored intervention for parents.

www.therightmix.gov.au is a website and support service provided by the Australian Government Department of Veteran Affairs targeting ex-service men and women, their families and friends. It provides screening tools with personalised feedback for alcohol and harm minimisation information.

www.wiredin.org.uk promotes community involvement in recovery from AOD use via online and offline community groups.

www.youthcentral.vic.gov.au provides young people with information on AOD provided by the Victorian Government.

Alcohol and other drug smart phone applications

www.slappme.com calculates blood alcohol content (BAC) by gender, age, height and weight via real-time recording of consumption.

www.drinkcontrolapp.com provides real-time tracking of alcohol use and a comparison against country specific consumption guidelines.

www.nhs.uk/Tools/Pages/iphonedrinks.aspx provides alcohol consumption self-monitoring with personalised feedback.

Young people and information communications technologies

www.headspace.org.au provides alcohol-related harm reduction information for young people via their website.

www.kidshelp.com.au is a large provider of telephone and online e-counselling (both immediate chat and email) to young people across Australia.

www.reachout.com.au is provided by Inspire Foundation receiving around 1.3 million site visits per year by 450 000 young people. In addition to information it provides moderated forums and blogs supported by social media.

www.somazone.com.au is a website specifically targeting young people where they can share stories, ask questions and read fact sheets on alcohol and other drugs as well as mental and physical health. Responses to questions appear on the website rather than personalised responses.

Other health-related sites

www.betterhealth.vic.gov.au provides health and medical information to help individuals and communities improve their health and wellbeing.

www.betweenthelines.net.au is funded by the Australian Government Department of Health and Ageing and provides information, a blog and an opportunity for young people to comment on articles relating to drugs.

www.gamblinghelponline.org.au provides free 24/7 real-time chat and an email support with a professional counsellor for anyone concerned with a gambling issue. It also provides tailored feedback for risk of a gambling problem and a self-assessment of gambling spending.

www.moodgym.anu.edu.au is an Australian self-directed program for depression and anxiety. It has been made available in multiple languages and via extensive research shown to be effective.

www.oxygen.org.au is a smoking cessation site targeting young people. Provided by the Cancer Council of South Australia, it provides information and is linked into the state-wide website **www.kickit.quitsa.org.au**

www.quit.org.au is the state of Victoria's smoking cessation program website. It includes information, screening and access to the Quit Coach, email reminders and a cost calculator.

www.sane.org website provides information (fact sheets) and an email information service for mental health. The site hosts campaigns such as "snapshots", which aims to reduce stigma associated with mental health.

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Prevention Research Quarterly

ISSN 1832-6013

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Ready to Change: a scheduled telephone counselling programme for problem gambling

Australasian Psychiatry
0(0) 1–5
© The Royal Australian and
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DOI: 10.1177/1039856212449671
apy.sagepub.com


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Abstract:

Objective: This study describes the implementation of an innovative 4–6 week cognitive behavioural therapy (CBT) programme for problem gambling, Ready to Change (RTC), delivered via telephone and workbook.

Method: Participants referred into the programme during the first three years of operation had a mean age of 45 years (range 19–81 years). The majority of participants were female (56%, $n=129$) and had problems associated with gaming machines (81.7%, $n=188$).

Results: Between January 2008 and December 2010, 230 people were assessed and offered the RTC programme. The main reason for referral of a person into the programme was difficulty in accessing a face-to-face agency.

Conclusions: We describe the components and challenges of a 4–6 week programme for the treatment of problem gambling delivered via telephone. While distance-based treatments address concerns over access to services, further research investigating their effectiveness is required.

Keywords: CBT, gambling, semi-structured programme, telephone counselling, treatment

Introduction

Over the past 20 years, exponential increases in the availability of electronic gaming machines (EGMs), and more recently technology-enabled betting, have been seen alongside an increase in the incidence of problem gambling.¹ Telephone helplines for problem gambling which were developed in response to the introduction of EGMs in the early 1990s² typically offer a free 24/7 response with a qualified counsellor and a gateway into treatment for both gamblers and significant others. Helplines provide referrals (e.g. counselling, financial and legal advice, support groups), single-session brief interventions (from crisis intervention to relapse prevention), information (e.g. venue exclusions) and mail out of self-help materials.

While this range of services is offered in every Australian state and territory, it is estimated that fewer than 10% of people seek formal face-to-face treatment.¹ A reluctance to admit having a problem due to shame and embarrassment, not wanting others to know about the gambling and a desire to recover without formal assistance are the most commonly cited individual barriers to treatment.^{3,4} When treatment is sought, concerns are found regarding the availability of services.⁵ A survey of callers to the New Zealand Gambling Helpline found that a quarter of

respondents were unable to access an appointment at a suitable time and almost 20% of respondents said that treatment with a face-to-face service was not preferred.³ Agency opening hours, geographic location, waiting lists and practical issues around appointment attendance, such as transport and childminding, can impose structural barriers to seeking help.^{3,5,6}

Individual and structural barriers also appear to prevent people from moving from telephone to face-to-face treatment. Approximately half of the callers to the Victorian Gambler's Helpline are provided with a referral to another agency although only around two-thirds of callers act on that referral.⁷ Acknowledging that barriers to treatment both hinder and prevent individuals from seeking face-to-face counselling, we describe the development and early experiences of the Ready to Change (RTC) programme, a scheduled telephone-based intervention for problem gamblers, which has been offered

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for callers to the Victorian Gambler's Helpline since January 2008.

Development of the RTC programme

The programme was developed over a four-month period, involving extensive internal and external consultation with national and international experts. Inclusion/exclusion criteria and the parameters for the delivery of the intervention (e.g. number and frequency of sessions, proactive versus reactive contacts and programme content) were informed by a literature review and key informant interviews. Workbooks were identified as a key component of the programme, given evidence that they increase the effectiveness of telephone-delivered interventions,⁸ as well as provide a framework for both counsellor and client in working through evidence-based content. Our aim was to develop a workbook that would offer hope and direction to gamblers wanting to change their behaviour. Existing best-practice materials were sourced and sorted for relevance to the programme and sections on motivation, cognitive therapy, emotional regulation and urge management were developed.

Launched in January 2008, the programme was initially called Scheduled Therapeutic Counselling and this was later rebranded as RTC. The programme was advertised within the Victorian Gambler's Help network as appropriate for those who were unable or unwilling to access other counselling services due to structural or individual barriers to treatment.

Description of the RTC programme

The RTC programme is based on established motivational enhancement therapy (MET) and cognitive behavioural therapy (CBT) methods.^{9,10} Core content covers: resolving ambivalence and goal setting; urge management; uncovering and correcting erroneous cognitions; and scheduling alternative activities and rewards. While relapse prevention is also a specific content module, the entire programme was designed to prevent relapse, as most gambling interventions demonstrate effectiveness at least over the short term albeit with high relapse rates.¹¹

Clients are offered a workbook which counsellors work through during each session. The six modules are typically completed over four to six 50-minute sessions, at a time negotiated with the allocated counsellor, with the initial session scheduled for up to 90 minutes to incorporate assessment and Session 1 content.

Cognitive and behavioural change is assessed and recorded at each contact.¹² In addition, a client's readiness to change, emotional state and any trigger to lapse or relapse are recorded.¹³ This includes the number of, and reason for, relapses and total amount spent. Some

clients indicated that the short-term nature of the programme made them vulnerable to relapse, even though the Victorian Gambler's Helpline was offered 24/7 as both an adjunct during and after scheduled treatment. As a result, short booster sessions are offered following programme completion in addition to scheduled follow-up.

Who accesses the RTC programme?

Between 2008 and 2010, 14,290 people contacted the Victorian Gambler's Helpline about their own gambling problem (59.7% male, mean age 41 years). Most callers were employed full or part-time (68.6%) with the majority reporting problems associated with gaming machines (80.6%) or wagering (19.3%). There were 7163 callers screened as being in the contemplation, preparation or action stage of change, of whom 380 met the criteria and agreed to be recontacted regarding assessment for the RTC programme. Typically, these were callers who explicitly stated that they could/would not access a face-to-face agency. However, almost 40% of those screened as eligible for the programme at the initial Helpline call did not complete the assessment, most often because they could not be contacted again ($n=129$). In addition, 11 people declined to continue, six were referred to another service and four stated that they would call back when ready. Those who completed an assessment and proceeded into the programme consisted of 230 participants or 1.6% of Helpline callers.

Characteristics of RTC clients by gender are given in Table 1. Participants were aged between 19 and 81 years (Mean=44.5, SD=14.0 years, $n=214$). The majority were female (56.1%, $n=129$) and employed either full or part-time (68.3%, $n=157$). Participants were asked to list all types of gambling that resulted in problems. The most problematic form of gambling was associated with

Table 1. Characteristics of Ready to Change clients by gender

	Male ($n=101$)	Female ($n=129$)
Age, $M(SD)$	38.0 (11.7)	49.9 (13.3)
18–29 years, $n(\%)$	26 (25.8)	9 (7.0)
30–39 years, $n(\%)$	29 (28.7)	21 (16.3)
40–49 years, $n(\%)$	27 (26.7)	23 (17.8)
Over 50 years, $n(\%)$	14 (13.9)	65 (50.4)
Employed, $n(\%)$	83 (83.9)	74 (57.2)
EGM gambling, $n(\%)$	61 (60.4)	127 (98.4)
Wagering, $n(\%)$	29 (28.7)	1 (0.8)

EGM: electronic gaming machine.

gaming machines (81.7%, $n=188$), with 13% of problems associated with wagering ($n=30$). Almost all participants were probable problem gamblers ($n=228$) with two people screened on the Canadian Problem Gambling Index¹⁴ as at-risk for a gambling problem.

Formal screens were introduced to assess mental health in January 2009 and completed by 144 participants. Almost half of the 144 participants (47.2%, $n=68$) scored 19 or more on the Kessler 6 scale¹⁵ indicating high levels of psychological distress, while 74.5% of the participants ($n=105$) experienced moderate to severe functional impairment as measured by the Work and Social Adjustment Scale.¹⁶ While limited substance use data were collected, 40% of clients reported that they smoked ($n=59$) and 25% described moderate to heavy alcohol consumption ($n=37$) over the previous fortnight.

The reason for choosing telephone counselling was most often reported as access to services at a convenient time or location (44.2%, $n=98$) or agency waiting lists (21.2%, $n=47$). Thirteen percent of participants ($n=29$) stated that shame/stigma was a barrier with 43 participants concerned about privacy issues (18.7%). Five participants indicated a physical difficulty in accessing services. Clients accessing the programme during business hours usually cited privacy issues (e.g. they knew the local service provider), geographic location or child minding issues. After hours clients were typically unable to attend face-to-face services at a mutually convenient time. Participants completed an average of five sessions, with 129 (56%) completing four or more sessions, 61 completing 2–3 sessions (26%), and 40 completing one session (18%). An example case study is given in Box 1.

Challenges in delivering a telephone-based intervention

Programmes provided at a distance are being increasingly utilised to address structural and individual barriers to treatment. While there is clear need for these programmes, there is limited research identifying

whether specific sub-groups (e.g. based on age, gender, geographic isolation) are affected by actual or perceived barriers or which of these groups are best suited to different modes of delivery. It may be that this programme is most effective for those with less complex issues. For example, research has shown that older women may have a longer duration of problem gambling but fewer mental or other health issues.¹⁷ Given the high proportion of older women accessing this programme, the short-term targeted nature of the intervention may have been an attraction.

As depression and anxiety are both a cause and consequence of gambling problems,¹⁸ some people experienced continuing mental health symptoms even after the gambling problem resolved. Modules treating mental health and risky alcohol use could be helpful additions to the RTC programme.

Access to supporting materials

Completing the workbook is an important part of the RTC programme. However, approximately 10% of participants declined the posting of a workbook due to privacy concerns. Given that most households have access to the internet, it is likely that a telephone-based programme would benefit from making materials accessible online either for real-time completion (while in session) or as a means of making materials readily accessible.

Target group

This programme is yet to be promoted to under-represented populations in treatment services. People who work in gambling venues are at greater risk of developing problem gambling and may welcome a programme that can be accessed discretely. In addition, 20–25% of Helpline callers are the partner, parent or another concerned person. Some concerned others have been informally included in the programme where no other service was available. There is clearly a need to provide a similar programme to concerned family members.

Box 1. Case study

Susie Doe was a 55-year-old widowed mother of three adult children who was referred to the Ready to Change (RTC) program after she contacted the Helpline seeking support for gambling cessation. The Helpline counsellor's referral noted a 10-year history of gambling on electronic gaming machines (EGMs), with an escalation to problematic gambling over the last 12 months. The referrer had also advised that Susie had attempted to seek face to face counselling but had been unsuccessful, as she required after hours counselling.

