

# **Psychological treatments for problem gambling (PROGRESS) study: A pragmatic randomised controlled trial and qualitative study - 6 month outcomes**

---

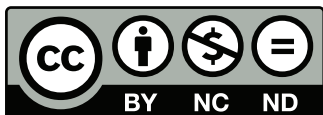
**Professor Shane A. Thomas, Professor Alun C. Jackson, Professor Colette J. Browning, Associate Professor Susan Feldman, Dr Harriet Radermacher, Dr Joanne Enticott (Biostatistician), Mr Christopher Anderson (Research Fellow), Ms Kali Godbee (Research Assistant), Voula Adamopoulos (Research Assistant), and Ms Stephanie Merkouris (PhD student)**

Problem Gambling Research and Treatment Centre,  
Monash University

September 2015



Victorian  
Responsible  
Gambling  
Foundation



© Copyright Victorian Responsible Gambling Foundation, September 2015

This publication is licensed under a Creative Commons Attribution 3.0 Australia licence. The licence does not apply to any images, photographs, branding or logos.

This report has been peer reviewed by three independent researchers. For further information on the foundation's review process of research reports, please see [responsiblegambling.vic.gov.au](http://responsiblegambling.vic.gov.au).

This study was funded by the Victorian Responsible Gambling Foundation through the Grants for Gambling Research Program.

For information on the Victorian Responsible Gambling Foundation Research Program

visit [responsiblegambling.vic.gov.au](http://responsiblegambling.vic.gov.au).

#### **Disclaimer:**

The opinions, findings and proposals contained in this report represent the views of the author and do not necessarily represent the attitudes or opinions of the Victorian Responsible Gambling Foundation or the State of Victoria. No warranty is given as to the accuracy of the information. The Victorian Responsible Gambling Foundation specifically excludes any liability for any error or inaccuracy in, or omissions from, this document and any loss or damage that you or any other person may suffer.

#### **To cite this report:**

Thomas, S., Jackson, A., Browning, C., Feldman, S., Radermacher, H., Enticott, J., Anderson, C., Godbee, K., Adamopoulos, V., Merkouris, S. (2015). *Psychological treatments for problem gambling (PROGRESS) study: A pragmatic randomised controlled trial and qualitative study - 6 month outcomes*. Victoria, Australia: Victorian Responsible Gambling Foundation.

#### **Conflict of interest declaration**

The authors declares no conflict of interest in relation to this report or project.

#### **Victorian Responsible Gambling Foundation**

Level 6, 14-20 Blackwood Street  
North Melbourne, Victoria, 3051  
PO Box 2156  
Royal Melbourne Hospital  
Victoria, 3050  
Tel +61 3 9452 2600  
Fax +61 3 9452 2660  
ABN: 72 253 301 291

[A Victoria free from gambling-related harm](#)

## Acknowledgements

---

The researchers gratefully acknowledge the Victorian Department of Justice who originally commissioned this study with the support of the Minister for Gaming. Management of the study was transferred to the Victorian Responsible Gambling Foundation on its establishment on 1 July 2012. We thank the Foundation for its support in completing the study. We acknowledge the support of Serge Sardo, Fern Cadman, Santina Perrone, Rosa Billi, Sue Hughes and Helen Miller, while noting that the views expressed in the report are entirely those of the authors and are not necessarily those of the Foundation nor are they necessarily the views of these listed current and former Foundation staff.

We thank the research participants who gave freely of their time and made this research possible. We also thank the psychologists who provided the treatment in this trial. They have made a wonderful contribution.

---

Thomas, S.A., Jackson, A.C., Browning, C.J., Feldman, S., Radermacher, H., Enticott, J., Anderson, C. Godbee, K., Adamopoulos, V., Merkouris, S. (2014). Psychological treatments for problem gambling (PROGRESS): A Pragmatic Randomised Controlled Trial. Melbourne, Australia: Victorian Responsible Gambling Foundation.

The trial is registered with Current Controlled Trials and has an assigned International Standard Randomised Controlled Trial Number of ISRCTN01629698 (see <http://www.controlled-trials.com/ISRCTN01629698>). The acronym used to describe this trial is the PROGRESS trial (Psychological treatments for PROblem Gambling REsearch Study or PROGRESS)

Ethics approvals to conduct the study were obtained as follows:

- Department of Justice Human Research Ethics Committee (approval CF/11/22867),
- Monash University Human Research Ethics Committee (approval A1/2012) and the
- University of Melbourne Human Research Ethics Committee (CD/12/536402).



## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS</b>	<b>1</b>
<b>TABLE OF CONTENTS</b>	<b>3</b>
<b>LIST OF FIGURES</b>	<b>6</b>
<b>LIST OF TABLES</b>	<b>7</b>
<b>MAIN REPORT</b>	<b>8</b>
<b>EXECUTIVE SUMMARY</b>	<b>9</b>
<b>BACKGROUND</b>	<b>22</b>
<b>Introduction to the present study</b>	<b>22</b>
THE COCHRANE SYSTEMATIC REVIEW OF PSYCHOLOGICAL TREATMENTS IN PATHOLOGICAL AND PROBLEM GAMBLING	23
Data collection and analysis in the Cochrane review	23
Main results of the Cochrane review	23
How the Cochrane and NHMRC Guideline reviews informed the design of the present RCT study	30
<b>Study Objectives and Relationship to Knowledge Gaps</b>	<b>30</b>
<b>STUDY A: PRAGMATIC EFFECTIVENESS TRIAL – RESEARCH METHODS</b>	<b>33</b>
<b>Study Design</b>	<b>33</b>
<b>Participant recruitment and random assignment to treatment</b>	<b>34</b>
<b>Sample Size Considerations</b>	<b>35</b>
<b>Study Treatments</b>	<b>35</b>
<b>Study Measures and Data Collection Methods</b>	<b>36</b>
Primary outcomes	37
Additional measures	38
Clinical history	38
Gambling-related measures	38
Psychological wellbeing measures	39
Other Addiction measures	39
<b>Clinical Training and Treatment Integrity</b>	<b>40</b>
<b>Data Analysis Concepts and Methods</b>	<b>40</b>

<b>Outcome prediction study analyses</b>	<b>42</b>
<b>PILOT STUDY RESULTS</b>	<b>45</b>
<b>Pilot Quantitative Baseline Data Collection</b>	<b>45</b>
<b>Entry to treatment and quantitative post-treatment data collection</b>	<b>46</b>
<b>.The qualitative component of the pilot study</b>	<b>46</b>
<b>Conclusions for the Pilot Study</b>	<b>48</b>
<b>STUDY A: PRAGMATIC EFFECTIVENESS TRIAL – RESULTS</b>	<b>49</b>
<b>Participant Recruitment Outcomes and Attrition</b>	<b>49</b>
<b>Baseline Data</b>	<b>51</b>
<b>Effects of treatment group and time on key outcomes</b>	<b>52</b>
<b>Analysis of factors that may influence the therapeutic effects other than the treatments</b>	<b>58</b>
<b>STUDY B: QUALITATIVE STUDY – RESEARCH METHODS</b>	<b>62</b>
<b>Study Design</b>	<b>62</b>
Aim of the Qualitative Study	62
<b>Recruitment and Sampling</b>	<b>62</b>
<b>Data Collection</b>	<b>63</b>
<b>Data Analysis and Reporting</b>	<b>65</b>
<b>STUDY B: QUALITATIVE STUDY – THEMATIC ANALYSIS</b>	<b>67</b>
<b>Participant Characteristics</b>	<b>67</b>
<b>Introduction and Scope</b>	<b>67</b>
<b>Characteristics of Treatment</b>	<b>69</b>
Strategies to reduce or stop gambling	70
Session structure	73
Therapeutic environment	74
Psychologist attributes and rapport	74
<b>Immediate Impact and Outcomes of Treatment</b>	<b>77</b>
Intrapersonal issues	78
Gambling activity	78
Financial impacts	79
Impact on relationships	80

Lifestyle changes	80
<b>Enablers and Barriers to Treatment</b>	<b>81</b>
Participant goals relating to treatment	81
Accountability for their actions	83
Psychosocial health and comorbidities	85
Readiness and timing to address problem gambling behaviour	87
Interpersonal support	88
Accessibility of gambling opportunities	89
<b>STUDY B: QUALITATIVE STUDY – CASE STUDY ANALYSIS</b>	<b>90</b>
<b>CONCLUDING REMARKS FOR THE QUALITATIVE ANALYSIS</b>	<b>93</b>
<b>DISCUSSION AND CONCLUSIONS</b>	<b>96</b>
Research and Clinical Implications	96
Strengths and Limitations of this study	97
<b>APPENDICES</b>	<b>99</b>
<b>REFERENCES</b>	<b>124</b>

## List of figures

---

Figure 1 Recruitment Flow Diagram as at 25 February 2015 .....	11
Figure 2 Research and translation strategy used in the study.....	22
Figure 3 Study design .....	33
Figure 4 Participant flow chart for stages of the study .....	49
Figure 5 Recruitment source .....	50
Figure 6 Sampling guide for Qualitative Study (B) recruitment for each treatment arm at pre-treatment .	63
Figure 7 Major themes from post-treatment interviews .....	69

## List of tables

---

Table 1 Study Participant Age and Sex broken down by Treatment Group (n=297) .....	12
Table 2 Qualitative Study Participant Age and Sex broken down by Treatment Group (n=56) .....	12
Table 3 Table of raw means for gambling behaviour measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment .....	14
Table 4 Table of raw means for GSAS symptom measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment .....	15
Table 5 Table of ANOVA results for longitudinal analysis for the outcome measures gambling 'frequency', 'time' and 'expenditure,' by time of assessment and treatment group (n=249) .....	16
Table 6 Table of ANOVA results for longitudinal analysis for the GSAS symptom measures gambling 'total', 'urge' and 'frequency,' by time of assessment and treatment group (n=249) .....	16
Table 7 Table of Data collection schedule for qualitative interviews .....	18
Table 8 Table of findings for the PROGRESS trial outcome measures for the combined study sample at Baseline (t <sub>0</sub> , n=297), Post treatment (t <sub>1</sub> , n=259), 6 months (t <sub>2</sub> , n=249) and 12 months (t <sub>3</sub> , n=193) .....	20
Table 9 Table NHRMC grades of recommendations .....	28
Table 10 Evidence based recommendations for treatment and practice points .....	28
Table 11 Session Structure for the Four Interventions .....	36
Table 12 Table showing the measures taken for each assessment time point .....	37
Table 13 Table of Baseline group socio-demographics and clinical characteristics (n=297) .....	51
Table 14 Table of raw means for gambling behaviour measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment .....	53
Table 15 Table of raw means for GSAS symptom measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment .....	54
Table 16 Table of ANOVA results for longitudinal analysis for the outcome measures gambling 'frequency', 'time' and 'expenditure,' by time of assessment and treatment group (n=249) .....	55
Table 17 Table of ANOVA results for longitudinal analysis for the GSAS symptom measures gambling 'total', 'urge' and 'frequency,' by time of assessment and treatment group (n=249) .....	56
Table 18 Table of findings for the PROGRESS trial outcome measures for the combined study sample at Baseline (t <sub>0</sub> , n=297), Post treatment (t <sub>1</sub> , n=259), 6 months (t <sub>2</sub> , n=249) and 12 months (t <sub>3</sub> , n=193) .....	57
Table 19 GSAS total outcome measure broken down by comorbidity status for psychological disturbance alcohol use and drug use at baseline, post treatment and at six months .....	60
Table 20 Data collection points for the qualitative interviews .....	64
Table 21 Qualitative post-treatment sample characteristics .....	67
Table 22 Participant characteristics and significant themes (as identified in thematic analysis) .....	90

# Main Report

---

## Executive summary

---

This report describes the outcomes for the Psychological Treatments for Problem Gambling (PROGRESS) Study: A Pragmatic Randomised Controlled Trial and Qualitative Study as at 1 December 2014. This is a longitudinal study of treatment outcomes for a sample of 297 Victorians who enrolled in a research study involving four different types of psychological treatment for problem gambling. Data collection is scheduled for pre-treatment, immediately post treatment, 6 months post treatment and 12 months post treatment. At the time of this report most participants had completed the six months post treatment data collection. A subsequent report in 2015 will detail the full sample 12-month outcomes.

### **Study Importance and Background:**

Problem gambling is a high impact disorder that affects many people in Australia and globally. Psychological treatments are commonly used to treat problem gambling but there were knowledge gaps concerning the relative effectiveness of the different types of treatment, the durability of the treatment effects and the experiences of people undergoing and following their treatment. A parallel four group, pragmatic randomised controlled trial was conducted with an associated qualitative study to in part address these gaps.