At assessment, Susie reported a 19-year history of problematic gambling dating back to 1992. She identified a pattern of using gambling to respond to emotionally challenging events in her life and talked about 'going gambling to lose myself and escape'. This began in 1992 when her mother and sister had both died unexpectedly. Since this time she described a pattern of episodic problem gambling in the context of heightened stress

(Continued)

Box 1. (Continued)

until 10 months ago when her partner Jack had died unexpectedly of a heart attack. She reported that since this time she had felt like 'a boat without a rudder' and described the gambling as 'uncontrollable'. Susie stated that the gambling had caused her significant financial stress and that she had experienced increased isolation from her immediate family to whom she had not disclosed the issue, as well as increased feelings of loneliness, guilt and shame. Susie also reported low energy and some disruption in her sleep and appetite over the past 12 months. No acute risks were identified at assessment. Susie denied any current intent or plans to harm herself or others.

Susie did not report any previous psychological treatment. However, she did report that her GP, with whom she had a positive, ongoing relationship, had prescribed anti-depressant medication, which Susie was not currently taking.

Phase 1: Initial session 1–2

From her first contact with the program Susie engaged well. She was reliable in attendance and completion of allocated tasks. From the outset Susie identified that her goal was to stop gambling. Early sessions focused on introducing her to the program workbook, urge management techniques and the cognitive behavioural therapy (CBT) model. In sessions 1–2, Susie explored the impact of the gambling on her self-esteem, relationships with friends and family, work and finances. She identified internal (e.g. negative self-talk, low mood) and external (e.g. seeing a venue) triggers to gambling and explored alternative ways of responding. She also implemented money management strategies to reduce the risk of gambling and the financial harm that this would cause. Psycho-education around how the machines operate and the influence of this on Susie's thinking and behaviour were also discussed.

Phase 2: Sessions 3–6

In session 3, the focus of the work shifted towards addressing the influence of Susie's thinking on her gambling behaviour. At this point in the program Susie had not gambled for three weeks and had reported significant improvement in mood, confidence and had increased her social contact. She also reported a reduction in the frequency and intensity of urges to gamble during this period. Despite this she continued to report significant feelings of loneliness and guilt related to the gambling. Susie identified a relationship between feelings such as loneliness and thoughts such as 'I'll just go in for five minutes' and financial stress and walking into a venue 'this time I might win the jackpot'. She also identified core beliefs of 'being unworthy' and 'not good enough' and recognised a tendency to gamble, withdraw socially and minimize achievements in response to these. Susie learnt techniques to challenge these thoughts and beliefs as well as practising mindfulness in response to urges and implementing a reward scheme. Strategies to address Susie's social isolation and mood were also discussed (e.g. activity scheduling, reconnecting with friends) as well as exploration of the impact of her husband's death.

Phase 3: Booster and follow up sessions

Susie continued to engage with the program for 12 months. This period included four-monthly booster sessions and 6-month and 12-month follow up assessments. She continued to report feeling more in control of gambling, recognising an increased mastery of urges. She reported increased confidence in her ability to overcome the problem as well as increasing social contact and ability to manage challenging activities such as family and work events. However, Susie did note ongoing challenges in managing low mood particularly in the context of loneliness as a result of her husband's death.

At the four-month booster session, Susie had two lapses after participating in family events and experiencing a perceived increase in stress. Susie was able to use these experiences to reflect on the influence of her thinking and mood on her gambling and reviewed her relapse prevention plan. She also acknowledged the ongoing challenges of adjusting to life without her husband and the role of self-talk in maintaining her low mood. At the 12-month follow up, Susie had commenced anti-depressant medication, had not gambled for over six months and had disclosed the issue to her three adult children after experiencing a lapse. She reported improvement in her mood, increased physical activity, and greater confidence in her capacity to manage life and the challenges it presented.

Treatment engagement

Telephone-delivered interventions increase the likelihood of an individual attending a session, at least in the short-term. The increased convenience means that an individual can do their counselling session at home, in the car or at work. Clearly, some environments are less than ideal for counselling and may indicate a lower commitment to change. However, this is yet to be investigated and there may be a difference in what is needed over the course of the intervention (counselling versus check-up versus reminders).

While the majority of clients completed the recommended number of sessions, some clients reported that they needed only a few sessions to address their issues. Research is needed that identifies factors that influence the number of sessions required, as well as whether the number of sessions completed affects the programme's effectiveness.

A substantial number of callers who agreed to attend the programme dropped out after the initial Helpline call, suggesting that many Helpline callers may not be ready to receive treatment. This may be a result of shifting motivation, problem resolution or lack of readiness to change. A follow up call focusing on improving readiness to engage in treatment may improve attendance at services that offer either telephone or face-to-face interventions.

Conclusion

Early indicators are that telephone-based interventions for gambling are acceptable and preferred for a proportion of those seeking help for problem gambling. The RTC programme has had little promotion or advertising, other than offering it to a small number of Helpline callers, but the uptake has been steady since the service commenced. While this programme is built on best practice in the provision of gambling treatment, further research is needed to determine its effectiveness.

Acknowledgements

The authors would like to thank all of the counsellors involved in providing the Ready to Change programme, as well as Anna Bough for her support in developing the case study.

Disclosure

The authors report no conflict of interest. The authors alone are responsible for the content and writing of the paper.

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LETTER TO THE EDITOR

Preoccupation, gambling and the DSM-V

A number of recent papers in this journal and elsewhere have discussed proposed changes to the 5th edition of the *Diagnostic and Statistical Manual for Mental Disorders* (DSM) criteria for Pathological Gambling (Petry, 2010; Temcheff, Derevensky, & Paskus, 2011). While there has been substantial discussion regarding the phenomenon of tolerance (Criterion A2) and withdrawal (Criterion A4), (Blaszczynski, Walker, Sharpe, & Nower, 2008; Cunningham-Williams, Gattis, Dore, Shi, & Spitznagel, 2009) one criterion that has attracted limited attention or research is preoccupation (Criterion A1).

In 1987, the pathological gambling criteria were aligned to those proposed for psychoactive substance dependence (Bradford, Geller, Lesieur, Rosenthal, & Wise, 1996), and thereby included an item on preoccupation (‘frequent preoccupation with gambling or with obtaining money to gamble’). This item was amended in the fourth edition to *preoccupied with gambling* (e.g. ‘preoccupation with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble’) (American Psychiatric Association, 1994).

While the preoccupation criterion was discussed during development of the DSM-III-R substance dependence criteria (Rosenthal, 1989), ultimately this term was not included in the final version. Instead, the criterion became ‘time spent’ and was described as ‘a great deal of time spent in activities necessary to get the substance (e.g. theft), take the substance (e.g. chain smoking) or recover from its effects’ (American Psychiatric Association, 1987), and the subsequent edition (i.e. DSM-IV) included no mention of preoccupation within any of its diagnostic items for substance use.

This historical perspective raises questions around the validity and utility of the preoccupation criterion for pathological gambling, with limited research conducted that informs our thinking. Preoccupation literally means being occupied or absorbed beforehand. In terms of gambling behaviour, planning the next bet does improve outcomes when wagering as compared with chance alone, and given the definition’s alignment with wagering activities (i.e. handicapping), it is not surprising that females, who typically gamble on electronic gaming machines, endorse this item less frequently than males (Sacco, Torres, Cunningham-Williams, Woods, & Unick, 2010).

Rather than preoccupation, the salience of gambling within a person’s life may provide a better measure of pathological gambling, particularly when it comes at the expense of other important occupational, vocational or social activities. Similar to substance dependence, such a criterion could include time spent before gambling, during gambling and then recovering from a gambling episode. A pathological gambling translation similar to ‘time spent’ would read *a great deal of time is spent in activities necessary to get money with which to gamble or plan the next venture, engage in gambling activities or recover from its effects*.

Much effort has gone into having pathological gambling recognized as a mental health disorder over the past 30 years. It is timely to re-examine diagnostic criteria and conduct

research to improve our understanding of both short and long-term harms. This should include examining how duration and intensity of time spent gambling, and its associated recovery time, relate to the development and identification of pathological gambling.

Notes on contributors

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RESEARCH ARTICLE

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Reasons for using web-based counselling among family and friends impacted by problem gambling

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Abstract

Despite the range of free services available in Australia, few family and friends of people with problem gambling access them. Over recent years, the Australian gambling help service system has expanded to include web-based counselling. Family and friends make up approximately 15% of people accessing this new modality, however little is known of the reasons for choosing this form of assistance over other interventions. This research aimed to understand the reasons family and friends choose to use single-session web-based counselling over other modes (i.e., face-to-face and telephone), as well as why they would recommend it to other affected people. The study involved 63 participants (70% intimate partners, 13% children, 6% friends, 5% parents, 6% other family members) who completed open-ended questions on reasons for using and recommending web-based counselling, with over three-quarters of the sample seeking help for the first time. A descriptive content analysis revealed multiple overlapping themes, including ease of access (41.3% of reasons for choosing), privacy and anonymity (17.5%), and a preference for the characteristics inherent in the therapeutic medium (23.8%). We also found web-based counselling provided a pathway into services (11.1%) and that the intervention provided was viewed as helpful and a reason for recommendation (34.9% of reasons for recommending). This research provides important new information on the help-seeking preferences of family and friends. Future research is required to understand the relationship between reasons for use, help-seeking preferences and the effectiveness of single-session web-based counselling for people affected by problem gambling.

Background

The impact of problem gambling is broader than its effects on the gambler, with estimates suggesting up to seven people close to the gambler are also typically adversely affected (Productivity Commission 2010). Impacts experienced include cash flow problems and debt, poor mental health, lowered quality of life (Kalischuk et al. 2006), increased tension within relationships and interpersonal conflict (Dowling et al. 2009; Hodgins et al. 2007; Kalischuk 2010). In addition, family and friends report confusion over how to manage the problem gambling (on a daily basis as well as long-term), and particularly struggle with putting boundaries around spending (Patford 2007a). These effects have been most frequently studied among the intimate partners and children of

problem gamblers, but extended family members and friends are also affected, although probably generally to a lesser extent (Heineman 1989; Kalischuk et al. 2006; Moody 1989; Patford 2007b).

Despite a range of symptoms associated with problem gambling, there is limited research exploring the role of family and friends in the treatment of problem gamblers or the efficacy of treatment for this group. It has been proposed that family and friends may be significant in assisting gamblers seek help (Clarke et al. 2007), and in some cases, reduce harms associated with problem gambling (Hodgins et al. 2007; Ingle et al. 2008). Interventions designed to improve the functioning of the family and friends of problem gamblers have included Community Reinforcement and Family Training (CRAFT), which has been previously found to be effective in reducing alcohol use (Hodgins et al. 2007; Makarchuk et al. 2002), as well as treatments that specifically aim to increase the coping skills and decrease the distress of family and friends (Rychtarik & McGillicuddy 2006).

While structured interventions show some efficacy, most family and friends typically engage in much lower intensity interventions, such as self-help, self-regulation, telephone or online support (Hing et al. 2013). Despite this, family members delay contacting helplines for a range of reasons, some of which relate directly to service characteristics (Hing et al. 2011). These include a lack of awareness that helplines cater for family members, that they are free, as well as issues around shame associated with problem gambling and wanting to manage it within the relationship (i.e., partner, parent, sibling, etc.).

Brief interventions with family and friends are largely unreported, despite them comprising approximately 15-20% of callers to helplines and web-based services internationally (Clifford 2008; Rodda & Lubman 2012b; Wood & Griffiths 2007). For example, over recent years, web-based counselling has been offered to anyone in Australia affected by problem gambling. *Gambling Help Online* offers 24/7 immediate real-time chat, email support, community forums and self-help information via its website (gamblinghelponline.org.au). This website was visited 60,729 times by 47,333 visitors in 2010–11, and pages for family and friends are viewed frequently, including those that provide information on helping others ($n = 10,188$ page views) and how to offer practical help ($n = 2893$ page views). Approximately 15% of web-based clients receiving counselling are family and friends of people with problem gambling.

Previous research suggests web-based interventions are attractive due to their potential for anonymity and convenience (Cook & Doyle 2002; Young 2005), as well as their accessibility and availability (Wood & Wood 2009). While this research has almost exclusively involved clients involved in ongoing treatment or members of forums, there is limited knowledge on those engaged in single session brief interventions. Two studies have sought to identify the reasons why people choose web-based counselling over telephone or face-to-face. The first, involving young people contacting a generalist help online service, found privacy and an emotionally safe environment (e.g., reduced exposure, privacy, control), and issues around time were motivators for using the service (more time to reflect) (King et al. 2006). The second study, involving people with problem gambling, found anonymity and confidentiality, convenience, service system access, therapeutic medium and professional support to be the main motivators (Rodda et al. 2013).

Although studies on barriers to treatment and interventions are important, there are several constraints that may limit their generalisability to family and friends seeking single session brief interventions. There has been a focus on longer term and appointment-based treatment programs for family and friends, with little investigation of their help-seeking preferences. Furthermore, while many studies have identified reasons for seeking help, few have identified reasons for seeking help from a particular type or mode of service, and none involving family and friends.

This study aimed to understand the reasons why family and friends chose to engage in web-based counselling, with a particular emphasis on investigating why they did so over other modalities (i.e., face-to-face and telephone). A qualitative methodology was adopted because of our focus on understanding the perspectives of family and friends, and because it is a valuable approach for exploring such issues in under-researched areas.

Methods

Sample

Between December 2010 and September 2012 there were 366 family and friends who completed a counselling session at *Gambling Help Online*. This service is a solely web-based program providing assistance to anyone affected by problem gambling. The service provides real-time chat and email in addition to a community forum and a range of self-help materials. Approximately 1500 people each year use the chat and email, which can be accessed from any internet-enabled device following a brief sign-up process. Family and friends choosing the chat option are typically connected to an on-line counsellor within a few minutes and a session involves a combination of counselling, information and support over a 45-minute period by a professional counsellor with qualifications in psychology or social work (Rodda & Lubman 2012a). Until recently, participants were offered a completely anonymous service (i.e., no email address was required), and as such no follow-up beyond the session was possible.

Of the 366 family members and friends who accessed the service, 63 completed the short survey (two open-ended questions) provided as a link at the end of their web-based counselling session; (1) '*What made you decide to use online counselling over other types of assistance (e.g., telephone help line, face-to-face counselling)?*' and, (2) '*Would you recommend online counselling to someone concerned about a gambling issue (yes/no)? Why is that?*' The survey response rate was 17%, which is comparable to other online surveys that do not involve follow-up reminders, pop-ups or other methods to increase participation (Powell et al. 2003; Sheehan 2001).

Data analysis

The open-ended responses pertinent to this study were analysed using descriptive content analysis, as described by Newell and Burnard (2011). This approach allowed the examination of themes emerging from the two pre-set open-ended questions rather than allowing general themes to develop. Two authors (SR, DL) independently read transcripts and developed themes and created open coding headings from a review of the data. To ensure categories were mutually exclusive, a number of categories (or codes) were combined (e.g., privacy and confidentiality) and sub-categories developed.

In addition, categories were collapsed into higher order codes (or categories) such as *therapeutic medium*, which consisted of a range of themes related to the characteristics of the medium (e.g., *able to be more honest* and *expressing oneself*) (Newell & Burnard 2011). The Microsoft Excel database was then employed to code the items into categories and higher order codes.

Results

Socio-demographic characteristics of participants

The 63 participants were predominately female (87%), with 30% aged under 30 years, 30% aged between 30 and 39 years, 27% aged between 40 and 49 years, and only 13% aged over 50 years. Participants were most often intimate partners (70%), with smaller numbers of children (13%), friends (6%), parents (5%) and other relatives (6%). Participants represented all states across Australia, and most often identified as Australian ethnicity (78%), followed by Asian (8%), European (6%), Oceania (5%) and African (3%). They most often reported family member engagement in non-strategic forms of gambling (such as electronic gaming machines, lotteries, bingo and Keno; 59%) than strategic forms of gambling (i.e., wagering, casino gambling, sports betting; 41%). Almost 55% of participants stated the gamblers' preference was to gamble in a venue, and only 5% reported the preferred method was to gamble via the internet. The remaining participants (40%) were unable to identify the preferred method.

Almost three-quarters of participants (74%) were speaking with a professional for the first time about the gambling problem, with 16% previously receiving counselling and 10% currently seeking other forms of treatment for the gambling problem. Those who previously sought help for the gambling problem had accessed face-to-face (56%) and telephone (44%) counselling. Most real-time chat sessions occurred outside traditional business hours, including evenings and weekends (68%). Most participants (91%) indicated that they would recommend web-based counselling to someone concerned about a gambling issue.

To determine the representativeness of the current sample, participants' demographics were compared with the total population of 366 family and friends who completed a real-time chat counselling session with *Gambling Help Online* between December 2010 and September 2012. Chi-square analysis indicated that there were significantly fewer participants under 30 ($\chi^2(1) = 8.66, P = .004$), significantly more participants aged 40 to 50 years ($\chi^2(1) = 8.02, P = .007$), and significantly fewer people identifying as Australian compared with the total population ($\chi^2(1) = 6.10, P = .14$). In addition, significantly more participants did not know the preferred method of gambling ($\chi^2(1) = 4.55, P = .036$). There were no significant differences between groups in terms of gender, type of gambling, treatment seeking status, or time of contact.

Reasons for choosing web-based counselling

Ease of access

The most widely reported reason for using and recommending web-based counselling was ease of access (reported by 41.3% of participants). For family and friends affected by another person's gambling, easily accessing help that was convenient was important. For

others, ease of access that was immediate meant that highly motivated individuals could act immediately without waiting for an appointment.

Because it is so easy to access and so available. Not like face-to-face counselling where you have to make appointments or telephone counselling where they might not be available all hours (partner, 25–29, female).

Indeed, this combination of immediacy and 24-hour access meant that help was available when it was needed. Some participants reported feeling desperate to receive advice on how to manage a gambling problem late at night.

For others, there were issues around the cost of help-seeking. This was either due to not having a telephone landline or being restrained in their mobile phone billing arrangements, such as having pre-paid devices. Indeed, participants noted 1800 helpline calls were not free and were prohibitive to use from a mobile device.

Financial limitations, I only have a prepaid mobile phone, didn't want my partner to hear me (partner, 40–44, female).

Privacy and anonymity

As described above, there were issues around privacy and anonymity (17.5%). Privacy and confidentiality most often related to not being able to discuss concerns over the phone. Discrete and private conversations were a concern where the participant did not want to be overheard by work colleagues or the person with the gambling problem.

Because I have a very busy work schedule and find it hard to talk without my partner around (partner, 20–24, female).

In addition to some participants being concerned about being overheard, others were concerned about not being identified. Anonymity emerged as a reason for web-based counselling in terms of *feeling safe behind a screen with no names exchanged* and as *a good way to be honest and get honest answers without being personal*. Indeed, issues around anonymity were expressed in terms of reducing barriers related to the shame and stigma of problem gambling.

I'm the partner of a problem gambler; it's hard to realise that you're not a bad person to also need help. The anonymity of online assists in opening up [talking about the problem] (partner, 20–25, female).

Therapeutic medium

The therapeutic medium appears to assist with self-disclosure and comfort (reported by 23.8% of participants). This was typically around being able to talk openly and honestly without feeling embarrassed. This was expressed as a general difficulty in talking with people and, specifically, around the gambling problem.

First time I've done this over the internet; find it hard to talk to people in person, especially when I don't know them. Guess I needed to vent and share with someone what I was going through (daughter, 20–24, female).

In addition, being able to communicate raw and overwhelming emotion was viewed as easier online. Participants described ease of communication and concern that they would be *incomprehensible on the telephone or face-to-face* as they were *crying and shaking*. They also indicated a preference for writing over talking, suggesting it was *easier to write concerns down* rather than speak them aloud.

I liked the idea of online because I could write out exactly how I felt and all my thoughts at once (partner, 20–24, female).

Underpinning many of these responses was an assumption participants were comfortable with technology. Indeed, one explicitly made a statement regarding the relationship between comfort and technology.

If you are comfortable with online communication, it is less confronting than actually talking to someone (partner, 40–44, male).

Service system access

Service system access for the gambler as well as the participant was a commonly reported reason for using web-based counselling (11.1%). Some participants stated that web-based counselling was a way to access the service system for information and guidance on managing the impact of problem gambling. For these participants there was no need for other services: *I am the partner of a gambler looking for support; didn't need face-to-face counselling*. For others, information, advice and referral were sought for the gambler. Where referral to services was being sought for the gambler, participants said they would recommend web-based counselling as a good place to start.

Because it opens up the door and lets a problem gambler know that there are people there to help you whenever (parent, over 65 years, male).

Participants also described web-based counselling as not just a place to start but a way to ease gamblers into talking about their problem. Indeed, one participant described the features of web-based counselling as a method to access information on the suite of treatment options.

Because they can quickly, easily and without judgement access all the information they need to move forward (partner, 20–24, female).

Helpfulness

While few family and friends explicitly stated that they initially used web-based counselling because it would be more helpful than telephone or face-to-face (4.7%), having experienced the service they now regarded this as a reason for recommending it to others (34.9%). Helpfulness included being generally helpful in terms of the counsellor providing an empathic non-judgemental approach where the participant felt heard and understood.

Good to be able to have advice and support - non judgemental and available whenever it's needed (partner, 30–34, female).

In addition, professional advice and guidance included the provision of helpful, valuable expertise and support. Access to knowledge and information in a timely manner also assisted in identifying next steps.

It was helpful to sort out ideas in my head and give me some direction and guidance for the future (partner, 20–25, female).

For a small proportion of participants ($n = 5$), web-based counselling did not meet their expectations and it was deemed unhelpful. This was typically due to them perceiving they were being provided with insufficient help, not feeling heard, and experiencing language difficulties communicating with counsellors.

Discussions

This exploratory study provides a first look at the reasons why family and friends choose web-based counselling over telephone or face-to-face services, and why they would recommend it to someone else experiencing concerns about a family member's or friend's problem gambling. As expected, themes around ease of access and privacy and anonymity emerged as well as characteristics inherent in the therapeutic medium. Similar to previous research involving gamblers seeking help online (Rodda et al. 2013), we also found web-based counselling provided a pathway into services and that the intervention provided was viewed as helpful and a reason for recommendation.

Five themes emerged that describe the reasons family and friends choose and recommend web-based counselling. First, ease of access was the most widely reported reason for using web-based counselling. This included being able to access services immediately and without an appointment at any time of the day or night. Similar to other studies involving affected family and friends (Hodgins et al. 2007), 70% of our sample was the intimate partner of someone experiencing problem gambling. Previous research suggests the proximity of intimate partners to the gambling problem make them particularly vulnerable to interpersonal conflict and increased distress (Hodgins et al. 2007; Patford 2009). Our research suggests family and friends value support at times of high stress and distress, along with advice on how to manage problem gambling. In addition, participants reported financial barriers to accessing other forms of treatment, particularly in relation to telephone contact. Increasingly, mobile phones have replaced landlines, with an associated loss in free-call access. Family members of problem gamblers may be especially vulnerable to any costs associated with help-seeking given the incidence of debt and financial problems (Downs & Woolrych 2010).

Second, web-based counselling was chosen and recommended due to its potential for privacy and anonymity. Privacy was a concern when talking about the impact of the gambling without the gambler or others overhearing the conversation. While previous research has found confidentiality commonly related to privacy in help-seeking (Hing et al. 2011), we found participants were more concerned about being able to talk discreetly. For other participants, there were significant issues associated with the shame and stigma of problem gambling that were alleviated via anonymity. Although shame and stigma has been repeatedly found to be a barrier to treatment for people with problem gambling (Evans & Delfabbro 2005; Hing et al. 2011; Suurvali et al. 2009), there has been little research on the embarrassment felt by family and friends about a

loved one's problem gambling, as well as their role in helping or hindering the problem (Bellringer et al. 2008). However, there is some evidence to suggest family members experience guilt and self-blame (Dickson-Swift et al. 2005), possibly due to the hidden nature of problem gambling (especially in the case of internet gambling which often occurs in the home) (Valentine and Hughes 2010). Family and friends are often the first people from whom gamblers seek advice (McMillen et al. 2004), attesting to the importance of also providing a safe space for families to obtain their own support and advice.

Third, the characteristics of the therapeutic medium were a reason for using and recommending web-based counselling. Participants described increased openness and honesty, where the interaction was devoid of any visual or aural cues and entirely text based. For many family members, this was their first time speaking with someone about the gambling problem and they were overwhelmed with emotion, but were able to express these thoughts and feelings online. This is consistent with previous work indicating users of web-based services feel more comfortable expressing themselves online compared with on the telephone (King et al. 2006). Previous research has also found that the characteristics of the online environment are likely to lead to greater self-disclosure due to anonymity, particularly when sharing difficult information (Beattie 2006; Leibert et al. 2006).

Fourth, we found being able to easily access the service system was a reason for choosing web-based counselling. Family and friends described a preference for web-based counselling as their only means of obtaining professional support and advice, with over three-quarters of the sample seeking help for the first time. Our sample did not differ to the wider population of family and friends accessing web-based counselling, and they were more often first time help-seekers compared with gamblers accessing the same service (Rodda & Lubman 2012a, b). The value of web-based services to this population is apparent given reasons for access associated with discreteness, anonymity, convenience and ease of access. Previous research suggests that family and friends are not a homogenous group and a range of interventions need to be developed (McMillen et al. 2004). This suggests the best approach may be one that addresses a range of issues from financial to relational, involving different types of interventions (e.g., self-help, professional support). Whether family and friends prefer these types of interventions to be available online warrants further investigation and indeed has implications for the configuration of treatment and services.