### **Study Objectives:**

The objectives of this study were:

1. To study the relative effectiveness of four manualised psychological interventions; Cognitive-Behaviour Therapy (CBT), Behaviour Therapy (BT), Motivational Interviewing (MI) and Client-Centred Therapy (CCT). in the treatment of problem gambling.
2. To determine the durability of any therapeutic gains obtained by the four psychological interventions as measured by the four key outcome variables
  - (a) Instances of gambling in the past four weeks,
  - (b) Hours spent gambling in the past four weeks,
  - (c) Dollars spent gambling in the past four weeks and
  - (d) Gambling symptom severity as measured by G-SAS.
3. To study the experiences of problem gamblers seeking treatment throughout the course of the treatment and following its cessation.

### **Trial Design:**

A parallel independent four group, pragmatic randomised controlled trial was conducted with an associated qualitative study. The design for this study included features that were intended to address potential design problems that could bias the outcomes identified in a Cochrane review of previous studies of the effectiveness of psychological treatments. These features included:

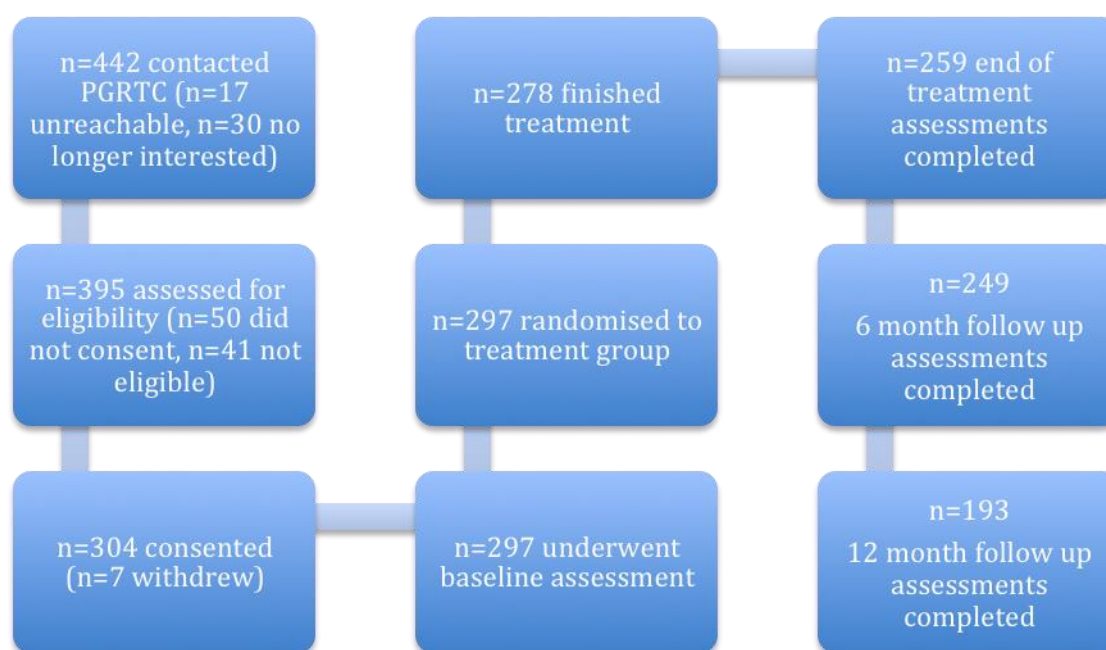
1. Use of a group allocation sequence generated independently and provided by the NHMRC Clinical Trials Centre. A list of randomly ordered intervention groups was used to assign sequentially enrolled participants to their intervention groups.
2. Use of full allocation concealment in the study. The allocation sequence of participants was hidden from those assigning participants to intervention groups until the moment of assignment.
3. The outcome assessors were blind to the intervention group of the person they interviewed and standardised tools and protocols were used to assess participant treatment outcomes.
4. The key outcome measures were announced at the commencement of the study and utilized in the study as announced.
5. Procedures were also implemented to assess and maintain high treatment fidelity and integrity. Samples of the intervention sessions were independently assessed to determine adherence to the treatment protocols as specified in the treatment manuals.

### **Recruitment into the study:**

The participants were recruited using a variety of different recruitment channels. 442 participant enquiries were received by the recruitment staff between April 15<sup>th</sup>, 2012 and February 11<sup>th</sup>, 2014. Most enquiries were by telephone (n=304, 72%); the remainder were by email. Advertisements calling for participation were run in major Victorian newspapers including The Herald Sun and The Age, on the study website (which included contact details), in Google Ads provided by a service provider and referrals from family members and friends.

Prospective participants interested in participating in the study contacted the research team, and were then assessed for eligibility for study entry. Eligible participants were sent an explanatory statement and informed consent form, to be returned to the research team. Once informed consent was obtained, trained research assistants conducted the baseline assessment (t=0) and participants were subsequently randomly allocated to one of the four interventions using an independently randomly generated and concealed allocation sequence. The study interventions included: Cognitive-Behaviour Therapy (CBT), Behaviour Therapy (BT), Motivational Interviewing (MI) and Client-Centred Therapy (CCT). Participants in each intervention received up to six individual face-to-face sessions of their allocated treatment, with a registered psychologist. Follow up assessments were conducted at the end of their treatment (t=1) and also at 6 months post-treatment (t=2) and 12 months (t=3) post-treatment for all participants. All assessments were conducted by interviewers who were blinded to the patient's intervention group.

The following schematic shows the flow of participants into the study:



**Figure 1 Recruitment Flow Diagram as at 25 February 2015**

The figures for 12-month assessments will continue to grow as participants flow through the last stage of the study. The “drop-off” in numbers in the last stage of the study is not real. It reflects the timing of the reporting. The 6-month final sample size figure is 249, representing a 3.8 per cent attrition post treatment to six months. We have n=193 completed 12 month participants as at 25 February 2015 and the estimated final result is 12 month result is 242, with an estimated attrition of only 7 participants from the previous 6 months and an estimated 17 for the duration of the post treatment phase of the study.

## Research Setting and Participants:

### Participants:

The 297 participants were randomly allocated to the four treatment groups in the RCT study. At the time of this report, full data were available for 259 who completed the treatment and 249 participants had completed the 6-month data collection and 193 had completed the 12-month data collection (with further interviews scheduled).

Individuals were eligible to participate if they:

- Were aged 18 years and over;
- Wished to receive treatment for a self-identified gambling problem; and
- Could communicate in English.

Individuals were not eligible to participate if they were:

- Unable to understand the study instructions and provide informed consent;
- At risk of self-harm; or

- Currently receiving other treatments for their gambling problems from a counsellor or therapist, or had received such treatment in the past 12 months.

The following table shows the demographic characteristics for the participants in the treatment trial:

**Table 1 Study Participant Age and Sex broken down by Treatment Group (n=297)**

Treatment Group	Age of Participant					Sex of participant	
	n	Minimum Age	Maximum Age	Mean Age	SD Age	Male	Female
CBT	74	23	79	51.68	12.997	36	38
BT	74	19	79	46.16	15.288	45	29
MI	73	20	77	50.74	14.892	40	33
CCT	76	22	79	49.38	13.477	41	35
TOTAL	297	19	79	49.48	14.27	162	135

A sub-sample of the participants was selected for participation in an associated qualitative study. Fifty-six participants in the qualitative study were interviewed at the completion of their 6-session treatment program. The following table shows the post treatment qualitative sample characteristics.

**Table 2 Qualitative Study Participant Age and Sex broken down by Treatment Group (n=56)**

Treatment Group	Age of Participant					Sex of participant	
	n	Minimum Age	Maximum Age	Mean Age	SD Age	Male	Female
CBT	14	23	67	45.7	11.9	7	7
BT	13	19	66	43.5	14.5	7	6
MI	16	21	77	50.6	13.9	9	7
CCT	13	26	66	51.2	12.5	6	7
TOTAL	56	19	77	47.9	13.3	29	27

### Intervention Details:

The interventions delivered to participants in this study were one of Cognitive-Behavioural Therapy (CBT), Behaviour therapy (BT), Motivational Interviewing (MI) and Client-Centred Therapy (CCT). In all treatment groups, each participant received up to six individual, face-to-face sessions with a psychologist. The sessions were normally conducted on a weekly basis, ranging from 45 to 60 minutes a session. There was a 12-week limit for conclusion of all sessions to allow for clients to suspend treatment for work and other legitimate commitments. This design was implemented in order to support the pragmatic design philosophy of the trial. The psychologists providing treatment for this trial were required to have current registration with the Australian Health Practitioner Regulation Agency (AHPRA). Treatment was provided in the psychologists' places of usual practice to maximise the realism of the treatment episodes and the translation of the results to real clinic conditions. For the

purpose of this trial, a detailed treatment guide was developed for each of the four psychological interventions. As outlined in this report, the guides were subjected to extensive quality testing and review. Two Australian Psychological Society Fellows reviewed each of the manuals.

### **Main Outcome(s) and Measure(s):**

Three of the primary outcome measures assessed gambling behaviours. The questions used to measure gambling behaviours were based on a previously utilised framework for reporting outcomes in problem gambling treatment research.

The gambling behaviour questions assessed

- frequency of gambling sessions (in days on which the person gambled in the past 4 weeks),
- total time spent gambling (in hours in the past four weeks) and
- amount of money spent gambling (net loss in the past four weeks).

These gambling behaviour questions were asked for each gambling activity the participant had gambled or played on in the past 4 weeks and then summed to form total scores for the three measures.

The Gambling Symptom Assessment Scale (G-SAS), a 12-item scale designed for the purpose of assessing change in gambling symptom severity during treatment, was also used as the 4<sup>th</sup> primary outcome measure. This scale utilises a past week timeframe, and items are rated on a 5-point scale. The G-SAS has been shown to be a valid and reliable tool for assessing gambling symptom severity and changes in symptoms during treatment. Three GSAS scores were calculated and reported:

- GSAS total scores
- GSAS urge scores
- GSAS frequency scores

The four primary outcome measures formed the central variable set for which analyses were reported in this study.

### **Results:**

Tables of means were constructed for all of the four primary outcome measures. These were then subjected to ANOVA and ANCOVA repeated measures analyses to examine whether there were time effects i.e. whether there were statistically significant changes in the outcome measures over time (i.e. pre-treatment (t0), post treatment (t1), 6 months post treatment (t2), and 12 months post treatment (t3) and whether any changes were different across the four treatment groups Cognitive Behaviour Therapy (CBT), Behaviour therapy (BT), Motivational Interviewing (MI) and Client-Centred Therapy (CCT) and whether there were interactions between these effects i.e. whether some treatments resulted in different patterns of change. The following table includes the means for the gambling frequency measures for the treatment groups across t=0 to t=3.

**Table 3 Table of raw means for gambling behaviour measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment**

	Group	Gambling frequency (Occasions per 4 weeks)		Gambling time (hours per 4 weeks)		Amount Lost (AUD per 4 weeks)	
		n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Baseline (t=0)	CBT	74	18.67 (17.63)	74	31.55 (25.77)	73	\$3,577 (4,033)
	BT	74	17.81 (13.93)	74	38.74 (45.41)	74	\$4,648 (7,420)
	MI	73	18.74 (16.12)	73	42.73 (61.12)	73	\$4,667 (7,048)
	CCT	76	16.14 (18.94)	76	28.11 (31.86)	76	\$4,382 (6,808)
	<b>Total</b>	<b>297</b>	<b>17.82 (16.73)</b>	<b>297</b>	<b>35.21 (43.26)</b>	<b>296</b>	<b>\$4,320 (6,457)</b>
Post-treatment (t=1)	CBT	62	9.33 (10.83)	62	15.63 (21.81)	62	\$4,183 (22,794)
	BT	65	8.22 (7.39)	65	13.96 (19.04)	65	\$1,826 (4,686)
	MI	65	10.18 (11.62)	65	20.00 (30.10)	65	\$1,668 (3,310)
	CCT	67	9.38 (12.36)	67	15.42 (27.87)	67	\$1,842 (3,348)
	<b>Total</b>	<b>259</b>	<b>9.33 (10.69)</b>	<b>259</b>	<b>16.25 (25.12)</b>	<b>259</b>	<b>\$2,355 (11,616)</b>
Six month (t=2)	CBT	64	10.82 (14.85)	64	15.51 (20.04)	64	\$1,840 (3,385)
	BT	62	9.33 (8.62)	62	16.84 (22.08)	62	\$2,669 (8,245)
	MI	62	9.98 (9.16)	62	12.12 (14.67)	62	\$1,491 (2,944)
	CCT	61	10.02 (11.34)	61	14.86 (31.06)	61	\$1,324 (1,735)
	<b>Total</b>	<b>249</b>	<b>10.05 (11.25)</b>	<b>249</b>	<b>14.87 (22.56)</b>	<b>249</b>	<b>\$1,843 (4,812)</b>
12 month (t=3)	CBT	49	7.55 (11.23)	49	12.42 (16.02)	49	\$1,053 (1,285)
	BT	46	10.00 (11.55)	46	17.50 (22.98)	46	\$1,470 (2,954)
	MI	47	13.74 (14.03)	47	27.19 (42.02)	47	\$1,293 (5,119)
	CCT	51	9.00 (9.99)	51	14.51 (23.13)	51	\$1,191 (1,362)
	<b>Total</b>	<b>193</b>	<b>10.00 (11.81)</b>	<b>193</b>	<b>17.72 (27.78)</b>	<b>193</b>	<b>\$1,245 (3,008)</b>

Thus the results show a robust post treatment drop in gambling behaviours across all treatment groups that is sustained up to the 12 month post treatment measurement point (although it must be noted that the 12 month data collection is not fully complete and therefore significant caution must be exercised in any interpretation of 12 month data. However there is no evidence currently within the 193 completed participants of a drop off in the effect.