Finally, helpfulness of web-based counselling was a reason for recommending the service to other people affected by problem gambling. Helpfulness was expressed in terms of the counsellor listening and providing empathic and non-judgemental support, as well as providing expert advice and information. Helpfulness in the current web-based setting is possibly influenced by the immediacy of the intervention, delivered at a time and place that is accessible (i.e., not embarrassing, discrete and comfortable). As described by Stiles et al. (2002), evaluations necessarily involve a relationship between the evaluator and the event or object being evaluated, and that relationship necessarily changes over time. For example, those finding strategies helpful were possibly in a different place in their help-seeking journey than those who valued information or being able to tell their story. Indeed, previous research has shown that 73% of helpline calls had a preference for information and that 84% of callers were satisfied with this

assistance (Hing et al. 2011). Understanding what factors predict helpfulness in a counselling session would be useful information for counsellors.

This study is the first to explore the reasons family and friends access and recommend web-based counselling. However, there are several limitations that need to be considered. Participants were older than the population from which they were drawn; as such, they may not be representative of younger people who use the service. Nevertheless, the age of most participants was under 40 years, which is younger than reported elsewhere (Hing et al. 2011; Hodgins et al. 2007). Second, while this descriptive study sought to represent the reasons for choosing web-based counselling, the data were collected at the conclusion of a counselling session and may have been influenced by the experience of the online session by participants. These findings could be enhanced via the development of a service preferences screening tool offered to all clients prior to a counselling session commencing.

Conclusion

Few family and friends access Australian counselling and support services, despite their availability. Indeed, an inquiry into problem gambling by the Australian Productivity Commission (2010) suggests governments need to develop education campaigns that encourage family and friends to seek help earlier. Our findings have a number of key implications for family and friends, support services and funding bodies. First, given families' and friends' preference for services that are easy to access, private and anonymous, as well as the reported benefits of accessing support online, the web-based counselling platform could be expanded to provide a broader range of interventions to assist family members and friends affected by problem gambling. However, to do this effectively, research is needed to examine the benefits of current service delivery across all modalities (i.e., online, telephone, face-to-face), so as to determine what is working for whom and where there are opportunities to better target service provision. Integral to this process is the development of a navigation tool to assist family and friends, as well as clinicians, in determining the most appropriate treatment options. As the service system continues to expand, providing practical advice on how to navigate its breadth and depth becomes increasingly important. Ultimately, this relies on the development of greater knowledge of the fit between service and client characteristics. Finally, the utility of providing time-sensitive emotional support needs to be better understood. Whether interventions provided during a time of crisis empower family and friends to better manage the impacts of problem gambling needs to be further examined.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

SR and DL carried out the data analysis and all authors contributed towards drafting the manuscript. All authors read and approved the final manuscript.

Acknowledgements

The authors would like to acknowledge the efforts by states and territories in forming a collaborative funding agreement for *Gambling Help Online* and in particular the Victorian Responsible Gambling Foundation as contract managers. We would also like to thank all the counsellors involved in providing the *Gambling Help Online* service. Lastly, this work would not be possible without the willingness of people affected by problem gambling to access this new modality.

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Received: 14 February 2013 Accepted: 15 July 2013

Published: 29 July 2013

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doi:10.1186/2195-3007-3-12

Cite this article as: Rodda et al.: Reasons for using web-based counselling among family and friends impacted by problem gambling. *Asian Journal of Gambling Issues and Public Health* 2013 **3**:12.

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Prevalence of borderline personality disorder in immigrants in a psychiatric inpatient setting

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To the Editor

Information about the relationship between personality disorder and ethnicity or migration is sparse. The few studies regarding the prevalence of borderline personality disorder (BPD) in immigrants compared to an indigenous population are inconsistent. Castaneda and Franco (1985) found no ethnic group differences in rates of BPD, whereas the study of Pascual et al. (2008) showed that immigrants in a psychiatric emergency service had a lower likelihood of being diagnosed with BPD.

The aim of the present study was to compare the frequency of borderline

personality disorder in psychiatric inpatients with an immigrant background vs. the indigenous group.

A total of 2494 consecutive patients over a three-year period at a psychiatric university hospital were reviewed. Data included socio-demographic and clinical variables and also information about an immigrant background, although no specific data of the provenance of the individual migrant patient were obtainable. The psychiatric diagnosis was limited to information available from the digital documentation system of the psychiatric clinic and additionally from discharge letters. The diagnosis of borderline personality disorder was based on ICD-10 criteria.

Of the study population 374 individuals (15%) had an immigrant background. The rates of BPD were 6.5% in the indigenous group ($n=2120$) vs. 3.5% in the immigrant group ($n=374$). The difference between the indigenous and the immigrant group regarding the rates of BPD-diagnoses was statistically significant ($\chi^2=5.02$, $df=1$, $p=0.025$).

In accordance to the findings of Pascual et al. (2008) and challenging the results of Castaneda and Franco (1985), our findings suggest that in a clinical sample BPD was diagnosed less frequently in the immigrant group than in the indigenous group. Therefore, our results do not support the concept of immigration as a risk factor for BPD.

Possible explanations for our finding are a true lower prevalence of BPD amongst the immigrant group, or ethnic variations in the symptomatology of BPD (Selby and Thomas, 2009), or a cross-cultural bias in the diagnostic process. However, future investigations with a prospective study design and at epidemiological levels need to be conducted in order to get more precise information about the true prevalence of BPD in different immigrant groups and to derive an explanation for the apparent discrepancy in prevalence, and the influence of a cross-cultural setting on the diagnostic process.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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The challenge of routine follow-up in e-mental health services

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To the Editor

Despite the exponential growth of e-therapy in Australia, few services are evaluated. Indeed, Jorm et al. (2013), in a recent editorial on the future of e-mental health, suggest evaluation is challenging, as practice is moving faster than the evidence base can be established. We recently explored client responsiveness to a follow-up email after a single session of web-based counselling for problem gambling (www.gamblinghelponline.com). Follow-up was provided to all

clients except those who actively elected to opt-out (i.e., unchecked the box). While 80% did not opt out, only one in five (22%) responded to a follow-up email despite multiple requests (up to three emails). The survey was administered between one and 10 weeks following the initial session, with the highest response rate (35%) evident when clients were contacted three weeks after the initial session.

Clients were invited to address queries or requests for further assistance via email to administrative staff.

Of the 73 clients who responded (out of possible 331 (22%)), 60 clients provided a qualitative response in addition to completing a brief evaluation. Frequently, clients expressed appreciation of follow-up, which was variously perceived as uplifting, empathic, caring and supportive (68%). A surprisingly profuse response was received from clients who used it as an opportunity for self-reflection with almost 48 out of 60 (80%) providing unprompted information on their goals, plans and priorities, as well as action taken since their initial contact with the service, which had not been requested.

This evaluation identified multiple issues related to follow-up in an e-mental health service. First, 33% of those who responded requested additional information or help in managing their gambling problem. Second, some

clients required an immediate clinical response (i.e., low mood and possible self-harm reported). Third, there were a high number of emails that bounced, as well as extended periods of time between follow-up and response (explained as holidays, not checking emails, finishing employment or just being busy).

While client follow-up is logistically easier to deliver and receive online, it imposes new challenges in terms of obtaining a reasonable response rate. The findings of this evaluation suggest follow-up often requires a clinical response as well as helping clients reconnect with services. Future evaluations should consider building in therapeutic support options at every client contact, especially given low response rates within community settings.

Acknowledgements

The authors would like to acknowledge the efforts by states and territories in forming a collaborative funding agreement for Gambling Help Online and in particular the Victorian Responsible Gambling Foundation as contract managers.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

Reference

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Improved outcomes following contact with a gambling helpline: the impact of gender on barriers and facilitators

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(Received 1 September 2013; accepted 27 April 2014)

Gambling helplines were developed at a time when evidence for help-seeking was almost entirely based on male gamblers and there is limited evidence that helplines have changed in response to the exponential increase in female gamblers over the past 20 years. The current study aimed to explore the impact of gender on calls to Australian helplines, including caller characteristics, barriers and facilitators to contact as well as call outcomes. We surveyed 170 callers (94% problem gamblers, 61% male) approximately 1 month following their helpline call and found gender differences in terms of age, preferred gambling type, employment and source of referral. Males reported barriers related to pride and problem denial more frequently than females did, and also reported more frequent problems associated with the welfare of others and/or their living arrangements that facilitated their calling. Males and females were equally likely to seek further help from formal, informal and self-help resources. With only 10% of callers not accessing further help, these findings highlight the importance of helplines as a key support for both men and women with gambling problems.

Keywords: gambling; helpline; treatment; barriers; gender; characteristics

Helplines providing specialized, telephone-mediated help have operated in many parts of the world for several decades and have continued to expand beyond their initial role in emotional crisis counselling to provide support for a range of health concerns (Baker, Emmison, & Firth, 2005). Gambling helplines are similar in that they offer callers immediate, 24/7 free access to trained professionals who provide information and referral as well as telephone counselling (Clifford, 2008). Gambling helplines attract a high number of calls each year and have been offered around the world since the increase in gambling afforded by electronic gaming machines (EGMs) in the 1990s (Clifford, 2008). Subsequent increased accessibility and attractiveness of gambling products to females (as well as males) led to higher proportions of women attending treatment services (Productivity Commission, 1999). Evidence of increased female callers in the 1990s is limited (e.g. the Productivity Commission 1999 report contains no demographic details of helpline callers); however, other reviews found that just 10% of UK helpline callers were female (Griffiths, Scarfe, & Bellringer, 1999).

Currently, approximately 30,000 calls to gambling helplines are received each year across Australia, significantly higher than the volume of people presenting to face-to-face gambling services, reported as 17,432 in 2010 (Productivity Commission, 2010). Traditionally, males have made up the highest proportion of helpline callers (Cuadrado,

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1999; Griffiths et al., 1999; Heater & Patton, 2006; Potenza et al., 2004; Potenza et al., 2001). However, research over the past five years involving large volumes of callers in the United States (Ledgerwood et al., 2013; Ledgerwood, Wiedemann, Moore, & Arfken, 2012; Weinstock et al., 2011; Weinstock et al., 2013) and New Zealand (Abbott et al., 2012; Pulford et al., 2009b) has found that callers contacting about their own gambling were more often female. While most of these studies report the average helpline caller as around 40 years of age, more recent research suggests averages up to 50 years of age (Ledgerwood et al., 2012, 2013).

Three helpline studies have specifically examined gender differences among callers to the Connecticut (Potenza et al., 2001), Manitoba (Heater & Patton, 2006) and Michigan helplines (Ledgerwood et al., 2012). These studies reported similar age by gender except Potenza et al. (2001), who found that female callers were significantly older than male callers (average of 45 versus 38 years of age). While Ledgerwood et al. (2012) and Potenza et al. (2001) reported that males were more likely to be engaged in strategic (e.g. wagering) and females in non-strategic gambling (e.g. EGMs, lotteries or bingo), Heater and Patton (2006) identified no gender differences on any type of gambling. Although these three studies reported high rates of EGM play (also called VLTs or slots) for females (77–86%), the proportion of males engaged in this gambling form differed across samples from 37% (Potenza et al., 2001) to 52% (Ledgerwood et al., 2012) to 100% of callers (Heater & Patton, 2006). In addition, these studies all reported low rates of wagering (5–10% of callers) and higher rates of casino gambling for male callers compared with female callers, ranging from 8% of callers in the Manitoba study to 46% of callers to the Michigan problem gambling helpline experiencing problems associated with blackjack.

Early helpline research by Potenza et al. (2001) reported that very few gamblers had previously sought help for problem gambling (3.2% for males, 1.6% for females). More recently, Ledgerwood et al. (2012) reported higher rates of previous treatment-seeking (males = 38%, females = 53%), with these rates also higher than the 12% reported in a study of 2750 callers to the West Virginia Helpline (Weinstock et al., 2011). In addition, Ledgerwood et al. (2012) surveyed callers with the University of Rhode Island Change Assessment for gambling. In this study involving 202 callers, women reported higher readiness to change on the contemplation, action and maintenance subscales whereas male callers scored higher on the pre-contemplation scale. This study did not ask if the caller sought treatment between the helpline contact and follow-up two weeks later, but it did find that men and women were equally likely to say that they would follow up on the treatment referral provided by the helpline. Two further studies investigating help-seeking following helpline contact did find gender differences in that females more often accepted a referral to other treatment, compared to males, but were less likely to attend the appointment (Weinstock et al., 2011). However, in a later study, Ledgerwood et al. (2013) found an overall rate of referral uptake of 67% following helpline contact and this was predicted by past treatment and financial difficulties, with no identified gender differences.