The following table includes the means for GSAS gambling symptom measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment.

**Table 4 Table of raw means for GSAS symptom measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment**

Gambling symptoms		GSAS total scores		GSAS urge scores		GSAS frequency scores	
	Group	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Baseline (t=0)	CBT	74	25.82 (7.01)	74	8.58 (2.75)	74	6.55 (2.13)
	BT	73	27.48 (8.17)	73	8.71 (3.49)	73	7.12 (2.89)
	MI	72	26.14 (8.93)	72	8.33 (3.52)	72	6.65 (2.43)
	CCT	76	26.14 (8.04)	76	8.33 (3.25)	76	6.55 (2.31)
	<b>Total</b>	<b>295</b>	<b>26.40 (8.05)</b>	<b>295</b>	<b>8.49 (3.25)</b>	<b>295</b>	<b>6.72 (2.45)</b>
Post-treatment (t=1)	CBT	62	18.19 (8.86)	62	6.11 (3.25)	62	4.77 (2.38)
	BT	63	19.63 (9.11)	63	6.32 (3.84)	65	4.94 (2.56)
	MI	65	17.37 (8.82)	65	5.63 (3.42)	65	4.43 (2.47)
	CCT	66	18.48 (8.87)	66	5.86 (3.36)	67	4.78 (2.59)
	<b>Total</b>	<b>256</b>	<b>18.41 (8.90)</b>	<b>256</b>	<b>6.17 (3.46)</b>	<b>259</b>	<b>4.73 (2.50)</b>
6 months (t=2)	CBT	64	17.94 (9.22)	64	5.90 (3.51)	64	4.47 (2.62)
	BT	62	19.00 (9.30)	62	5.98 (3.80)	62	4.62 (2.91)
	MI	62	16.51 (9.30)	62	5.04 (3.70)	62	4.21 (2.80)
	CCT	61	19.61 (9.49)	61	5.86 (4.14)	61	4.87 (3.06)
	<b>Total</b>	<b>249</b>	<b>18.26 (9.34)</b>	<b>249</b>	<b>5.69 (3.79)</b>	<b>249</b>	<b>4.54 (2.84)</b>
12 months (t=3)	CBT	49	17.88 (9.17)	49	5.85 (3.72)	49	4.61 (2.61)
	BT	46	18.93 (12.89)	46	6.04 (5.07)	46	5.14 (3.49)
	MI	47	18.72 (10.31)	47	5.93 (4.59)	47	4.50 (3.01)
	CCT	51	16.97 (9.97)	51	4.91 (4.37)	51	4.26 (2.77)
	<b>Total</b>	<b>193</b>	<b>18.06 (10.48)</b>	<b>193</b>	<b>5.66 (4.40)</b>	<b>193</b>	<b>4.60 (2.95)</b>

For the GSAS scores a similar pattern of results was observed, i.e. post treatment means fell and the reductions were maintained at the 6 month and 12 month data collection points (while noting the caution required in the interpretation of the incomplete 12 month data collection point).

The data for all four primary outcome measures were subjected to statistical analysis.

The outcome measures of 'frequency', 'time' and 'expenditure' all demonstrated positively skewed data distributions. This meant that the raw data bunched closer towards the zero measure and had data points that more lightly scattered towards a larger number. To improve the accuracy of the repeated measures ANOVA analyses, these data were first transformed using a log function (base 10) to improve normality of the distribution. The analyses included all data available at the time of analysis except the 12-month data. The analyses appear in the following table.

**Table 5 Table of ANOVA results for longitudinal analysis for the outcome measures gambling 'frequency', 'time' and 'expenditure,' by time of assessment and treatment group (n=249)**

Dependent Measure	Factor	Repeated measures ANOVA	Effect size (partial eta squared)
Frequency	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,350) = 45.4, p < 0.001$	0.21**
	Treatment group (CBT, BT, MI, CCT)	$F(3, 175) = 0.6, p = 0.59$	0.01
Time	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,346) = 53.5, p < 0.001$	0.24**
	Treatment group (CBT, BT, MI, CCT)	$F(3, 173) = 0.2, p = 0.87$	0.004
Expenditure	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,338) = 48.6, p < 0.001$	0.22*
	Treatment group (CBT, BT, MI, CCT)	$F(3,169) = 0.1, p = 0.95$	0.002
*Large effect, **medium effect			

The repeated measures ANOVA analyses indicated medium to large effects occurring over time in these outcome measures. Post hoc examination of the means showed that there was a significant decrease in all measures after therapy and this was maintained at the 6-month time point. There was no effects resulting from the treatment group and all interactions between time and treatment group were non-significant.

Repeated measures ANOVAs were conducted to investigate the effects of time and treatment group on GSAS scores. The following table summarises the repeated measures results for the GSAS outcome measures.

**Table 6 Table of ANOVA results for longitudinal analysis for the GSAS symptom measures gambling 'total', 'urge' and 'frequency,' by time of assessment and treatment group (n=249)**

Dependent Measure	Factor	Repeated measures ANOVA	Effect size (partial eta squared)
GSAS total	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,434) = 98.3, p < 0.001$	0.31*
	Treatment group (CBT, BT, MI, CCT)	$F(3,217) = 1.3, p = 0.26$	0.02
GSAS urge	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,436) = 66.9, p < 0.001$	0.24**
	Treatment group (CBT, BT, MI, CCT)	$F(3, 218) = 1.1, p = 0.35$	0.02
GSAS frequency	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,440) = 72.2, p < 0.001$	0.26*
	Treatment group (CBT, BT, MI, CCT)	$F(3,220) = 0.6, p = 0.77$	0.01
*Large effect, **medium effect			

This analysis included all data available at the time of analysis except the 12-month data. There was a significant effect of time on GSAS score ( $F(2,436) = 66.9, p < 0.001$ ) and post hoc examination of the means showed that there was a significant decrease in GSAS score after therapy and this was maintained at the 6-month time point. The effect size (see Table 6) indicated that the effect from time was a large effect. There was no effect of treatment group on GSAS score ( $F(3,217) = 1.3, p = 0.26$ ) and the interaction between time and treatment group was also non-significant. Similar results were obtained for two GSAS sub-scores (GSAS-urge score and GSAS-frequency score). There were significant effects from time but not group.

Thus the results for this trial are simple. All four treatment groups have experienced significant reductions in the behavioural and symptom gambling measures and these reductions have been sustained to at least 6 months post treatment and from the incomplete 12 months post treatment data we have it appears that these reductions will sustain for at least 12 months.

This report also discusses other factors that may impact upon the obtained outcomes for the participants. The two areas analysed in this paper are clinician effects and the effects of the presence of psychological disorders and other addictions including drugs and alcohol upon the outcomes.

Analyses of the effects of “clinician” upon the four main treatment outcome measures demonstrated that “clinician” was not a statistically significant factor in explaining variance in treatment outcomes.

To address this issue of comorbidity effects various measures of psychological comorbidity were collected and then outcomes were modelled using these measures as covariates. These analyses addressed the issue as to whether existence of comorbidities may impact upon treatment outcomes.

The measures that were included in this analysis were:

- the DASS three sub scales, depression, anxiety and stress. The presence of “Depression” was indicated by a DASS sub-score of 10 and above; anxiety by a sub-score of 8 and above; and stress by a sub score of 15 and above.
- the AUDIT measures. A level of “risky” drinking was indicated by an AUDIT score of 8 and above, and high risk drinking by a score of 20 and above.
- drug use reported occurring at least monthly during the previous 12 months before the baseline.

The results indicated that the comorbidities used in this analysis were not providing additional statistical explanatory power in understanding the progression of the participants through the recovery outcome process. This does not suggest that comorbidity is not an important issue in the onset and treatment of problem gambling but the data presented using the analysis model adopted show that there were no statistically significant effects found in this study.

### **Qualitative study**

The qualitative study associated with the RCT comprised semi-structured interviews at 3 data collection points. Interviews were administered face to face, and took between 40 and 60 minutes to complete. The time points and number of participants are summarised in the following table, Table 7. Sixty-six participants were interviewed at pre-treatment, and 56 of them were interviewed immediately after treatment. Ten participants were not available for the post-treatment interview. If participants did not complete their treatment, they were still invited to participate in subsequent interviews. At the time of writing the report, the 12-month follow-up interviews were not completed and therefore the data are not included in this report. For the purpose of this report, which focuses on the experience of treatment, the analysis is primarily based on the post-treatment interview data.

**Table 7 Table of Data collection schedule for qualitative interviews**

Data collection point	Number of participants
Pre-treatment	66 (final)
Post-treatment	56 (final)
12 months post-treatment	45 (data collection ongoing)

### Qualitative study results

The post-treatment interview data from all of the qualitative study participants were subjected to thematic coding and analysed specifically for this qualitative report. This section presents the findings generated by the thematic analysis of the participants' experiences and reflections of their treatment program.

Those who participated in this qualitative study came from a wide range of backgrounds and differed on a range of demographic factors including: sex, age, ethnicity, marital status, level of education, income, years spent gambling, previous treatment experience, co-morbidities, gambling preferences etc. While they had a commonality in that all had sought treatment, their expectations of treatment varied enormously. Furthermore, some participants expressed the view that their expectations were met and surpassed, while for others, their expectations were not met.

Participants' expectations and preconceived ideas about treatment greatly influenced their experience of treatment. Participants who experienced the treatment as worthwhile and/or exceeding their expectations reported a range of benefits as indicated below:

- The gaining of greater insight in order to check self/behaviour when gambling;
- Benefitting from a professional face to face treatment as compared to previous experiences of telephone counsellors;
- Appreciation of the opportunity for self-reflection;
- Gaining a better understanding of gambling reduction as an ongoing process;
- Exploration of specific strategies during treatment to enable the reduction of problem gambling behaviour;
- Valuing the simplicity of the strategies in the treatment provided as compared to their previous treatment attempts.

An example of how the treatment had exceeded the participant's expectations is illustrated by the following comment:

*"I just thought that it was just going to be 'alright well you know tell me about your gambling' you know? And I thought it was just going to be very much possibly like maybe a therapist/client type relationship but it was much more than that because the psychologist was able to offer me cues and tips and ways of being able to see things differently in a different light and she gave me ways of being able to enrich and enhance my life and to become more of a participant in life rather than a spectator...So I'm becoming much more participatory in life and I'm relearning to enjoy life and all the wonderful things that life has to offer and gambling is certainly not a part of that."* Male, 45 years

Participants who explicitly expressed disappointment with their treatment, as well as those whose expectations of treatment were not met, reported a range of experiences as indicated below:

- The perceived need for more from treatment sessions than what participants received;
- Failure to obtain any tools or strategies to facilitate change in their problem gambling behaviour;
- Feelings that they were repeating their gambling stories to yet another counsellor/psychologist;
- Perception of the treatment as being too narrowly focused on gambling problem given that their issues exists within wider life context;
- Perceptions that the psychologist lacked in-depth insight into problem gambling;
- Expectations that treatment would be more gambling specific, not open ended;
- Treatment goals were not consistent between participant and psychologist (i.e., focus was on stopping gambling and not what triggers behaviour or why gambling began initially);
- Expectations of a miracle or expected too much;
- Expectations of something novel from the psychologist, given their numerous previous attempts at treatment.