There is a growing body of research internationally involving helpline callers but very limited information on the characteristics of gamblers in Australia. Routinely collected data from the Victorian Gamblers Helpline involving 6942 callers in 2010–2011 reported that nearly two-thirds of gamblers were male (65%) and, where age was provided (n = 4807), almost half were aged between 30 and 44 years old (Turning Point, 2011). In addition, one study involving 90 callers to the Victorian Gamblers Helpline reported that callers were most often female, with the majority of callers aged over 40 years (Shandley & Moore, 2008).

Facilitators and barriers to contact

Although helplines in Australia attract a high volume of callers, many of whom are female, limited research has investigated whether facilitators and barriers vary by caller gender. Understanding facilitators and barriers to contact is especially important, given help-seeking rates of less than 10% (Productivity Commission, 2010). Two New Zealand studies on motivations and barriers to help-seeking involving a community sample ($n = 104$) and 125 participants from the gambling helpline (Pulford et al., 2009a, 2009b) found that motivation to call related primarily to financial concerns and psychological distress. New Zealand helpline callers were strongly motivated by a desire to prevent the problem from worsening and did not call earlier because of pride, shame and denial (Pulford et al., 2009a). Additionally, over one-third of helpline callers were concerned about service-related barriers including confidentiality or service accessibility at mutually convenient times.

Australian research (Evans & Delfabbro, 2005) involving participants predominantly from face-to-face agencies (with a small proportion from advertising) found that gamblers were primarily motivated to seek help due to negative emotions and perceived decline in mental and physical health, as well as financial difficulties. They found the primary reason for not seeking help earlier was fear of family or friends finding out about the problem, embarrassment and believing that gambling could be managed without others' involvement. More recently, a large Australian study of help-seeking involving non-treatment-seeking and treatment-seeking participants with and without problem gambling ($n = 730$) found high motivation to solve gambling problems without professional/non-professional assistance, as well as limited knowledge of what services were provided (Hing, Nuske, & Gainsbury, 2011). Hing et al. (2011) did not find any gender differences related to motivations for help-seeking, but they did identify that women were more likely to delay help-seeking due to feeling ashamed.

Impact of helplines on help-seeking

Evidence on the impact of helplines is growing, but there is limited knowledge on whether this impact differs by gender. In research involving 90 callers to the Victorian Gamblers Helpline, Shandley and Moore (2008) found that 42 of 56 callers contacted at follow-up had received a referral to another service and that 68% of these callers had actioned that referral. They also found that high levels of satisfaction were related to practical and emotional support. While satisfaction does not necessarily relate to clinical outcomes (Smith, Thomas, & Jackson, 2004), others have found that gamblers' ratings of helpfulness predict intention to act on referrals or attend other treatment (Lieberman, 2006). Studies that have examined gender differences found that females were more motivated than males to change their gambling behaviour when contacting a helpline (Ledgerwood et al., 2012) whereas male callers were more likely than females to attend follow-up appointments following helpline contact (Weinstock et al., 2011).

Rationale for the current research

In the early 1990s when gambling was growing exponentially, leading researchers identified an urgent need for gambling research to be conducted with female-only populations (Mark & Lesieur, 1992); indeed, their review identified that just 1 in 11 papers between 1969 and 1990 included any separate gender analysis of profiles of problem gamblers. Although females comprise approximately half of gambling helpline callers

internationally (Abbott et al., 2012; Heater & Patton, 2006; Ledgerwood et al., 2012), there is limited knowledge of their characteristics in Australia. Additionally, most studies of barriers and facilitators for gambling help-seeking either do not include helpline samples or do not include specific analyses of gender differences. Indeed, our limited knowledge of gender differences and the impact of contact with a helpline hinders attempts to develop and configure services to meet the needs of all gamblers, and may contribute to low help-seeking rates in Australia. To address these gaps, this study sought to (i) describe the characteristics of callers who access gambling helplines across Australia; (ii) identify gender differences in facilitators and barriers for helpline contact; and (iii) determine the impact of helpline contact in terms of satisfaction and further help-seeking.

Method

Sample

Data for this study were collected as part of a larger project investigating help-seeking (Hing et al., 2011), which recruited gamblers from helplines across Australia. Counsellors across all helpline services described the survey to suitable callers (i.e. contacting about their own or another person's gambling problem) and inquired about their potential participation. Where callers' consent was given, helpline counsellors obtained their contact details. A \$30 shopping voucher was offered to compensate participants for their time in completing the telephone survey (about 20 minutes), and a \$10 shopping voucher was offered to helpline counsellors for each caller they successfully recruited. Approval for this study was granted by a university human research ethics committee.

Participant recruitment commenced in January 2010 and continued over several months. During this time, 350 helpline callers agreed to participate in the survey (68.7% who had called about their own gambling and 31.3% who were concerned about significant others), and their contact details were forwarded every 2–4 weeks to the market research company administering the survey. However, there was considerable dropout between recruitment and surveying, with only 218 of the 350 recruits completing the survey. Of these, some had changed their mind regarding participation and others were non-contactable by the time the survey was completed in mid-June 2010. Of the 218 survey respondents, 170 were people calling a helpline about their own gambling and 48 were family members seeking assistance for themselves or a significant other. This paper focuses only on the 170 callers who telephoned a helpline about their own gambling.

Measures

Standard demographic questions were collected related to gender, age, marital status, country of birth and work status. Stage of change in gambling behaviour was measured by the discrete categorization measure adapted from Prochaska and Velicer (1997) by replacing references to substance use with reference to gambling. Previously used in substance abuse research, it asks four Yes/No questions (i.e. maintained change for longer than six months; made change in the past six months, intending to make a change in the next month or intending to make change in the next six months). The psychometric properties of this scale have been confirmed by DiClemente, Schlundt, and Gemmell

(2004) and Forsberg, Halldin, and Wennberg (2003), but not in problem gambling research.

The Problem Gambling Severity Index (PGSI) from the Canadian Problem Gambling Index (Ferris & Wynne, 2001) was used in its validated form and consisted of 9 questions scored as 'never' = 0, 'sometimes' = 1, 'most of the time' = 2 and 'almost always' = 3. Cronbach's alpha for the PGSI in the current study was 0.82, demonstrating high inter-item consistency. Frequency of gambling was measured during the last 12 months on a 9-point ordinal scale, from 'at least once a day' to 'never'. Frequency was measured for non-strategic (EGMs and numbers games such as lotteries and Keno) and strategic gambling (wagering, sports betting, casino games, Internet casino games).

Help-seeking questions were informed by a literature review of enablers and barriers to help-seeking and adaptation of a survey instrument developed by a New Zealand study of barriers and facilitators to help-seeking for problem gambling (Bellringer, Pulford, Abbott, DeSouza, & Clarke, 2008). Participants were asked to select one response in relation to how they first found out about the helpline (e.g. advertising in venue) and one option for what they were primarily seeking from the call ('telephone counselling for your gambling', 'referral to a face-to-face counselling service', 'general information about getting help for gambling problems' or 'something else [please specify]').

Respondents were asked to indicate their strength of agreement to 15 possible reasons for seeking help from the helpline (e.g. concerns about the welfare of those dependent on you) as well as 16 reasons that may have discouraged or delayed them from contacting the helpline earlier (e.g. wanted to solve the problem on your own). In addition, lists of both professional (e.g. face-to-face counselling, residential programme) and non-professional (e.g. partner, work colleagues) sources of help were provided and multiple sources could be selected to indicate their use, with separate lists to indicate current use and use prior to contacting the helpline. The list of facilitators and barriers was adapted for self-help strategies, and items not relevant were removed (i.e. cost or accessibility of services). Strength of response for all items was measured on a 5-point scale from 'strongly agree' to 'strongly disagree'. Lastly, participants rated their satisfaction with the outcome of their helpline call on a 5-point scale from 'extremely satisfied' to 'extremely unsatisfied'.

Data analysis

All data were entered into SPSS V.19. Frequencies and means were calculated and chi-square and t-tests used to determine differences by characteristics, service knowledge, satisfaction and gender on categorical and continuous data. Chi-square tests were selected for their robustness as the data met tests of independence and expected frequencies, and all tests were set at $p. < .05$. Where sample size changed in chi-square analyses, these are noted in tables. Categorical data on degree of agreement/support for satisfaction, facilitators and barriers, self-help and previous help-seeking were collapsed into binary variables by combining 'strongly agree'/'agree' versus 'strongly disagree'/'disagree'. These findings are reported in tables for the total sample and any gender differences are described in the text. A McNemar non-parametric test was used to determine change in the number of gamblers seeking help (professional and non-professional) before and after contact with the helpline. The McNemar test measures change in a group of respondents who have been measured twice on a dichotomous variable (Adedokun & Burgess, 2011)

Results

Sample characteristics

As shown in Table 1, there were significantly more male participants than females, with the sample having an average age of 43 years ($SD = 14.4$). Males were significantly more likely than females to be younger than 30 years of age, and females were significantly more likely than males to be older than 50 years of age. Compared with females, males were more often employed full-time whereas females were more likely than males to be retired/pensioners. Approximately 80% of the sample gambled on EGMs at least once a month, with males significantly more likely than females to gamble with betting agencies or on-track as well as to engage in sports betting or online gambling. Approximately two-thirds of participants were born in Australia.

Almost all participants were classified as problem gamblers (94%) on the PGSI (5% moderate risk, 1% low risk) with no gender differences. Scores on the PGSI ranged from 2 to 26 with a mean score of 15.1 ($SD = 5.2$) and a median score of 15.0. Most participants had made changes to their gambling to better control it over the previous

Table 1. Helpline caller characteristics and gambling behaviour by gender.

	Male <i>n</i> (%)	Female <i>n</i> (%)	Statistic (<i>df</i>)	<i>p</i>
Gender	103 (60.6)	67 (39.4)	$\chi^2 (1) = 7.62$,	.006
Age			$\chi^2 (3) = 31.82$.001
Under 30	29 (28.6)	3 (4.5)		
30–39	26 (25.2)	11 (16.4)		
40–49	28 (27.2)	14 (20.9)		
50 or older	20 (19.4)	39 (58.2)		
Employment			$\chi^2 (7) = 35.60$.001
Full-time	63 (61.2)	23 (34.3)		
Part-time/casual	16 (15.5)	18 (26.9)		
Retired/pensioner	7 (6.8)	15 (22.4)		
Unemployed	14 (13.6)	1 (1.5)		
Other	3 (2.9)	10 (14.9)		
Marital status			$\chi^2 (4) = 14.82$.005
Married	22 (21.4)	16 (23.9)		
De facto	18 (17.5)	8 (11.9)		
Not married	42 (40.8)	15 (22.4)		
Divorced/separated	21 (20.4)	24 (35.8)		
Widowed	-	4 (6.0)		
Gambling type ^a				
EGM	79 (76.7)	59 (88.1)		
TAB/racing	59 (57.3)	11 (16.4)	$\chi^2 (1) = 27.99$.001
Casino (table)	17 (16.5)	5 (7.5)		
Sports bet/online	39 (37.9)	4 (6.0)	$\chi^2 (1) = 21.85$.001
Lotto	47 (45.6)	32 (47.8)		
Other (Keno, bingo, private)	23 (22.3)	12 (17.9)		
Source of information			$\chi^2 (8) = 15.44$.05
Gaming venue	64 (62.1)	29 (43.3)		
Advertising	11 (10.7)	5 (7.5)		
Referral	10 (9.7)	7 (10.4)		
Directories	6 (5.8)	12 (17.9)		
Internet search	5 (4.9)	8 (11.9)		
Other/don't recall	7 (6.8)	6 (9.0)		

^a Gambling type is % who bet > once a month and were not mutually exclusive.

six months ($n = 96, 56.2\%$) or longer ($n = 47, 27.8\%$). As shown in [Table 1](#), gender differences were apparent in sourcing helpline information. Males more often sourced information from gaming venues than did female callers, and female callers sourced information from directories/the Internet more often than male callers. While the overall chi-square was significant, gender differences observed on sourcing information from directories/the Internet were based on small numbers and should be interpreted with caution.

The most frequent reason for helpline contact was for information (66, 38.8%), followed by referral to another service (54, 32.9%). In addition, approximately one-quarter of participants wanted immediate telephone counselling (42, 24.7%), with a further six requesting other information including self-exclusion (6, 3.5%). There were no gender differences in reasons for contact or satisfaction with contact and the vast majority of respondents were satisfied (32%) or extremely satisfied (61%) with the outcome of their call.

Facilitators for help-seeking

Almost all participants were concerned that their gambling might develop into a major problem and this was the most frequently endorsed reason for calling a helpline, seeking help from family and friends and attempting a self-help strategy. As indicated in [Table 2](#), participants also strongly endorsed negative emotions from gambling and financial problems.

Further analysis found that facilitators for helpline contact differed by gender, with males significantly more likely than females to report concerns of a major problem developing (100% versus 92.5%, $\chi^2(1) = 7.77, p = .009$) and concerns over the welfare of others (73.0% vs 54.4%, $\chi^2(1) = 5.37, p = .031$), as well as difficulty with their living situation (49.5% vs 29.9%, $\chi^2(1) = 6.45, p = .012$). Facilitators for help from family and friends revealed no gender differences, nor did facilitators for uptake of self-help strategies.

Barriers to help-seeking

As indicated in [Table 2](#), the most frequently endorsed barriers for helpline contact as well help-seeking from family and friends were a preference to solve the gambling issue on their own, followed by feeling ashamed for themselves or their family.

Further analysis found that significantly more males than females delayed contact with a helpline because of pride (69.6% vs 53.0%, $\chi^2(1) = 4.73, p = .034$), as well as not believing there was a problem (52.0% vs 31.3%, $\chi^2(1) = 6.98, p = .011$). There were no gender differences in barriers to help-seeking from family and friends, but more males than females did not use self-help because they did not want to stop gambling (75.2% vs 57.8%, $\chi^2(1) = 5.52, P = .025$).

The impact of helpline contact

Following contact with a helpline, 100 of the 170 participants engaged in further professional help, which included face-to-face gambling services (42.9%), general help services and financial or relationship counselling (13.5%), as well as peer support groups (8.8%). Although not strictly professional help, self-exclusion programs are a key referral point for callers. In our study, 18.8% stated that they sought to self-exclude from gambling

Table 2. Number and percentage of gamblers endorsing facilitators and barriers to help-seeking in relation to helplines, family and friends and self-help.^a

	<i>Helpline contact</i> <i>n = 170 n (%)</i>	<i>Help from family and friends</i> <i>n = 112 n (%)</i>	<i>Uptake of self-help</i> <i>n = 132 n (%)</i>
<i>Facilitators to help-seeking</i>			
Concern problem may develop into major problem	163 (97.0)	106 (94.6)	127 (96.9)
Negative emotions from gambling	156 (91.8)	99 (89.2)	121 (92.4)
Financial problems	94 (91.3)	90 (80.4)	109 (83.2)
Isolation from family or friends	107 (62.9)	61 (55.0)	73 (56.6)
Problems maintaining normal daily activities	111 (65.3)	70 (63.1)	87 (66.4)
Concerns about welfare of dependents	96 (65.8)*	63 (64.9)	60 (54.1)
Pressure from partner, family and friends	102 (60.4)	78 (69.6)	76 (58.0)
Reached the point that could not go on	108 (64.3)	73 (65.2)	79 (60.3)
Problems with spouse or partner	83 (56.8)*	69 (68.3)	68 (59.1)
Physical health concerns	93 (54.7)	42 (37.5)	64 (48.5)
Problems with living circumstances	71 (41.8)*	44 (39.3)	65 (49.6)
Problems with family members other than spouse	83 (48.8)	57 (50.9)	68 (52.3)
Problems at work	62 (40.5)*	33 (32.7)	43 (35.8)
Legal problems	32 (18.8)	21 (18.8)	26 (19.7)
Concerns from the gambling venue	23 (13.6)	12 (10.7)	19 (14.5)
<i>Barriers to help seeking</i>			
Want to solve problem on own	149 (87.6)	156 (92.3)	–
Feeling ashamed for self or family	133 (78.7)	144 (85.7)	–
Too proud to seek help	105 (63.1)*	121 (72.0)	–
Not want (anyone to tell you) to stop	81 (47.9)	95 (56.9)	113 (68.5)*
Difficulty believing there was a problem	74 (43.8)*	88 (51.8)	88 (52.4)
Concern of being treated as addict or mentally ill	72 (42.6)	80 (47.1)	–
Think the help would not help or work	60 (36.4)	85 (51.8)	91 (54.5)
Concern over cost of services	60 (35.3)	–	–
Concerned about confidentiality	60 (35.5)	82 (48.2)	–
Difficulty getting help at convenient time or place	61 (36.3)	–	–
Only want help for financial problems	60 (35.3)	70 (41.4)	64 (37.6)
No time (for help)	50 (29.6)	47 (27.8)	48 (28.6)
Not aware what was available	37 (22.0)	–	80 (47.6)
Pressure by family/friends to continue gambling	24 (14.1)	21 (12.4)	19 (11.3)
Help would not understand cultural background	12 (7.1)	–	22 (13.0)
Help would not understand your language	14 (8.2)	–	5 (3.0)
Too much work on own**	–	–	70 (42.4)

*Indicates gender differences $p < .05$; Note all gender differences were male > female.

**Not all questions were relevant across all forms of help and a hyphen indicates where the question was not asked. For example 'too much work on own' was asked only of participants engaging in self help'.

venues. Only five participants accessed further assistance via online forums or support. There was no significant difference by gender for the number of different types of help

sought following helpline contact. To test for gender differences in professional help-seeking following a helpline contact, we first conducted separate McNemar analyses for males and females. Both males $\chi^2(1, N = 103) = 17.56, p < .001$ and females $\chi^2(1, N = 67) = 7.22, p = .007$ were significantly more likely to have sought professional help following contact with the helpline (58.3% and 59.7% of males and females).

Twenty-nine participants (17.1%) had sought help from significant others prior to calling a helpline, with no differences noted by gender. Following initial contact, 100 participants reported seeking help from another, including partners (37%), other family members (34%) and friends (27%). Both males $\chi^2(1, N = 103) = 33.587, p < .001$ and females $\chi^2(1, N = 67) = 16.531, p < .001$ were significantly more likely to seek help from family and friends following helpline contact (63.1% and 52.2% respectively). Even though the number of males who consequently sought any help following helpline contact was higher, follow-up chi-square tests of independence found no differences in help-seeking from professional sources or from family and friends between males and females.

Discussion

The current study aimed to address the shortage of data on callers to Australian helplines and contributes to the growing body of international literature on gender and helpline caller characteristics. In this national sample of callers to Australian gambling helplines, we found that callers were more frequently male than female, which was more aligned with earlier helpline research (Potenza et al., 2001) than recent US and New Zealand studies (Abbott et al., 2012; Ledgerwood et al., 2012). Furthermore, males were younger (most often under 40 years) and female callers were older (most often older than 50 years), consistent with reported gender differences more than a decade ago (Potenza et al., 2001). In contrast to previous helpline studies, we found no gender differences in frequency of problems associated with EGM gambling (Ledgerwood et al., 2012; Potenza et al., 2001), but males in our study reported much higher rates of wagering as well as online sports betting compared to these other helpline studies. The current study found similar rates of EGM gambling to routinely collected data by the Victorian helpline (Turning Point, 2011), but higher rates of wagering and sports betting were also reported. This difference is most likely due to counsellors focusing on the most problematic form of gambling rather than assessing or exploring the range of betting options that are causing problems for the caller.

Facilitators and barriers were similar across help sought from helplines, family and friends as well as self-help. Similar to the larger help-seeking study (Hing et al., 2011), we found that facilitators were concerned with arresting development of a major problem, negative emotions and financial problems. We found no gender differences in frequency of endorsement for these items, suggesting that interventions to address these concerns could be investigated independent of gender. Gender differences in frequency of endorsing 'Problems with your living circumstances, e.g. housing problems' were detected; however, these items were not further defined and could include a broad interpretation (e.g. personally, socially, structurally, etc.). In addition, males in the sample were significantly more likely to be employed full-time and females more likely to be retired/pensioners, which may have impacted on gender differences related to concerns over the welfare of others as well as their living situation.

Similar to previous research, our sample indicated high readiness to change as indicated by the uptake of professional and non-professional help as well as a range of self-help strategies (Ledgerwood et al., 2012; Weinstock et al., 2011). Use of both professional and non-professional support significantly increased following helpline contact and less than 10% of callers did not subsequently access help from formal or non-formal supports. Just over 30% of callers had sought contact details for another agency. Almost twice this number attended a face-to-face, financial or generalist counselling or group session following contact. While our research suggests that males more often sought further help and support following helpline contact compared to females, this difference was not significant.

This study is the first to explore gender differences in the experiences of an Australia-wide sample of helpline callers. However, several limitations need to be considered. First, the sample may not be representative of callers to Australian helplines, although the demographics were similar to routinely collected data from the highest-volume helpline in Australia (Turning Point, 2011). Secondly, forced choice survey items were developed in reference to findings in the help-seeking literature, but this method may have limited our understanding to variables identified previously. To address this issue we included multiple open field responses generating additional qualitative data reported elsewhere (Hing, Tiyce, Holdsworth, & Nuske, 2013). In addition, when asked what services were subsequently accessed, callers were not asked about further usage of helplines or telephone counselling. Given that over 25% of callers nominated telephone counselling as their reason for initial contact, it is likely that many of these participants continued to access this modality. Finally, these findings should be considered cautiously, given the multiple tests conducted.

Nevertheless, the current study helps to address the paucity of data on gender and helpline callers in Australia, as well as having direct implications for helpline services. The results of the study suggest that helplines can provide a solution to the low rates of professional service utilization among this population. However, further research is needed to distinguish subsequent help-seekers from non-help-seekers as well as the impact of gender on gambling outcomes. For example, research involving face-to-face clients suggests that interventions need to be tailored differently for women (Wenzel & Dahl, 2009) and this may also apply in a helpline setting.

The findings build on previous work by identifying significant gender differences in presentation as well as barriers and facilitators. Barriers to helpline contact experienced more often by males, such as pride and problem denial, could be incorporated into publicity campaigns for gambling helplines. In addition, we found that gamblers had a positive response following helpline contact in that they were satisfied and continued to seek further professional help and support from family and friends. Beyond gender differences, it is of interest that our sample comprised almost entirely problem gamblers, yet the most often endorsed facilitator for contact was concerns that the gambling would develop into a major problem. This may mean that helpline callers have not always hit rock bottom before calling, even though they report a range of associated problems identified in the PGSI. Given that over 70% of callers had never spoken with a professional counsellor before, this raises important issues regarding the role and purpose of helplines. They have a unique opportunity to provide a 'just in time' intervention with people in acute crisis and distress. Helplines can also play an important role in assisting callers to develop effective coping, emotion management and relapse prevention skills as well as assisting them to build their confidence to maintain any subsequent change.

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EXPLORING THE FOCUS AND EXPERIENCES OF SMARTPHONE APPLICATIONS FOR ADDICTION RECOVERY

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Addiction recovery Smartphone applications (apps) (n = 87) identified on the Google Play store in 2012 were coded, along with app user reviews, to explore functions, foci, and user experiences. Content analysis revealed that apps typically provided information on recovery, as well as content to enhance motivation, promote social support and tools to monitor progress. App users commented that the apps helped to inform them, keep them focussed, inspire them, and connect them with other people and groups. Because few addiction recovery apps appear to have been formally evaluated, further research is needed to ascertain their effectiveness as stand-alone or adjunctive interventions.

KEYWORDS. Addiction, recovery, Smartphones, aftercare, relapse prevention

INTRODUCTION

Addiction is a chronic condition, with high rates of relapse,^{1–4} but recovery is possible. In a review of studies exploring remission, White⁵ reported an average remission rate of approximately 50% among individuals with a history of substance use disorders. As recovery journeys often take many years,⁶ there is a need for long-term supports. Although aftercare approaches may reduce the risk of relapse and facilitate sustained recovery, these are not always widely offered and if they are, cost and geographic barriers can limit an individual's ability to access aftercare.⁷ This underscores the need for innovative relapse prevention strategies and ways of delivering aftercare, as well as tools that facilitate recovery from addiction beyond formal treatment settings.

One avenue to provide low-cost accessible recovery support is the use of online or telephone-based interventions.⁸ As Marsch⁸ suggested, technology-based interventions pro-

vide “opportunities for offering personalized recovery monitoring and support” (p. 315), including by enabling easy access to online recovery communities. A recent review identified two types of technology-based approaches for supporting recovery: therapeutic interventions and monitoring and self-management, which could include automated prompting to complete an action or record-specific information.⁷ However, none of the interventions included in this review involved the use of Smartphones (mobile phones with advanced, computer-like capabilities).

Smartphones are increasingly used in the community and provide a potentially useful platform for relapse prevention and recovery support.⁹ Smartphones contain greater data-processing and storage capacity than regular mobile phones, enabling them to perform many of the functions typically associated with computers, such as browsing the Internet; using online maps and directions; sharing photographs, audio, and video files; and running

The authors thank Peter Daley for assisting with intercoder reliability testing.