An example of the treatment not meeting the participant's expectations, and their consequent disappointment, is illustrated by the following example:

*"She just didn't offer me anything, anywhere along the line. In sort of there was a leading question and then - I just expected more from the other person, regardless of who the other - I expected guidance for me, I expected them to give me some stuff. And I felt that was - she was sort of curious about me and my story and how I got there or what were the drivers for me...But I don't know how to stop this and that's what I'm here for. But I just consistently felt there was nothing coming my way."* Female, 59

It is apparent that participants' expectations and preconceived ideas about treatment influenced their experience of treatment, and it is in this context that the major themes are identified and discussed. The figure below illustrates the major relevant themes that arose from the post-treatment interview data. The first major theme encompassed participants' direct experience of the delivery of treatment itself, which included their opinions about the number of sessions, the structure of the sessions, the therapeutic environment as well as their experiences of the psychologist. The second major theme related to the participants' perspectives about the immediate and tangible impact of the treatment. The third major theme encapsulated the factors that both facilitated and hindered the success of treatment.

## Conclusions and Relevance of the study:

The study showed that manualised psychological treatments delivered by well-trained psychologists resulted in durable and significant reductions in gambling behaviour (frequency, time spent and losses) and gambling symptoms were achieved. Further, in this study, the reductions were unrelated to the type of psychological treatment used. In addition the reductions in gambling behaviour and symptoms was maintained for at least six months across the group of study participants. Because the 12-month data collection is not sufficiently complete the analyses are not included. However for the 193 participants for whom 12-month data has been collected to date the reductions also appear to have been maintained. The reductions obtained in gambling behaviour and symptoms were statistically significant and clinically large as shown in the following table.

For example in the pre treatment phase the participants gambled on average on 17.8 days in a month whereas immediately post treatment the average number of days gambled was 9.33 days and at 6 months it was 10.44. The same pattern of durable major reductions was found in all of the outcome measures.

**Table 8 Table of findings for the PROGRESS trial outcome measures for the combined study sample at Baseline ( $t_0$ ,  $n=297$ ), Post treatment ( $t_1$ ,  $n=259$ ), 6 months ( $t_2$ ,  $n=249$ ) and 12 months ( $t_3$ ,  $n=193$ )**

Study Phase	Frequency (days gambled in a 4 week period)	Time (hours spent gambling in a 4 week period)	Spend (Net Loss AUD in a 4 week period)	GSAS Total
Baseline ( $t_0$ , $n=297$ )	17.80 (16.73)	35.21 (43.26)	\$4,320 (6,457)	26.40 (8.05)
Post treatment ( $t_1$ , $n=259$ )	9.33 (10.69)	16.25 (25.12)	\$2,355 (11,616)	18.41 (8.90)
6 months ( $t_2$ , $n=249$ )	10.05 (11.25)	14.87 (22.56)	\$1,843 (4,812)	18.42 (9.47)
12 months ( $t_3$ , $n=193$ )	10.00 (11.81)	17.72 (27.78)	\$1,245 (3,008)	17.60 (10.64)
Note: Data collection is continuing for $t_3$ study phases				

From these data it can be inferred that over a 12-month period an “average” individual would gamble on 101 less days, spend 227 less hours gambling per year and they would save \$39,975 per year in losses. Of course there is high variability in the data so “average” losses certainly should not be construed to mean that all individuals would achieve those results. Some individuals would exceed these reductions and savings, whereas other individuals would achieve much less favourable results.

The interventions delivered in this study were manualised and delivered by experienced psychologists and hence caution should be exercised in generalizing the results to other clinician groups and also clinicians who are not using manualised interventions.

Notwithstanding these caveats, the magnitude and durability of the reductions in key outcome variables is a pleasing result. The interventions have achieved robust and sustainable reductions in gambling behaviours as measured by days gambled, time spent gambling, net losses and GSAS symptom scores.

Thus it has been found in this study that manualised psychological treatments specifically Behavioural Therapy; CCT: Client Centred Therapy; MI: Motivational Interviewing; CBT: Cognitive Behavioural

Therapy, when administered by registered psychologists are effective in the treatment of problem gambling and that the beneficial effects over the groups persist for at least 6 months and very probably they might persist for 12 months when the 12 month post -treatment data collection for the study is completed.

#### **Trial Registration Details:**

The trial is registered with Current Controlled Trials and has an assigned International Standard Randomised Controlled Trial Number of ISRCTN01629698. The acronym used to describe this trial is the PROGRESS trial (Psychological treatments for PROblem Gambling REsearch Study or PROGRESS)

#### **Ethics Approval Details:**

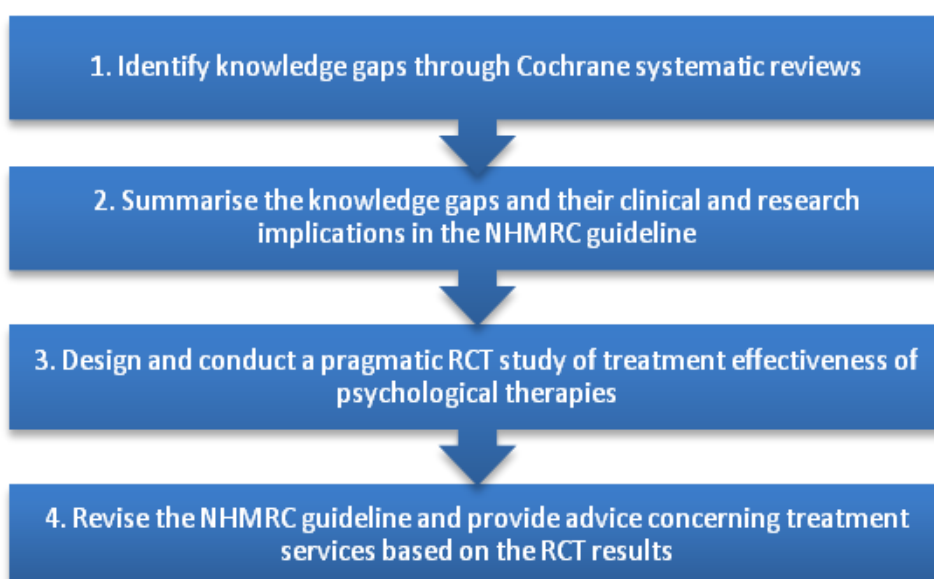
- Department of Justice Human Research Ethics Committee (approval CF/11/22867),
- Monash University Human Research Ethics Committee (approval A1/2012) and the
- University of Melbourne Human Research Ethics Committee (CD/12/536402)

## Background

### Introduction to the present study

The evidence foundation for the present study is found in three previously published and linked reviews written by members of the current research team (Cowlshaw et al., 2012; Lorains, Cowlshaw, & Thomas, 2011; Problem Gambling Research and Treatment Centre (PGRTC), 2011), which we have supplied as companion papers to this report and are accessible by the relevant web-links (access the NHMRC guideline at <https://www.nhmrc.gov.au/guidelines/publications/ext5>, the Cochrane review at [www.thecochranelibrary.com/details/file/1033479/CD006776.html](http://www.thecochranelibrary.com/details/file/1033479/CD006776.html) and the Addiction review at <http://www.ncbi.nlm.nih.gov/pubmed/21210880>). These reviews provide the conceptual and evidence base that led to the conduct of the present study and its design and the analytical methods that have been used within it.

For the purposes of this report we have summarised the salient key findings and issues covered in these reviews. We have not repeated their full detail in this document. It is important to understand that the present study reported in this document was a key step in a staged research program conducted by the current research team. The research positioning and translational strategy surrounding the present study is summarised in the following flow-chart, Figure 2. The present report is focused on Step 3 of this process but also includes advice concerning treatment services based upon the results that will be formally incorporated in the revised NHMRC guideline in Step 4 following the completion of this study and review of other pertinent new evidence.



**Figure 2 Research and translation strategy used in the study**

The purpose in this overall program of work has been to contribute to an evidence base for effective treatments for problem gambling.

A discussion is now presented of the Cochrane systematic review and the NHMRC guideline and how these informed the design and implementation of the clinical trial reported in this document.

## **THE COCHRANE SYSTEMATIC REVIEW OF PSYCHOLOGICAL TREATMENTS IN PATHOLOGICAL AND PROBLEM GAMBLING**

The purpose of the Cochrane Systematic Review was to synthesize evidence from randomized controlled trials of psychological therapies for pathological and problem gambling (including Cognitive-Behaviour Therapy (CBT), Behaviour Therapy, Motivational Interviewing therapy, and other psychological therapies), in order to review the efficacy of therapies and the durability of therapy effects, relative to control conditions.

### **Data collection and analysis in the Cochrane review**

Data on the characteristics and results of in-scope studies were extracted according to the published Cochrane protocol. The primary outcomes used in the review were measures of gambling symptom severity, financial loss from gambling and frequency of gambling. The secondary outcomes used were occurrence of pathological gambling diagnoses and depression and anxiety symptoms. Treatment effects were defined by comparisons between therapy and control conditions at post-treatment assessments (conducted from 0 to 3 months following completion of treatment) and follow-up assessments (conducted from 9 to 12 months following completion of treatment), respectively, using the standardised mean difference (SMD) or risk ratio (RR). Any required results were synthesised through random-effects meta-analysis.

### **Main results of the Cochrane review**

Fourteen studies (with a combined  $n = 1245$  participants) met the review inclusion criteria. Eleven studies compared CBT with control and comparisons at 0 to 3 months post-treatment showed beneficial effects of therapy that ranged from medium (when defined by financial loss from gambling: SMD -0.52; 95% confidence interval (CI) -0.71 to -0.33,  $n = 505$ ) to very large (for gambling symptom severity: SMD -1.82; 95% CI -2.61 to -1.02,  $n = 402$ ). Only one study ( $n = 147$ ) compared groups at 9 to 12 months follow-up and produced smaller intervention effects that were not statistically significant.

Four studies of Motivational Interviewing therapy were identified and mainly considered samples demonstrating less severe gambling (relative to studies of pathological gamblers). Data suggested reduced financial loss from gambling following Motivational Interviewing therapy at 0 to 3 months post-treatment (SMD -0.41; 95% CI -0.75 to -0.07,  $n = 244$ ), although comparisons on other outcomes were not significant. The effect approached zero when defined by gambling symptom severity (SMD -0.03; 95% CI -0.55 to 0.50,  $n = 163$ ). Studies compared groups at 9 to 12 months follow-up and found a

significant effect of Motivational Interviewing therapy in terms of frequency of gambling (SMD -0.53; 95% CI -1.04 to -0.02,  $n = 62$ ), with comparisons on other outcomes that were not significant.

Two studies of combination therapies also considered samples demonstrating overall low gambling severity, and found no significant effects of therapy at 0 to 3 months post-treatment. Comparisons at 9 to 12 months follow-up suggested a medium effect from therapy in terms of gambling symptom severity, with no significant differences for other outcomes. One study (with a very small sample size of  $n = 18$ ) considered another psychological therapy (i.e. Twelve-Step Facilitated Group Therapy) and suggested beneficial effects in terms of most outcomes at 0 to 3 months post-treatment. The evidence supporting these various classes of therapy were classified as ranging from *very low* to *low* quality according to the criteria applied in the review.

The Cochrane review, therefore, supported a finding of efficacy of CBT in reducing gambling behaviour and other symptoms of pathological and problem gambling immediately following therapy. However, the durability of therapeutic gain provided by CBT in the treatment of problem gambling was found to be uncertain because of insufficient data. There was found to be some limited evidence for some benefits from Motivational Interviewing therapy in terms of reduced gambling behaviour, although not necessarily other symptoms of pathological and problem gambling. However, the findings were based on few studies and additional research was suggested as being needed to inform more definitive research conclusions. There was also some evidence suggestive of possible benefit from combination therapies, and other psychological therapies for pathological and problem gambling including Behaviour Therapy. However, there were insufficient studies and the evidence was insufficient to evaluate these therapies. The majority of studies in this review had multiple limitations in terms of risk of bias because of methodological problems.

It is also important to understand that lack of evidence of effectiveness does not constitute evidence of ineffectiveness of treatments. The study biases identified in the reviewed studies were generally too great to provide good strength of evidence in this review.

A key section in the Cochrane review was the assessment of risk of bias in the previous gambling RCT studies. The outcomes of this published assessment have been used to directly inform the design of the present study to attempt to avoid repetition of the identified sources of bias. Each of the biases identified in the Cochrane review is now discussed along with the methodological design responses utilised in the present study to attempt to minimise them.