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a variety of software applications.¹⁰ These mobile applications (apps) can take a variety of forms, including games and information, health, and entertainment programs. Users can download apps to their Smartphones, tablets, or other mobile devices via online app stores, which developers use to distribute their software. Although apps can be downloaded to a range of mobile devices, Smartphone use vastly outnumbers tablet and e-reader use.¹¹ There are reportedly 775,000 apps on Apple's app store and, as of January 2013, these have been downloaded 40 billion times.¹² Similarly, it has been estimated that there are 1 million apps on the Google Play store.¹³

However, the literature on the efficacy of apps for addiction recovery is scarce,⁹ which may reflect the fact that it is only in the past 5 years that apps have become widely available. According to Gustaffson et al.,⁷ two randomized trials of alcohol and drug Smartphone interventions are currently registered with the National Institutes of Health Research Portfolio Online Reporting Tools database. One of the trials examines the effectiveness of the Alcohol-Comprehensive Health Enhancement Support System (A-CHES), a Smartphone-based relapse prevention app for individuals leaving residential treatment. Although effectiveness data are not yet available, willingness to use the A-CHES app among alcohol-dependent individuals appears to be high, with 80% continuing to use the app after 16 weeks.¹⁴

Despite the lack of published empirical work on the effectiveness of Smartphone apps in the addictions field, several addiction-related apps are available. A review by Cohn et al.⁹ about alcohol-related apps on Apple's app store identified that 71% were aimed at facilitating alcohol consumption. Examples included drinking game apps and liquor outlet locators. In comparison, only 29% of apps were aimed at reducing alcohol consumption, predominantly via screening and feedback, motivational enhancement, and information provision.⁹ To the authors' knowledge, no studies have explored apps for addiction recovery beyond those related to alcohol. Furthermore, little is known

about users' perspectives on Smartphone apps for addiction recovery.

As an initial step to addressing these gaps, we sought to explore what Smartphone addiction recovery apps are currently available on the Google Play store, who the developers of these apps are, what these apps do, and what users think of them. By mapping the range of apps available for addiction recovery and user perspectives, it is hoped that this study will help inform future app development in the addictions field and address limitations and omissions in the current profile of apps.

METHODS

Identifying Addiction Recovery Apps

We searched for addiction recovery apps on the Google Play store, one of the largest online stores for downloading apps for Smartphones and mobile devices that uses the Android platform. The Google Play Store was selected as a search medium, not only due to its size, but also because of ready access to data in comparison to other app stores. For example, the Google Play store provides user reviews and data on downloads even if there are relatively few user reviews or downloads, whereas the Apple app store does not. Search terms used included *addiction*, *addiction recovery*, *addiction help*, and *substance abuse*, and these were combined with terms to describe different addictive behaviors, such as *alcohol*, *drug*, *gambling*, *sex*, and *video game*. Specific drug terms were also searched, including *heroin*, *opioid*, *cannabis*, *marijuana*, *cocaine*, *crack*, *narcotics*, *amphetamine*, *ice*, and *speed*.

Apps were included if they focused on supporting individuals to sustain behavior changes in relation to their addiction. Because our focus was on long-term behavioral change, apps that focused primarily on minimizing the harms associated with substance use or addictive behaviors were excluded. Similarly, apps that focused on cigarette smoking were not included if they focused exclusively on nicotine addiction,

treatment, or cessation. Apps that were not in English were also excluded.

Data Collection

Basic quantitative data from the Google Play store were collected on each app between July and August 2012. This included data on the cost of apps (in US dollars), the size of apps (in kilobytes), the category in which the apps were indexed, the date since last update, and the number of installs, which is listed as a range (rather than an exact figure) on the Google Play store. Data on the average user rating for each app were also collected. On the Google Play store, users can rate apps using a one to five star rating system, with higher ratings indicating higher satisfaction with the app.

Publicly available information on developers was also collected via the Google Play store and from developers' external Web sites, if available. This included data on the number of addiction recovery apps each developer had created and the number of apps of any kind (addiction and non-addiction related) that each developer had developed. Similarly, we recorded whether developers had also created apps that facilitate addictive behaviors, whether developers reported any experience in supporting addiction recovery, and whether they mentioned using clinical, peer, or academic advisors in the development of the apps.

Quantitative content analysis¹⁵ of app descriptions and app user reviews was also performed to explore common content relating to the foci of apps, functions employed by apps, mediums of communication used, and experiences of using apps. According to Berelson,¹⁵ quantitative content analysis is "a research technique for the objective, systematic, and quantitative description of communication" (p. 18), and for our purposes it can be applied to "all forms of recorded communication" (p. 243).¹⁶ It involves developing a coding protocol or list of categories, systematically coding content into categories, and tallying each category.¹⁷ In the current study, app descriptions and user reviews were coded by the first author (MS) using an index of major and subcategories developed inductively by coding the content of a small number of cases into common categories. As a way

of enhancing rigor, the authors discussed the framework and any discrepancies and agreed on the final frameworks before coding the app descriptions and app user reviews.¹⁷ A database was created in which each category was either coded as being present or not present. In the case of app functions, multiple functions could be present and were coded as such. In the case of user reviews, the total number of mentions of a category for each app, rather than for each user review, was recorded in the database.

Intercoder Reliability

An independent coder coded a random subsample of 23 apps (accounting for just over one-quarter of the entire sample) and app user reviews using the category index. This was compared with the first author's coding of the same random subsample. Each coder made a total of 663 coding decisions, with a resulting Cohen's Kappa of 0.62 ($P < .0001$), suggesting an acceptable level of intercoder reliability for an exploratory study. As Lombard et al.¹⁸ noted, Cohen's Kappa is a conservative statistic, and a lower level may be acceptable for exploratory studies. Furthermore, the coders' decisions were highly correlated ($r = 0.93$; $P < .001$), which reiterates the relatively robust nature of the index of categories developed.

Data Analysis

The frequencies of particular themes were tabulated, and descriptive statistics were used to explore the average user ratings, cost of apps, and number of downloads. Independent samples t-tests and Pearson's correlations were performed to explore factors that influenced average user ratings of apps. Independent samples t-tests were also performed to investigate common characteristics shared by the most downloaded apps.

RESULTS

We found 87 apps that focused on addiction recovery in the Google Play store. Apps predominantly focused on recovery from addiction in general ($n = 40$, 46.0%) or alcoholism ($n = 27$, 31.0%), with few apps specifically focusing on drugs ($n = 6$, 6.9%) or gambling ($n = 5$, 5.7%). Of the six apps focused on drugs, five

focused on drugs in general, with only one focusing on a specific substance (cannabis). The remaining 9 (10.3%) apps focused on addiction related to video games ($n = 5$), sex ($n = 2$), or pornography ($n = 2$).

Approximately one-third of the addiction recovery apps ($n = 30$, 34.5%) were free, with the mean cost of the remaining two-thirds ($n = 57$, 65.5%) being \$2.31 USD ($SD = \1.86). The most expensive app cost \$10.40 USD and contained location and mutual aid group mapping features but was not highly downloaded nor was it developed by an addiction treatment program. After summing the number of downloads for each app, addiction recovery apps had been downloaded between 214,500 and 1,017,600 times, with 63.0% of apps ($n = 55$) being downloaded less than 500 times. The nine most downloaded apps accounted for 83.9% of all downloads, suggesting that a small number of apps dominate the market. The mean duration between updates was 215 days ($SD = 205.9$ days), but there was a high degree of variability across apps (range, 0 to 659 days).

The 87 addiction recovery apps were created by 52 different developers, with 13 (25.0%) developers responsible for multiple addiction recovery apps. All developers, with the exception of one, were from the United States, which potentially limits the applicability of the apps for other parts of the world. The number of apps per developer varied, but the median number of apps of any kind that developers had created was five. However, there were several developers who had created more than 100 apps, the largest of which created 480 apps on a variety of topics. Of developers who had created multiple apps, 20% ($n = 7$) had also developed apps that potentially facilitated addictive behaviors. These included apps about making alcoholic beverages and instructional apps about gambling. Only 23.7% ($n = 11$) of app developers mentioned that they had either personal ($n = 5$, 10.6%) or clinical experience ($n = 4$, 8.7%) related to addiction or used academic or clinical advisors ($n = 2$, 4.4%) in the development of apps. No app developers mentioned that their addiction recovery app had been formally evaluated.

App Functions

Analysis of the app descriptions highlighted four main types of functions that apps performed, and 16 specific examples of main functions, which were considered to be subfunctions. The mean number of subfunctions that addiction recovery apps provided was 2.5 ($SD = 1.8$). Main functions and subfunctions are summarized in Table 1.

Individual apps varied in terms of how many different functions they offered. The most common function was the provision of information ($n = 60$, 69.0%) based on either 12-step program ($n = 23$, 26.4%) or other literature ($n = 41$, 47.1%), such as information on the science of addiction and recovery. Approximately half of the apps ($n = 43$, 49.4%) aimed to enhance motivation for sustained behavior change through meditations and prayers ($n = 26$, 29.9%), recovery stories (19, 21.8%), or action lists ($n = 13$, 14.9%). Only 33 (37.9%) apps facilitated social support through mutual aid group meeting and service locators ($n = 20$, 23%), links to online communities ($n = 18$, 20.7%), or quick access to personal contacts ($n = 10$, 11.5%). Less than one-third ($n = 24$, 27.6%) of apps provided feedback regarding progress in some form—mostly through screening scores, graphs, or sobriety counters. Only two (2.3%) apps provided feedback through virtual rewards, such as text or visual-based reward messages, for meeting goals. Most apps were predominately text-based ($n = 81$, 93.1%), with few drawing on other mediums, such as audio ($n = 16$, 18.4%), maps ($n = 9$, 10.3%), graphics ($n = 7$, 8.0%), or video ($n = 6$, 6.9%).

User Experience of Apps

A total of 1,214 segments of text from user reviews were coded to gain a better understanding of users' experiences of addiction recovery apps. Segments of text varied in length from a few words to a few sentences. Main and subcategories are summarized in Tables 2–4. Approximately half ($n = 643$, 53.0%) of the mentions in user reviews were about things people disliked about the apps they downloaded, 29.3% ($n = 356$) were about features

TABLE 1. Functions Offered by Addiction Recovery Apps

Function	Description	Frequency ^a No. (%)
1. Provide information	Provides information on addiction and addiction recovery.	
Other literature	Includes information on literature not related to 12-step literature such as information on the science of addiction and recovery.	41 (47.1%)
Twelve steps	Includes 12-step literature such as the big book, a description of the 12 steps, and a description of the 12 traditions.	23 (26.4%)
		60 (69.0%)
2. Enhance motivation	Aims to enhance and sustain motivation for sustained addiction recovery.	
Meditations or prayers	Contains prayers or meditations (e.g., Serenity prayer).	26 (29.9%)
Recovery stories	Includes recovery stories. Examples include speaker audio/text, personal recovery stories, and Alcoholics Anonymous/Narcotics Anonymous stories.	19 (21.8%)
Action lists	Enables user to create a list of things to do or that have been done. Examples include notes/journals, action lists, and spot check inventories.	13 (14.9%)
Inspirational quotes	Includes inspirational quotes. Examples include daily messages, motivational quotes, and daily inspiration.	8 (9.2%)
Gratitude lists	Enables user to create a list of things or people a person is thankful for.	4 (4.6%)
Exercise videos	Provides exercise videos for relaxation and inspiration.	2 (2.3%)
Photo storage	Enables user to store photos of loved ones or other inspiring things to motivate them through their recovery.	2 (2.3%)
		43 (49.4%)
3. Facilitate social support	Aims to facilitate social support and connectedness.	
Meeting or service locator	Includes a tool to find a mutual aid group meeting (i.e., Alcoholics Anonymous, Narcotics Anonymous, Self-Management and Recovery Training) or a treatment service. Examples include meeting/service locator maps and lists of meeting/service locations.	20 (23%)
Online community	Allows user to connect or interact with other people, groups or services online. Examples include discussion forums, links to discussion forums, links to Facebook/e-mail/Twitter (or other social networking sites), and chat functions.	18 (20.7%)
Access to contacts	Provides quick access to an important person's phone number in cases where lapse might be imminent or where support is required. Examples include sponsor's number, a family member's number, and an important person's number.	10 (11.5%)
		33 (37.9%)
4. Provide feedback	Provides feedback to user about their progress.	
Highlights progress	Shows people their progress. Examples include scores on screeners (or other scores), visual displays, graphs and tables, sobriety counter, and screening.	22 (25.3%)
Virtual rewards	Provides virtual rewards for achieving goals or making progress. Examples include levels, reward images, and text-based reward messages such as "congratulations, you've achieved your goal."	2 (2.3%)
		24 (27.6%)

^aPercentages do not equal 100 because some apps had multiple functions and were coded in multiple function categories. Main functions in bold were coded as being present if at least one example of this function (subfunction) was present. As a result, the sum of subfunction frequencies for any particular category does not always correspond with the frequency of the presence of the same main-function category.

people liked about apps and what they felt made for a good app, and 17.7% ($n = 215$) were about perceptions of how apps help them in their recovery journey.