**Random allocation to groups (sequence generation):** Only studies that indicated the use of random allocation of study participants to treatment and control groups were eligible for inclusion in our Cochrane review. However, the level of detail provided about the procedures made it impossible in some cases to fully evaluate the method of allocation from the provided data. We classified such studies with limited detail as 'Unclear' and as having a potentially high risk of bias. *To address this problem an allocation sequence generated independently and provided by the NHMRC Clinical Trials Centre was used in order to minimise any such bias.*

**Allocation concealment:** Effective randomisation depends on the adequate concealment of allocation sequence whereby participants and researchers are kept unaware, and are unable to foresee, the groups to which participants are allocated and hence bias the randomisation process. In our Cochrane review, studies that lacked allocation concealment were classified as having a high risk of bias. *Full allocation concealment was employed in the present study in order to address this bias.*

**Blinding of outcome assessors:** For the Cochrane review, blinding referred to the blinding of outcome assessors. In the review we classified studies that failed to blind outcome assessors (including studies relying on measures self-completed by participants) as having a high risk of bias. *Outcome assessors for the current trial were blind to the treatment group of the person they interviewed. They used standardised tools and protocols to assess outcomes.*

**Analysis of 'intention-to-treat' data:** Where data from participants were missing because of attrition, the studies in our review generally reported analyses conducted on either: (a) data from participants providing complete information (i.e., 'completers only'); or (b) an intention-to-treat (ITT) sample, whereby data from all participants were included through use of various missing data strategies (e.g., last observation carried forward). Given that attrition often reflects a non-random process that varies across condition, results from analysis of 'completers only' data have a high risk of bias and we classified studies that did this in our review accordingly. There is also variability in risk of bias from simplistic missing data techniques (e.g., last observation carried forward). In the present study as it has transpired, very low dropout rates across the study have been achieved. Our analyses of the characteristics of the initial study sample and the participants who completed the study show very close correspondence between the two. *Thus in the present study it has not been necessary to use synthesised data in the analyses.*

**Selective outcome reporting:** Selective outcome reporting refers to the selection and presentation of a limited subset of data or analyses, according to the nature (e.g., statistical significance) of the results (Hutton & Williamson, 2000). There are different types of selection bias (see (Higgins & Altman, 2008)), and these generally require access to study protocols to compare against published reports. As such, we classified studies as having a high risk of bias in the review if: (1) they had study protocols available which listed outcomes or measures that were not reported in the results; or (2) outcomes were reported with inadequate detail for inclusion in the meta- analyses. *The key outcome measures were announced at the commencement of the current study and they have been reported as advised.*

**Systematic pre- treatment differences between groups:** This may suggest a failure in the randomisation to groups at the pre-treatment stage. In the Cochrane review studies were categorised as having a high risk of bias if they identified pre-treatment differences and failed to control for these or if they did not evaluate differences, or if they did not indicate whether differences were adjusted for in the data analysis. In the present study full analyses of randomisation differences/ failures were proposed to be conducted. *Thus this bias was addressed by analysing for differences and then not requiring statistical adjustment to achieve group equality.*

**Measurement of treatment fidelity:** This indicates whether therapy was delivered as intended. Those studies that failed to conduct some measurement of therapist adherence to treatment were categorised as 'Unclear' and hence suspect. *As outlined in our methodology we took several measures to assess and maintain high treatment fidelity.*

Thus the Cochrane review was a key foundation for the design of the present study. The risks of bias in previous studies identified in the Cochrane systematic review assessment process was used to drive the design of the present study.

A discussion is now presented of how we used the NHMRC guideline we authored to inform the design of the present study.

## THE NHMRC GUIDELINE FOR THE SCREENING ASSESSMENT AND TREATMENT OF PROBLEM GAMBLING

The purpose of the NHMRC Guideline ( <https://www.nhmrc.gov.au/guidelines/publications/ext5> ) was to summarise the current state of knowledge concerning problem gambling treatment and to make recommendations concerning practice in interventions, screening and assessment.

The NHMRC Guideline development was conducted according to the stringent requirements of the National Health and Medical Research Council. These requirements include the establishment of an expert Guideline Development Group with a membership composition determined by the NHMRC guideline group, public consultations with clinicians and the community and the following of a detailed review methodology.

Guideline developers can apply to the Council for approval of a guideline at the commencement of the development process. An expert panel throughout the process assesses the guideline and any technical changes are made if the guideline is deemed to meet the quality criteria. The developer then attends a full meeting of the Council to answer any further questions and field comments from Council members.

As outlined in the guideline document we in fact achieved the following approval from the Council:

*"These guidelines were approved by the Chief Executive Officer of the National Health and Medical Research Council (NHMRC) on 11 August 2011, under Section 14A of the National Health and Medical Research Council Act 1992. In approving these guidelines the NHMRC considers that they meet the NHMRC standard for clinical practice guidelines. This approval is valid for a period of 5 years. NHMRC is satisfied that they are based on the systematic identification and synthesis of the best available scientific evidence and make clear recommendations for health professionals practising in an Australian health care setting. The NHMRC expects that all guidelines will be reviewed no less than once every five years."*

Thus the relevant recommendations made in the guideline document related to clinical and research questions concerning problem gambling treatment and research. Although they were informed by the Cochrane review process which is stringent the guideline development process is much more stringent including wide public consultations and the clear identification of knowledge gaps and research recommendations. A guideline development process is a rigorous method of formulating research questions to inform clinical practice and this was the process that was followed. The guideline was also independently reviewed in a BMJ editorial (Bowden-Jones & Smith, 2012) and hence the guideline was an appropriate tool to use to inform the design and purposes of the current study.

The full detail of the guideline can be accessed at

[http://www.nhmrc.gov.au/files\\_nhmrc/publications/attachments/ext0005\\_problem\\_gambling\\_guideline.pdf](http://www.nhmrc.gov.au/files_nhmrc/publications/attachments/ext0005_problem_gambling_guideline.pdf)

In this document, excerpts are presented of the guideline recommendations that relate directly to the present study.

NHMRC recommendations use a four level evidence grade system as follows (NHMRC, 2009):

**Table 9 Table NHRMC grades of recommendations**

Letter code	Grade of evidence
A	Body of evidence can be trusted to guide practice
B	Body of evidence can be trusted to guide practice in most situations
C	Body of evidence provides some support for recommendation but care should be taken in its application
D	Body of evidence is weak and recommendation must be applied with caution

The above scale was used in formulating our recommendations. The following practice recommendations were made:

**Table 10 Evidence based recommendations for treatment and practice points**

Evidence Grade	Recommendation	Practice points
B	Individual or group cognitive behaviour therapy (CBT) should be used to reduce gambling behaviour, gambling severity and psychological distress in people with gambling problems	Where CBT is to be prescribed, the following could be considered: <ul style="list-style-type: none"> <li>• Appropriate qualifications and training of practitioners</li> <li>• Manualised delivery of the intervention</li> </ul>
B	Motivational Interviewing and motivational enhancement therapy should be used to reduce gambling behaviour and gambling severity in people with gambling problems	Where Motivational Interviewing and motivational enhancement therapy are to be prescribed, the following could be considered: <ul style="list-style-type: none"> <li>• Appropriate qualifications and training of practitioners</li> <li>• Manualised delivery of motivational enhancement therapy</li> </ul>
B	Practitioner-delivered psychological interventions should be used to reduce gambling severity and gambling behaviour in people with gambling problems	Where practitioner-delivered psychological interventions are to be prescribed, the following could be considered: <ul style="list-style-type: none"> <li>• Client preferences</li> <li>• Appropriate qualifications and training of practitioners</li> <li>• Availability of services</li> <li>• Manualised delivery of the intervention</li> </ul>

B	Practitioner-delivered psychological interventions should be used over self-help psychological interventions to reduce gambling severity and gambling behaviour in people with gambling problems	<p>Where practitioner-delivered psychological interventions are to be prescribed, the following could be considered:</p> <ul style="list-style-type: none"> <li>• Client preferences</li> <li>• Appropriate qualifications and training of practitioners</li> <li>• Availability of services</li> <li>• Manualised delivery of the intervention</li> </ul>
C	Group psychological interventions could be used to reduce gambling behaviour and gambling severity in people with gambling problems	<p>Where group psychological interventions are to be prescribed, the following could be considered:</p> <ul style="list-style-type: none"> <li>• Client preferences</li> <li>• Appropriate qualifications and training of practitioners</li> <li>• Availability of services</li> <li>• Manualised delivery of the intervention</li> </ul>
B	Antidepressant medications should not be used to reduce gambling severity in people with gambling problems alone	<ul style="list-style-type: none"> <li>• Due to the nature of the samples studied, this recommendation is applicable to those with gambling problems only, and not those who may have comorbidities such as depression and anxiety</li> <li>• This recommendation is predominantly based on evidence evaluating the effectiveness of selective serotonin reuptake inhibitors</li> </ul>
C	Naltrexone could be used to reduce gambling severity in people with gambling problems	<p>Where naltrexone is to be prescribed, the following could be considered:</p> <ul style="list-style-type: none"> <li>• Problem gambling is not (at the time of reporting) a registered indication for naltrexone, so a Pharmaceutical Benefits Scheme subsidy would not apply for this indication</li> <li>• Appropriate skills and training of the prescribing practitioner</li> </ul>

It is notable that none of the NHMRC Guideline recommendations achieved an A grading because of the level of the evidence ratings. This finding of bias issues in the literature was also consistent with the Cochrane review.

## How the Cochrane and NHMRC Guideline reviews informed the design of the present RCT study

As outlined above the reviews revealed a series of potential biases that needed to be carefully addressed in the design of our trial.

While the efficacy of some psychological treatments had been partially demonstrated in previous studies the relative effectiveness of different psychological therapies had not yet been fully addressed. In addition therapies such as client-centred therapy had not been researched intensively in terms of effectiveness in the treatment of problem gambling. However, this modality has been extensively researched in other addictions and found to be effective (Miller, Benefield, Tonigan, 1993). Similarly Motivational Interviewing had been the subject of limited studies (although it also has been extensively researched in the addictions area (Rubak, 2005). Thus it was desired that all viable and commonly used psychological therapies were investigated in the present study, while noting that this goal would require a large study sample to achieve. This requirement was also affected by the need for adequate statistical power.

Statistical power was found to be quite problematic in some of the reviewed studies. As outlined in our Cochrane review the sample sizes in the reviewed studies was an average total of 89 participants.

It was also clear that manuals should be used to guide the treatments used in the present trial because the literature suggested that such manualised interventions would be more effective. However the evidence was not of sufficient quality to allow for A-grade recommendations. This is also an area of research need and knowledge gaps.

Based upon these reviews it was attempted to avoid some of the more obvious flaws in the design and execution of this study. We now turn to a discussion of the study aims and methodology.

## Study Objectives and Relationship to Knowledge Gaps

Following the conduct of the systematic reviews described in the introduction of this report, it is evident that there are knowledge gaps concerning the effectiveness of psychological treatments for problem gambling to guide evidence based therapeutic decisions for clinicians and policy makers. Which therapies are effective, their relative effectiveness and the durability of treatment effects are not sufficiently well known.

Therefore the objectives of this study were to:

1. **Study the relative effectiveness of four manualised psychological interventions (Cognitive Behaviour Therapy, Motivational Interviewing, Behaviour Therapy and Client Centred Therapy) in the treatment of problem gambling.**
2. **Determine the durability of any therapeutic gains obtained by the four psychological interventions as measured by the key outcome variables (a) instances of gambling in the past four weeks, (b) hours spent gambling in the past four weeks, (c) dollars spent gambling in the past four weeks and (d) gambling symptom severity as measured by G-SAS.**
3. **Study the experiences of problem gamblers seeking treatment throughout the course of the treatment and following its cessation.**

A pragmatic trial design was used in the present study. The purpose of the pragmatic trial approach is to attempt to ensure that the study results are “good to go” for use in clinical settings and for public policy decisions without the need for extensive additional translation research. The design advantages associated with pragmatic trials have attracted substantial discussions in the clinical trials literature (Tunis, Stryer, Clancy, 2003; Roland & Torgerson, 1998; Patsopoulos, 2011; Hotopf, 2002). The CONSORT group’s (Zwarenstein, Treweek, Gagnier, 2008), revision to the CONSORT reporting standards for clinical trials reported in the BMJ makes a range of key pertinent points in their discussion of pragmatic trials.

The use of pragmatic trial methodology involves an increase in utility of the trial. Citing Schwartz and Lellouch the CONSORT group argues: *“Most trials done hitherto have adopted the explanatory approach without question; the pragmatic approach would often have been more justifiable”* (p.2).

In a pragmatic trial, the same key bias minimisation methods are employed as in a standard RCT. A key distinction between pragmatic trials and traditional RCT trials is in the area of efficacy and effectiveness. An efficacy trial determines whether interventions produce effects under ideal circumstances. So an efficacy trial may, for example, exclude all people with co-morbid disorders in order that a “pure” efficacy result is obtained. In the comorbidity review published in Addiction produced by the current research group and in the NHMRC clinical guideline, this point has been argued in detail (see Lorains, Cowlishaw, & Thomas, 2011; Problem Gambling Research and Treatment Centre, 2011). The use of highly biased and unrepresentative participant groups free from comorbidities while in one sense pursuing rigour also potentially provide very little useful data concerning the people presenting to clinical services who have high rates of comorbidity. Similarly, in psychological treatment RCTs extensive treatment regimens may be used that could never be realistically implemented in a real clinical setting. For example, trials involving 12 or 24 sessions of therapy may be academically interesting but if the funder is only prepared to support six sessions of therapy the results are of very limited use in that context. Effectiveness studies (pragmatic trials) measure intervention effects under “real world” clinical settings. And this was our approach.

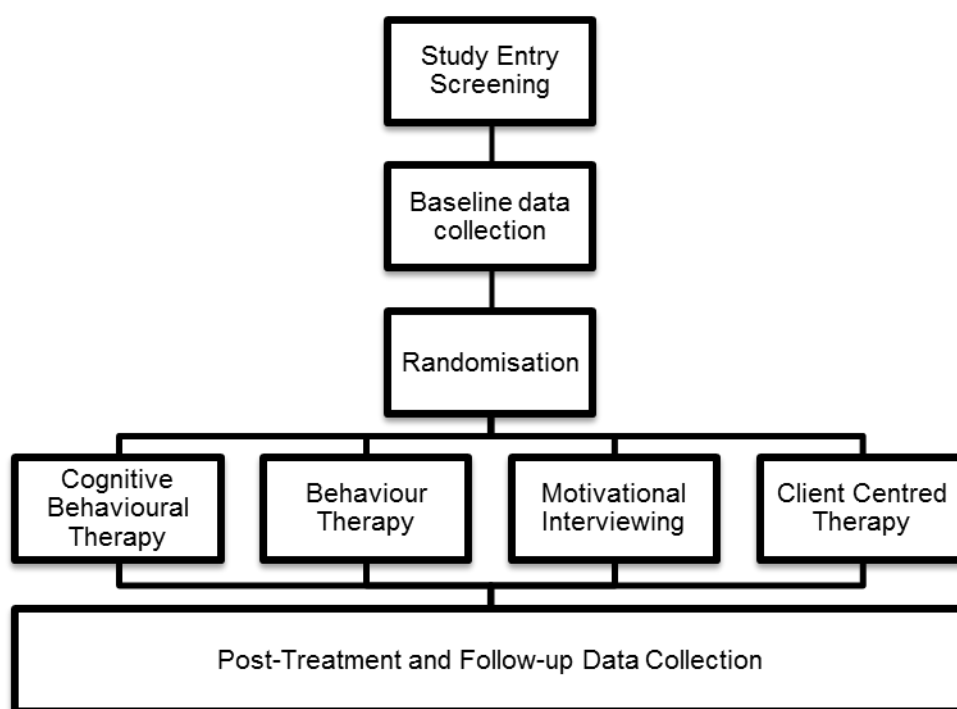
Thus in the present study people with co-morbidities were not excluded. In the problem gambling study environment this could involve the potential exclusion of over 90 per cent of real clients leaving a highly un-representative residuum sample (Lorains, Cowlshaw, & Thomas, 2011). The results from this residual and highly biased study sample are of very limited use to clinicians and policy makers. Similarly, we used our benchmark of up to 6 treatment sessions knowing that a typical course of treatment in the jurisdiction in which this study was performed usually involves up to 4 sessions. (Crisp, Jackson, Thomas, et al 2001). If in designing the present trial it has been decided to opt for 12 sessions, for example, apart from the issue of poor generalizability this could encourage and perhaps mandate high dropout rates.

A detailed description of the study methodology now follows.

# Study A: Pragmatic effectiveness trial – Research methods

## Study Design

The study design was a parallel group, pragmatic randomised controlled trial, as summarised in the figure below. Individuals interested in participating in the study contacted the research team, where they were assessed for eligibility. Eligible participants were sent an explanatory statement and informed consent form, to be returned to the research team. Once informed consent was obtained, trained research assistants conducted the baseline assessment and participants were then randomly allocated to one of the four interventions. These interventions were: Cognitive-Behaviour Therapy (CBT), Behaviour Therapy (BT), Motivational Interviewing (MI) and Client-Centred Therapy (CCT). Participants in each intervention received up to six individual face-to-face sessions of their allocated treatment, with a registered psychologist. Follow up assessments were conducted at the end of treatment and at six and 12 months post-treatment for all available participants.



**Figure 3 Study design**

Ethics approval was obtained from the Department of Justice Human Research Ethics Committee (approval CF/11/22867), Monash University Human Research Ethics Committee (approval A1/2012) and the University of Melbourne Human Research Ethics Committee (CD/12/536402).

## Participant recruitment and random assignment to treatment

Participants were recruited from the Greater Melbourne Metropolitan Region, Victoria, via advertisements in various media outlets, including newspapers, electronic media and university websites. Participant recruitment commenced in June 2012 and was finalised in February 2014. Individuals interested in participation contacted the research team via a free 1800 telephone number or email.

A screening and intake protocol was developed to respond to enquiries from individuals via telephone and email in a structured manner. During the screening and intake process, the research team were responsible for explaining the study, responding to questions, recording basic socio-demographic details (date of birth, sex, postcode of current residence, country of birth, where relevant, year of arrival in Australia, main language spoken at home and whether they identify themselves as Aboriginal, Torres Strait Islander or South Sea Islander) and assessing eligibility. Individuals were eligible to participate if they:

- were aged 18 years and over;
- wished to receive treatment for a self-identified gambling problem; and
- could communicate in English.

Individuals were not eligible to participate if they were:

- unable to understand and provide informed consent;
- at risk of self-harm; or
- currently receiving other treatments for their gambling problems from a counsellor or therapist, or had received such treatment in the past 12 months.

In keeping with the sampling principles suggested by a pragmatic trial, people with comorbid mental health and/or addiction disorders were not excluded from the trial.

Individuals eligible to participate then had their contact details recorded for the purpose of sending out the study information package which included the Explanatory Statement, the Informed Consent form and a reply paid envelope.

Once informed consent was received, participants completed a baseline assessment interview followed by random assignment to one of the four interventions. To ensure equal numbers across the four interventions, participants were randomised using a permuted block design. The block sizes randomly varied to reduce the chance of the research team recognising the assignment schedule (Schulz & Grimes, 2002). An external clinical trials unit, the NHMRC Clinical Trials Unit, independent of the research team, was responsible for generating the randomisation schedule. All staff responsible

for collecting the outcome data, at each time point, were blinded to the treatment condition of the participants i.e. full allocation concealment was employed.

## Sample Size Considerations

Sample size calculations for this trial were based on a power level of 0.90 and an alpha level of  $\alpha=0.01$ . The Cochrane review of RCTs assessing psychological interventions for problem gambling was used to determine an appropriate effect size (Cowlshaw et al., 2012). For the primary outcome measure of gambling behaviour (assessed by frequency, amount and time spent gambling for this trial), this Cochrane review found an expected standardised effect size ranging from  $d = 0.50$  and  $d = 0.84$ , for financial loss from gambling and frequency of gambling, respectively. We therefore powered the study to detect the smaller reported effect size of  $d = 0.50$ .

Given a power level of 0.90, an alpha of  $\alpha = 0.01$ , an effect size of  $d = 0.05$ , and a correlation of 0.8 between repeated measures, a sufficient sample size of  $n= 136$  (34 participants per intervention group) was calculated using G\*Power software and a priori repeated measures ANOVA.

However, taking in to account participant dropout for later longitudinal data collection a larger sample size of  $n=276$  was chosen, representing 69 participants per intervention (i.e. effectively doubling the sample size). However it appears that this provision may have been excessive based upon the dropouts experienced to date and the current projections for dropouts in the latter parts of the study. This means that the study is effectively powered to detect better than 0.50 effect sizes.

## Study Treatments

The interventions provided in this study were Cognitive-Behaviour Therapy (CBT), Behaviour Therapy (BT), Motivational Interviewing (MI) and Client-Centred Therapy (CCT). In all treatment groups, each participant received up to six individual, face-to-face sessions with a psychologist. The sessions were normally conducted on a weekly basis, ranging from 45 to 60 minutes a session. There was a 12-week limit for conclusion of all sessions to allow for clients to suspend treatment for work and other legitimate commitments. This design was implemented in order to support the pragmatic design philosophy of the trial. The psychologists providing treatment for this trial were required to have current registration with the Australian Health Practitioner Regulation Agency (AHPRA). Treatment was provided in the psychologists' places of usual practice to maximise the realism of the treatment episodes and the translation of the results to real clinic conditions.

For the purpose of this trial, a detailed treatment guide was developed for each of the four psychological interventions. As outlined in this report, the guides were subjected to extensive quality testing and review. Two Australian Psychological Society Fellows reviewed each of the manuals and any recommended changes were implemented. A summary of the session structure for each intervention is provided in Table 11.

Table 11 Session Structure for the Four Interventions

Intervention	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6
<b>Cognitive-Behavioural Therapy (CBT)</b>	History taking, assessment and goal formation.	Gambling education and self-management techniques.		Cognitive restructuring.	Challenging gambling specific erroneous cognitions.	Relapse prevention.
<b>Behaviour Therapy (BT) Urge reduction</b>	History taking, assessment and goal formation.	Gambling education and self-management techniques.		Imaginal exposure and reducing urges to gamble.		Relapse prevention.
<b>Motivational Interviewing (MI)</b>	Engaging with the participant, explaining the treatment, providing assessment feedback and history taking.	Check in with the participant and determine their goal for the session. The exact content of each session will differ depending on the participant's readiness to change and their ambivalence and resistance towards change. Underpinning each session will be the principles of MI including, expressing empathy, rolling with resistance, supporting self-efficacy and developing discrepancy.				
<b>Client-Centred Therapy (CCT)</b>	Engaging with the participant, explaining the treatment, providing assessment feedback and history taking.	Check in with the participant and determine what they hope to focus on in the session. Each session will be underpinned by the principles of unconditional positive regard, genuineness, empathic understanding, reflective listening, staying entirely within the participant's frame of reference and avoidance of volunteering leading questions, interpretations, suggestions or guidance.				

## Study Measures and Data Collection Methods

As mentioned previously, basic socio-demographic characteristics, including those required to confirm eligibility, were collected during the screening and intake process (date of birth, sex, country of birth, year of arrival in Australia, language spoken at home, postcode of current residence and whether they identify themselves as Aboriginal, Torres Strait Islander, or South Sea Islander).

The baseline assessment included all other socio-demographic variables, including marital status, employment status, and highest education achieved. Questions relating to clinical history, such as, previous treatments for problem gambling or other mental health issues were collected during the baseline interview. Valid and reliable tools were used to assess all of the primary outcomes and additional measures.

Data collection interviews have been conducted at the end of treatment, 6 months follow up and further follow was conducted at 12 months. These follow-up data collection interviews included all of the primary outcomes and most of the additional measures. See Table 12 for an outline of the measures assessed at each assessment time point.

**Table 12 Table showing the measures taken for each assessment time point**

Measure	Screening and intake	Baseline (t <sub>0</sub> )	End of treatment (t <sub>1</sub> )	6 months (t <sub>2</sub> )	12 months (t <sub>3</sub> )
Socio-demographics	X	X			
Clinical history		X			
G-SAS		X	X	X	X
Gambling behaviours		X	X	X	X
DSM-IV		X		X	X
PGSI		X			X
Other gambling related measures – PG duration, family history, preferred gambling activity and gambling debt		X			
AUDIT		X	X	X	X
DASS-21		X	X	X	X
K6		X	X	X	X

All data collection interviews were conducted over the telephone by psychology trained research assistants, and took approximately 45 minutes to complete. The research assistants conducting the data collection interviews were blinded to the intervention that participants received. Participants were compensated for their time and efforts with a \$50 gift voucher for each follow-up data collection interview completed. The primary outcome measures are summarised below.

## Primary outcomes

### Gambling behaviours

One of the primary outcomes assessed was gambling behaviour. The questions used to measure gambling behaviours were based on Walker and colleagues (2006) framework for reporting outcomes in problem gambling treatment research. The gambling behaviour questions assessed past month frequency of gambling sessions (in days), time spent gambling (in hours) and amount of money spent gambling (in relation to net loss). These gambling behaviour questions were asked for each gambling activity the participant had gambled or played on in the past month and then summed.

### Gambling symptom severity (G-SAS)

The Gambling Symptom Assessment Scale (G-SAS) (Kim, Grant, Potenza, Blanco, & Hollander, 2009) is a 12-item scale designed for the purpose of assessing change in gambling symptom severity during treatment. This scale utilises a past week timeframe, and items are rated on a 5-point scale. The G-SAS has been shown to be a valid and reliable tool (Won, Grant, Potenza, 2009) for assessing gambling symptom severity and changes in symptoms during treatment.