As shown in Table 2, the most common feature people reported liking about the apps was their portability, with many commenting on their ability to access help on their phone whenever and wherever they needed it ($n = 199$, 16.4%). Many people noted that their app was always there, even when other reading materials or sources of support were not. People

also mentioned that they liked when apps were user-friendly ($n = 75$, 6.2%), free ($n = 32$, 2.6%), had multiple functions ($n = 24$, 2.0%), and were discreet ($n = 8$, 0.6%). A small percentage of people ($n = 18$, 1.5%) reported that they liked being able to use apps in mutual aid group meetings.

App users mentioned that apps helped to keep them focused on their recovery goals ($n = 63$, 5.2%). In this respect, people mentioned that apps had also helped them avoid relapsing when no other support was available.

TABLE 2. Mentions of Features People Liked About Apps in User Reviews

Theme	Description	Frequency ^a No. (%)
Like	Features users liked about an app they had downloaded.	
Portability	Users like the portability of Smartphones and accessibility of apps. Examples include statements about an app being convenient, able to be used any time or anywhere, and at one's fingertips.	199 (16.4%)
User friendly	App is user friendly. Examples include statements about an app being easy to use, easy to navigate, and simple or nice design.	75 (6.2%)
Free	App users like that an app is free.	32 (2.6%)
Multiple functions	App users like that an app has multiple functions. Examples include statements about an integrated app, the multiple features, and comprehensive nature of app.	24 (2.0%)
Use in meetings	App users like the ability to use an app in mutual aid group meetings.	18 (1.5%)
Discreet	Apps users like the discreet nature of Smartphone apps. Examples include statements about an app being more discreet than a book, anonymous, and confidential.	8 (0.6%)
		356 (29.3%)

^aPercentages don't add up to 100% due to rounding. Denominator is the total number of mentions (N = 1,214).

App users also commented that the apps had helped to facilitate consistency and routine in their lives (59, 4.9%), with many indicating that they used apps on a regular basis (Table 3). According to user reviews, apps also helped inform people about how to sustain addiction recovery (n = 44, 3.6%); connected them with other people, groups, and services (n = 29, 2.4%); and inspired and motivated them (n = 20, 1.7%). App user reviews tended not to include descriptions of who used addiction recovery apps. However, some people mentioned that they had only been in recovery for a short time, whereas others reported that they had been in recovery for a long time. At least five people who mentioned being in recovery for many years commented that they were engaged by recovery apps and were learning new things. The

most common criticism about the apps were related to quality issues (Table 4). In particular, people mentioned technical glitches (n = 268, 22.1%), the need for technical and content improvements (n = 255, 21.0%), and perceptions of inaccurate content (n = 43, 3.5%).

Relationships Between Average User Ratings and Other Factors

The average user rating of addiction recovery apps (measured on a scale ranging from 1 to 5) was 3.7 (SD = 1.1). Apps that had at least one function that enhanced motivation had a greater mean average rating (mean = 4.0) than apps that did not (mean = 3.4, $t = -2.24$; $P < .05$). The number of days since an app was last updated ($r = -.46$; $P < .001$), the proportion of mentions of technical glitches ($r = -.33$;

TABLE 3. User Review Mentions of How Apps Helped

Theme	Description	Frequency ^a No. (%)
Help	How apps help and support users to sustain recovery.	
Focused	App helps to keep users focused and on track with their recovery. Examples include statements about an app helping to keep people focused, on track, accountable, reminded, organized, and avoiding relapse.	63 (5.2%)
Consistency	App helps to facilitate consistency in an individual's life. Examples include statements about an app being used everyday/every week (regularly) and helping to create routine in a person's life.	59 (4.9%)
Informative	App is informative. Examples include statements about an app being informative, insightful, enlightening, interesting, and useful; "helping me to learn lots"; and a great resource.	44 (3.6%)
Connectedness	App helps to connect users with other people, groups or services in some way.	29 (2.4%)
Inspiring	App is inspiring. Examples include statements about an app being motivating, inspiring, and encouraging.	20 (1.7%)
		215 (17.7%)

^aPercentages do not add up to 100% due to rounding. Denominator is the total number of mentions (N = 1,214).

TABLE 4. Mentions of Features People Disliked About Apps in User Reviews

Theme	Description	Frequency ^a No. (%)
Dislike	Things users dislike about the app they had downloaded.	
Technical glitches	Technical glitches or technical problems with how the app functions. Examples include statements about apps forced closing, apps not opening, apps not working as they should, and the inability to access certain features.	268 (22.1%)
Improvements required	Improvements to an app are desired or suggested. Examples include statements about the desire for additional features, the desire to fix problems, the desire for page numbers/bookmarks, and the desire for an app to be more user-friendly.	255 (21.0%)
Inaccurate content	The content of an app is perceived to be wrong or inaccurate. Examples include statements about missing and outdated content.	43 (3.5%)
Not user friendly	App is not user friendly. Examples include statements about apps not being easy to use, not being easy to navigate, being complicated, and poor layout and design.	28 (2.3%)
Too expensive	App is too expensive. Examples include negative comments about having to pay for an app and preference for the app to be free.	23 (1.9%)
Typos	Typing or spelling errors within an app.	14 (1.2%)
Too big	Size of an app is too big.	12 (1.0%)
		643 (53.0%)

^aPercentages do not add up to 100% due to rounding. Denominator is the total number of mentions (N = 1,214).

$P < .05$), and the proportion of mentions of apps being too expensive ($r = -.55$; $P < .05$) were negatively correlated with average user ratings. Apps that were perceived to be user friendly were more likely to elicit higher user ratings ($r = .33$; $P < .05$).

Differences Between the Most Downloaded Apps and Other Apps

There was no difference in average user ratings between the nine most downloaded apps and the other 78 apps reviewed. All but one of the nine most downloaded apps were free and, compared with other apps reviewed, were more likely to contain multiple functions ($t[85] = 2.05$; $P < .05$) and use several communication mediums ($t[85] = 2.56$, $P < .05$). The most downloaded apps were also more likely to incorporate functions that facilitate social support compared with other apps ($t[85] = 2.68$, $P < .05$).

DISCUSSION

This study illustrates that users of addiction recovery apps find them helpful in sustaining behavioral changes and preventing relapse. According to user reviews, apps helped people maintain their goals and keep focused. Although only a small proportion of apps contained functions aimed at enhancing social support, those that did helped connect people with

other sources of support and were frequently downloaded. Given the influence of network support on substance use outcomes,^{19,20} this is likely to be an important mechanism through which addiction recovery apps might help sustain behavioral changes. The positive role of motivation in behavior change has long been acknowledged,²¹ and users mentioned that apps they had downloaded helped to inspire and encourage them. Similarly, apps with functions to enhance motivation were more likely to have higher average user ratings, suggesting that building and maintaining motivation is a particularly important area that future addiction recovery apps could incorporate.

User reviews highlighted that one of the most desirable features of apps that can be accessed on Smartphones and other mobile devices is their portability. Unlike personal computers, Smartphones travel with individuals throughout their day, providing instant access to information and inspiration, as well as sources of social support, sponsors, or health professionals when cravings and urges or the fear of a lapse are at their greatest. In this regard, apps can provide ready access to continuing care and individually chosen support and information as needed. The discreet nature of using apps was also viewed positively and may be particularly important given the stigma surrounding addiction.

Although this study highlights that apps have promise as tools to support addiction recovery, there are several gaps in the current batch of apps and areas for improvement. There were relatively few apps that focused on supporting a sustained behavior change in relation to drugs other than alcohol ($n = 6$), as well as other behavioral addictions ($n = 9$). Although online gambling sites have proliferated,²² we found relatively few apps ($n = 5$) to assist people with changing their gambling behavior. User reviews highlighted that app technical quality was poor, with many users reporting technical glitches. The negative correlation between technical glitch mentions, reports of apps not being user friendly, and the length of time between updates and average user ratings suggests that apps are not an intervention that developers can build and then not update. Apps need regular maintenance if people are to continue using them and developers should be responsive to user feedback. Virtually all apps in the sample were developed in the United States, which has implications in terms of the cross-cultural validity of information. In particular, apps that contained service locator functions were limited to the United States or areas within the United States.

Although frequently downloaded apps had multiple functions, most apps did not, suggesting that apps are generally not "one stop shops" for resources to sustain recovery and behavioral change, even though some app users mentioned they liked apps that were comprehensive and had multiple functions. We were unable to ascertain whether users possessed a library of apps with different functions to overcome the narrow scope of individual apps in the same way that people have libraries of books on different topics. Neilson²³ estimated that the average number of apps per Smartphone in the United States in 2012 was 41, which suggests that this may be the case.

Apps were also largely text-based, and few apps drew on innovative, game-like elements such as providing feedback through scores or levels, even though these can act as mechanisms for positive reinforcement and social learning. There is also evidence that playing games provides not only virtual rewards, but

also real life rewards, such as increased happiness and positive emotion.²⁴ McGonigal²⁵ argued that games provoke these positive effects by providing intrinsic rewards (as opposed to extrinsic rewards such as money or status), which are most important for happiness. It seems to be a missed opportunity for future apps not to draw on lessons from game-design to address the real life quest for addiction recovery and sustained behavior change.

Limitations

There are several limitations associated with this exploratory work. We were reliant on data from the Google Play store and developers' Web sites and were unable to test their reliability or validity. Although we performed an extensive search, we cannot be certain that we included all addiction recovery apps on the Google Play store, particularly if they were not indexed under our search terms. Our analysis of user reviews and app descriptions was reliant on what was explicitly stated, and we were unable to verify this information. For example, we could not empirically verify the presence of technical glitches in an app even though users may have mentioned these in app reviews. Furthermore, individuals who posted user reviews may not be representative of most users of addiction recovery apps. Their engagement in a public forum suggests that they may be the most outspoken or confident users, and as such, our results may reflect their experiences and concerns and not necessarily those of the majority of app users. We also relied on average user ratings for some analyses. One of the problems with average star ratings is that they are based on user's own subjective criteria. As such, it is unclear whether people are rating the app on the effect it has had on their lives, how user friendly the app was, or whether the app was consistent with its description. This makes the average star rating difficult to interpret, but it is one of the only sources of quantitative data on user satisfaction that could be readily collected. We also had a small sample size, which limits our power to detect relationships and make definitive conclusions.

Future Research and Implications

As with all exploratory research, this study provokes further questions. There is a need to know more about the users of addiction recovery apps, how they use addiction recovery apps, how they interface with other forms of support, and whether there are any negative effects. For example, it is unclear whether app users are young or old, whether they have accessed treatment previously or currently, or whether they continue to use substances or experience related problems. When do people use apps and how long do they use them for? Do they use them regularly or just when the need arises? How and why do individuals select particular addiction recovery apps? Do they use a suite of addiction recovery apps or just one? These are all largely unanswered questions but seem to be critical in terms of app development and better tailoring apps to user characteristics. Answering these questions will also enable us to better understand which groups of individuals might benefit from using apps.

The degree to which most current apps are based on evidence or personal experience of recovery is questionable, with only a small proportion of developers mentioning that they had drawn on evidence or academic/clinical/consumer advisors in the development of their apps. Similarly, in a review of alcohol intervention apps, Cohn et al.⁹ found that “some apps claimed they could serve as an intervention; however, no empirical evidence was provided” (p. 2209). Given this, there is also a need to rigorously evaluate the effectiveness of apps to gain a better understanding of their therapeutic benefits. This could be done through randomized trials (e.g., the A-CHESS app study¹⁴), and some elements of data collection could be embedded within the apps themselves, given that many apps allow streamlined synchronization with its associated website. Indeed, in the A-CHESS app trial, server logs capture data on the date and time a participant accesses the app, which functions they used, and the length of time spent on the app.¹⁴ This invaluable embedded data on app use patterns and adherence can also be complemented with location data (collected through location sensors within most Smartphones) and by real-

time survey data collected through the apps.²⁶ For example, participants could be asked to report on their mood, level of cravings, substance use, recovery status, and well-being at regular intervals, which would provide repeated measures data to assist in evaluating apps. Although individuals may access addiction recovery apps irrespective of whether they have been evaluated, formal testing may enable clinicians to recommend particular apps and may help services make decisions about whether they routinely offer particular apps as a component of relapse prevention or aftercare. A regularly updated and readily accessible online database of information on addiction recovery apps that have been evaluated may be a helpful first step in this regard.

CONCLUSION

Despite technical and quality issues, Smartphone apps appear to be helpful support tools for addiction recovery and sustained behavior change. Even if the content of an app is not new, apps can provide novel and engaging methods of delivering content that is accessible. Although further research is needed to evaluate the effectiveness of apps for addiction recovery, well-developed and engaging apps that are underpinned by research evidence may offer new opportunities for real-time relapse prevention, aftercare, and behavior change support.

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