## **Additional measures**

### **Clinical history**

Participants were asked questions relating to treatments they have previously received for problem gambling and other mental health issues and if they are currently taking any prescribed medication. More specifically, the participants were asked:

- the number of times they had ever participated in a treatment program for gambling problems
- whether they had ever, and in the past 12 months, attended Gamblers Anonymous meetings
- if they had ever sought professional treatment for any tobacco, alcohol, drug, other addiction or any mental health issues.
- if they were currently taking any prescribed medication for any mental health related issues.

### **Gambling-related measures**

DSM-IV criteria (Stinchfield, Govoni, & Frisch, 2005)

Stinchfield and colleagues' ten-item questionnaire based on the DSM-IV criteria was used to determine if participants met the diagnosis for pathological gambling. Response options of yes or no are summed and a positive response on five or more items indicates a classification of pathological gambling (Hodgins & Stinchfield; 2008).

Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001)

The PGSI is a nine-item scale designed to measure problem gambling. Using a 12-month time frame, responses are based on a 4-point Likert scale ranging from '0=never' to '3=almost always'. Scores on each item are summed and categorised as non-problem gambling (score of 0), low level of problem with few or no identified negative consequences (score of 1-2), moderate level of problems leading to some negative consequences (score of 3-7) or problem gambling with negative consequences and a possible loss of control (score of 8 or more). The original psychometric study reported by Ferris and Wynne was based on a General Canadian population sample of 3,120 people. Cronbach's alpha was found to be 0.84 and Test-retest reliability was 0.78.

Other gambling-related measures

- Family history of problem gambling
- Problem gambling duration, measured in years
- Current gambling related debts
- Preferred gambling activity

## Psychological wellbeing measures

Kessler 6 (K6) (Kessler et al., 2002)

The K6 is a six-item scale that assesses non-specific psychological distress, over the previous month. Items are rated on a 5-point Likert scale, ranging from '0=none of the time' to '4=all of the time'. Scores for each item are summed and based on the overall scores participants are classified into low, moderate, high or very high risk. A score of 12 or greater constitutes a very high risk. The K6/ K10 tools are widely used and are recommended by the Australian Bureau of Statistics (2012). The K6 is now included in the US National Health Interview Survey and the National Household Survey on Drug Abuse.

Depression, Anxiety and Stress Scale – 21 (DASS-21) (Lovibond & Lovibond, 1995)

The DASS is a self-report questionnaire that measures the severity of a variety of symptoms, over the previous week, which is common to depression, anxiety and stress. For this trial, we used the 21-item version (DASS-21), as it takes less time to administer and it has excellent psychometric properties (Antony). Each of the three subscales (depression, anxiety and stress) contains seven items. These items are rated on a 4-point Likert scale, ranging from '0=did not apply to me at all' to '3=applied to me very much, or most of the time'. The scores for each subscale are calculated by summing the scores of the relevant items and then multiplying them by 2. The classifications according to degree of severity for the DASS-21 subscales include normal, mild, moderate, severe and extremely severe, with the cut-off points varying for each subscale. The DASS has excellent psychometric properties and is used widely (Brown, Chorpita, Korotitsch, 1997).

## Other Addiction measures

Alcohol Use Disorders Identification Test (AUDIT) (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001)

The AUDIT is a 10-item scale used as a screening tool for risky drinking behaviours. The AUDIT provides an overall score that indicates the level of risk associated with an individual's drinking and three sub-scores (consumption, dependence and alcohol-related problems) that also provides useful clinical information. The items are rated on a 5-point Likert scale. The alcohol dependence and alcohol-related problems subscales have a 12-month timeframe. An overall score on the AUDIT can be calculated by summing the scores for each item. Overall scores of eight or above indicate a level risky or hazardous drinking, with a score of 20 or above indicating a high-risk level. Psychometric studies are indicative of a robust tool<sup>1</sup>.

Substance Use

Participants were asked about their past year substance use, including tobacco products and illicit substances. Responses included daily (or almost daily), weekly, monthly, less than monthly or not at all in the past 12 months.

---

<sup>1</sup> Reinert D.F., Allen J.P. (2007). The alcohol use disorders identification test: an update of research findings. *Alcohol Clin Exp Res.* 31(2):185-99.

## Clinical Training and Treatment Integrity

In order to ensure high treatment integrity a number of actions were implemented. First the selection criteria for participating clinicians ensured that all clinicians were registered psychologist with the Australian Health Practitioner Regulation Agency (AHPRA) and hence had a significant level of professional attainment in their experience and training.

Manuals were developed for each of the four psychological interventions and each of these manuals were subjected to review by content specialists and two Fellows of the Australian Psychological Society.

Notwithstanding the quality of the practitioners and the preparation of the manuals a significant investment was also made in the training and supervision of clinician participants. Clinician participants attended at least three group meetings where the detail of the manuals were reviewed and discussed. The clinicians had input into the manuals before they were finalised. Many useful improvements were implemented.

All clinical sessions for all participants were recorded using a digital recorder supplied for this purpose and a recording protocol developed by the researchers was implemented. The client participants formally consented to these arrangements. This has generated a massive clinical interaction database.

For the purposes of the trial, a Fellow and a Member of the Australian Psychological Society conducted an audit of the recordings for all clinicians. Recordings were stratified randomly sampled from the first four sessions for each clinician. The assessors independently scored the sessions and a compliance measure was extracted from the analyses using a check sheet developed for the purpose. The same sheet was used for all sessions. All participating clinicians achieved more than the targeted 90 per cent adherence across their sessions. It was initially the intention in a later study to model the relationship between fidelity and treatment outcomes but this was discontinued because it is highly likely that such modelling would not reveal interesting results because of the low variability in intervention outcomes and a similarly low variability in (lack of) adherence.

## Data Analysis Concepts and Methods

Statistical analyses were conducted using IBM SPSS Statistics 21. For baseline demographics and clinical characteristics the mean and SD were used to summarise quantitative data. Where quantitative data was asymmetrically distributed the median and inter-quartile ranges are given. For categorical data, numbers and proportions are reported. As previously outlined this is an ongoing longitudinal study with ongoing client flowthrough in the latter parts of the study. Variation in numbers at the different stages reflects this fact. Attrition in the study is actually very low as outlined in the study recruitment flowcharts. A consequence of the ongoing nature of this study is that the numbers of

participants currently vary across the different study stages. We took the following approach to various key analysis design questions.

#### **Treatment of missing data**

- Neither substitution nor synthetic estimation methods were used to replace missing data. Missing data was excluded on a pair wise rather than list wise method in order to maintain sample integrity.

#### **Treatment of outliers**

- No trimming or data modification was employed in order to preserve the integrity of data and the sample. However log (10) transformations were applied to skewed distributions in order to improve adherence to normality distribution assumptions.

#### **Responders and non-responders**

- No categorisation occurred of responders using any pre-specified clinical cut-off scores. The n and % of individuals that improved, deteriorated or stayed the same was reported.

#### **Analysis methods for participants receiving fewer than six therapy sessions**

The primary analysis was intention-to-treat (ITT) to investigate any statistically significant differences in primary outcomes over time for the sample as a whole, for each of the treatment arms, and whether there was an interaction between time and group. The ITT principal preserves the benefit of randomisation where all individuals are included in the analysis, in the groups to which they were randomised to avoid potential effects of participants having fewer than six treatment sessions. As previously outlined the great majority (84 per cent) of participants did not vary the number of sessions. This analytical approach is considered to be a central tenet of pragmatic trial methodology.

#### **Statistical Analysis Methods**

There is a considerable discussion in the clinical trials literature as to the most appropriate methods for statistical analysis of trials data. While it is generally accepted that Randomized Controlled Trials are the soundest design for assessing the effectiveness and efficacy of treatment interventions, there are quite varied approaches advocated for the analysis of RCT data.

The different approaches form the basis for an active technical discussion in the RCT Methodology literature. The choice of methods for the reporting of the findings of the current study were informed by this literature in terms of the necessity for the use of defensible and sound techniques as well as the necessity for accessible and clear presentation of the data. The users of the present report span a wide range of people including the general community, treatment professionals, scientists, funders and government. Thus while we have maintained high technical standards we have also been mindful of the need for clear and accessible presentation of the study findings.

Read, Kendall, Carper & Rausch (2013) in the Oxford Handbook of Research Strategies for Clinical Psychology reviewed alternative statistical analysis methods for Pretreatment, Post-treatment, Follow-up studies. They reviewed ANOVA, MANOVA, ANCOVA, MANCOVA and hierarchical linear modeling as alternative analysis methods for longitudinal clinical trial data. There was no clear “winner” as each technique has advantages and disadvantages. For example ANCOVA has attracted criticism over an extended period because of the risk of over estimation of effects sizes under certain conditions (see Egger et al, 1985) and it remains a very widely used analysis technique in trials. Yet in 2014, Egbewale, Lewis & Sim reviewed a range of different analytical approaches for RCTs including those with baseline imbalance (a common occurrence in small trials) by conducting extensive simulations and concluded:

*"Across a range of correlations between pre- and post-treatment scores and at varying levels and direction of baseline imbalance, ANCOVA remains the optimum statistical method for the analysis of continuous outcomes in RCTs, in terms of bias, precision and statistical power".*

We have opted to present ANOVA and ANCOVA based analyses in this report because of their robustness, simplicity and widespread use and their “fit” with the research objectives being considered in this report. In the 2015 report in which we will report our outcome prediction study analyses we will use regression and HLM approaches.

## Outcome prediction study analyses

It is intended to conduct an outcome prediction study based upon the 12-month outcome data for the project. At the time of this report we have n=193 12 month interviews completed out of an expected 242 interviews. The outcome prediction study will be fully reported in the September 2015 update of the current report.

The major objective of the outcome prediction study is to provide information about which treatments are best for particular groups and how the characteristics of those undergoing treatment might affect the outcomes obtained.

The basic model for the outcome prediction analyses involves the use of key patient, client, clinician and treatment characteristics to predict client outcomes. This approach stands in comparison to conventional treatment/ intervention based analysis where differences in outcomes are solely attributed to treatment/ intervention group membership.

For all participants in the RCT, certain key characteristics have been measured. These characteristics include:

- Demographic characteristics including age, sex, educational background, work history, family structure and other relevant parameters including social capital
- Psychological characteristics including readiness to change, quality of life and wellbeing
- Psychological co-morbidities including anxiety and depression and other co-morbidities including use of alcohol, drugs, tobacco and experience of family violence
- Health status and use of health and support services, especially for co-morbidities
- Problem gambling and gambling behaviour and attitudes inventories

For the participating clinicians we have collected data including:

- Demographic characteristics
- Experience in treatment of problem gambling clients
- Training
- Expectations concerning treatment outcomes and effectiveness
- Characteristics of session delivered in the study

We, of course also have considerable data relating to the delivered treatments including:

- Number of sessions
- Length of sessions
- Content of sessions
- Clinician and client contribution to the clinical sessions

These characteristics will be used in multivariate multi-level modelling to understand their effects upon treatment outcomes. Thus the outcome prediction study consists of the collection of additional information about the participants in the RCT and then the use of that information in modelling treatment outcomes for those participants. The data collection for the outcome prediction study is to be conducted in conjunction with the standard RCT analyses.

The outcome prediction study enables the identification of which treatments are most effective for which sub-groups. We will investigate whether the treatments identified as being more or less successful for key groups from the Outcome Prediction Study are effective for these key groups.

## Pilot Study Results

---

The pilot study was conducted as a separate exercise to the main data collection with the objective of determining the feasibility of the study methodology and protocols. 23 participants took part in the pilot and completed the intake, baseline interview, assignment, treatment and post treatment interview components of the study. The results of the pilot study are reported in the following section of this report.

23 participants completed the base line intake interview. The psychology trained Research Assistants for the Project undertook the screening interviews and the baseline interviews. The intake interview was the same as that used in the full study.

No difficulties were reported with comprehension or completion of the interviews. Two respondents reported some perceived degree of repetition of items (which is actually the case because we were using several tools designed to measure Problem Gambling acuity and diagnosis) but this was not cause for complaint from the participants. The interviews ranged from 30 to 40 minutes in length and were conducted by our psychology trained research staff.

The data file involves some 329 data fields and was programmed in SPSS. The data were entered first into a Microsoft Access database for error-checking and validation capability and were then transferred to SPSS. Double and independent checking is implemented for all data to ensure accuracy. The psychology research assistants undertook the data entry and cleaning.

## Pilot Quantitative Baseline Data Collection

The pilot baseline results were as follows:

- There was an equal distribution of males and females.
- The ages of participants ranged from 29 to 79
- The majority of participants wished to cease gambling altogether
- A range of triggers for seeking treatment was identified mostly centring on lack of money
- Half of the participants had never previously sought treatment for problem gambling
- Almost 2/3 of the respondents had been treated for other mental health problems
- Length of time for the gambling problem ranged from less than year to 43 years

## Entry to treatment and quantitative post-treatment data collection

23 participants were randomly assigned to one of the four treatment groups- Cognitive Behaviour Therapy (CBT), Motivational Interviewing (MI), Behaviour Therapy (BT) and Client Centred Therapy (CCT)

Two participants dropped out of treatment. Both specified that difficulty travelling to treatment sessions was the reason for their dropout. One participant received 1 treatment session the other received 0. Therefore we had 21 active participants for the pilot.

Participants completed the End of Treatment interview after completing treatment for their problem gambling. The Research Assistants conducted the End of Treatment Interviews.

No difficulties were reported with comprehension or completion of the interviews. The interviews ranged from 30 to 40 minutes and were conducted by our trained research staff.

The End of Treatment data file involved 298 fields and was programmed in SPSS. The data were entered into a Microsoft Access database for error checking and validation.

The results for the end of treatment pilot were as follows:

- Most of the participants considered their amount of gambling over the treatment period to be completely acceptable given their current recovery goals.
- After being treated for gambling problems 37% of participants did not gamble again.
- More than half of the participants reported that they have a less severe gambling problem before beginning treatment.
- Overall gambling activity and spending reduced after treatment as well as gambling related symptoms

# The qualitative component of the pilot study

## Background to the qualitative study

This qualitative study aimed to add considerable depth and detail to our understanding of individuals' experiences with problem gambling treatment. This approach was intended to help to shed light on how individuals experience treatment, their outcomes, and the interactions between their treatment and the social contexts in which they live.

The qualitative study was intended to:

- Provide evidence on the subjective experience of receiving treatment;
- Provide insights into how change is achieved and the factors that may constrain or facilitate this change over time;
- Help to understand why there may be heterogeneity in outcomes.

*Specifically the qualitative study was guided by three research questions:*

1. How do problem gamblers experience treatment aimed to help treat and support them with their gambling problem?
2. What are the barriers and facilitators that individuals experience within treatment?
3. Is there any significant interplay between an individual's social and personal contexts, their experiences within the treatment, and their short and long-term outcomes after treatment?

## **Qualitative Data Analysis and Reporting**

A one page summary of each interview was written by the scribe immediately following each interview, reviewed by the interviewer, and amended as required. All qualitative interviews were audio-recorded. A professional transcription company transcribed the semi-structured interviews. NVivo 10 was used to manage the qualitative data. Demographic descriptives for each participant were also entered to enable future analysis according to different variables. Data were subjected to a preliminary thematic analysis.

Verbatim quotes were used to illustrate the findings. Data was de-identified where relevant and pseudonyms were used to protect the anonymity of the participants.

### ***Training and Fidelity***

The interviewers involved in the qualitative component, were all part of the qualitative research team, and were fully briefed regarding the data collection process. The two members of the research team debriefed after each interview in relation to the content and process of the interview. The full qualitative research team convened twice, at the completion of both pre-treatment and post-treatment interviews, to discuss and critique the process.

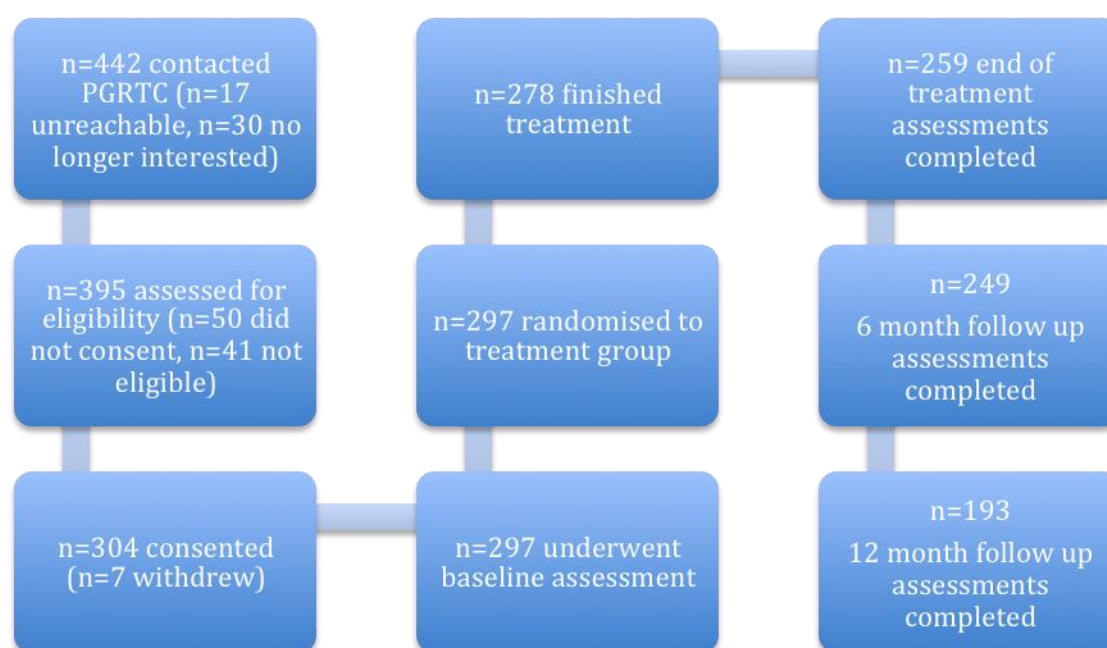
## **Conclusions for the Pilot Study**

The pilot was considered to be successful. No specific issues were identified relating to the smooth conduct of the ensuing study that would require change to the protocols. Accordingly both the quantitative and the qualitative study protocols were not amended and the study commenced as planned.

## Study A: Pragmatic effectiveness trial – Results

### Participant Recruitment Outcomes and Attrition

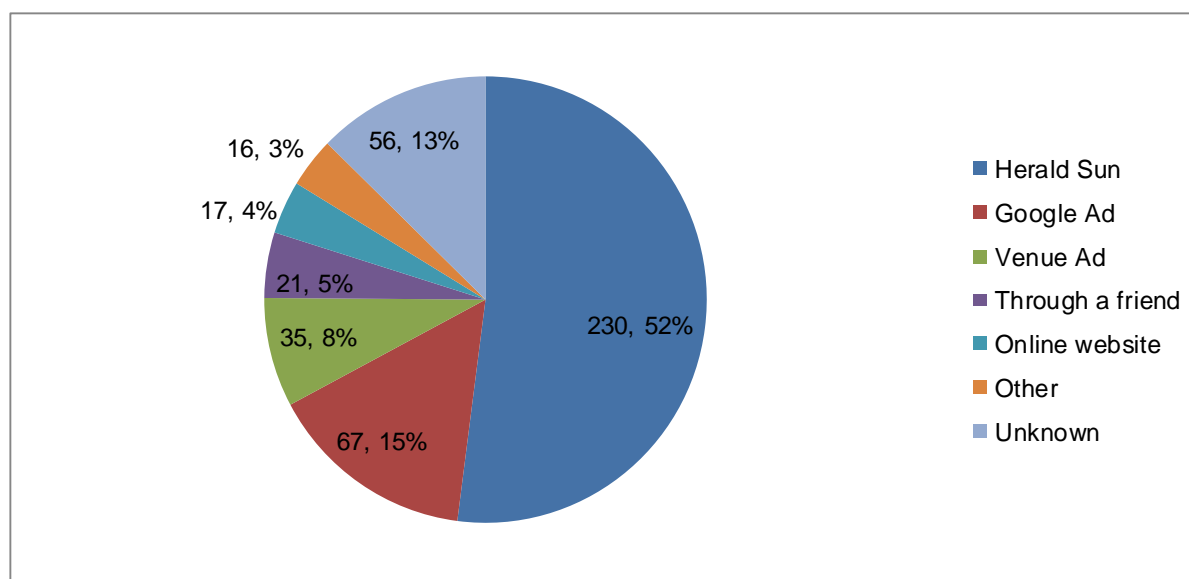
The current situation as at February 25, 2015 for the flow of participants through each stage of the study is shown in the figure below. It is important to note that currently participants continue to flow in and through the later stages in this chart. The apparent “drop” off of participant numbers in the last box does not reflect attrition per se, it reflects the timing of the reporting of findings i.e. 12 month follow up can only occur when the participants have reached 12 months post treatment. There is a wave of participants who will progress through the last stage of the study. There is some uncertainty as to the ultimate final numbers to be achieved in the longitudinal component of the study. The final total of 249 completed six-month interviews has now been reached. Thus the attrition rate from end of treatment data collection to the six-month period is 3.89 per cent between these two periods.



**Figure 4 Participant flow chart for stages of the study**

Enquiries were received from 442 people interested in taking part in the study. Just over half of participant enquiries were from advertisements placed in the Herald Sun newspaper. Google advertisements generated a further 67 participant enquiries. The figure below, **Error! Reference**

**source not found.** Figure 5, summarises the source of participant enquiries. The Herald Sun was by far the most effective recruitment channel.



**Figure 5 Recruitment source**

The 442 participant enquiries were received between April 15<sup>th</sup>, 2012 and February 11<sup>th</sup>, 2014. Most enquiries were by telephone (n=304, 72%); the remainder were by email.

The main reason for exclusion from the PROGRESS study was receipt of psychological treatment for gambling problems within the past 12 months (n=35). This was not allowed under the study inclusion/exclusion criteria in order to avoid interaction effects with previous treatment. Three additional participants were excluded because they did not live in Victoria, and three participants were excluded because they were at current risk of self-harm.

Using permuted block randomisation, 74 participants were allocated to receive cognitive-behaviour therapy (CBT), 74 participants were allocated to receive Behaviour Therapy (BT), 73 participants were allocated to receive Motivational Interviewing (MI), and 77 participants were allocated to receive Client-Centred Therapy. Of the 297 participants randomised, 23 did not receive any treatment sessions. No significant differences were found between intervention starters and non-starters in terms of age ( $p = .185$ ), gender ( $p = .526$ ), treatment type ( $p = 0.704$ ), instances of gambling in the past four weeks ( $p = .776$ ), hours spent gambling in the past four weeks ( $p = .402$ ), dollars spent gambling in the past four weeks ( $p = .286$ ), or gambling symptom severity ( $p = .890$ ).

Median time between baseline assessment and initial treatment session was 2.4 weeks, where 50% of participants had their initial treatment session between 1.6 weeks and 3.4 weeks after their baseline assessment. Most participants completed six treatment sessions (84%). Number of treatment sessions attended was not predicted by treatment type (chi-square = 14.10,  $p = .518$ ). Overall, the median time for participants' involvement in treatment was 11.3 weeks, where 50% of participants had

treatment duration between 5.4 weeks and 9.1 weeks (IQR = 3.7 weeks). The median time between sessions was 7 days, and 73% of sessions occurred between one and two weeks of the previous session. Eleven per cent of sessions occurred within a week of the previous session, and 17% of sessions occurred more than two weeks after the previous session. Median follow-up time was 1.4 weeks after the final treatment session for end-of-treatment assessment (50% between 0.7 and 2.7 weeks) and 26.1 weeks for six-month assessment (50% between 25.3 and 27.0 weeks). Thus the study timing adhered closely to the expected timing intervals.

## Baseline Data

Baseline characteristics for n=297 participants are shown in the following table.

The Productivity Commission Inquiry into Gambling (Productivity Commission, 2010) included a survey of clients of counselling agencies providing specialised gambling support services within each state and territory government. The data were based on responses from people who had sought assistance for problems with their problem gambling, and therefore represent a benchmark to determine the representativeness of the sample in the present study.

A chi-square goodness-of-fit test indicated there was no significant difference in the proportion of males identified in the current sample (55.0%) as compared with the value of 59% that was obtained in the previous nationwide survey,  $\chi^2 (1, n=257) = 1.544, p = .214$ . The PROGRESS sample tended to be older as compared with the sample in the previous nationwide survey, specifically we tended to have fewer participants in the 30-39 age group and more participants in the 60 years plus age group. This is likely because most of our participants were recruited through advertisements in the Herald Sun, a newspaper for which 31% of readers are Baby Boomers (News Australia, 2014). Using the DSM-IV criteria, 85.3% of the participants were diagnosed as pathological gamblers at baseline assessment. For the participants who did not meet problem or pathological gambling criteria, n=1 had a DSM-IV rating of one, n=10 had a DSM-IV rating of 2, n=10 had a DSM-IV rating of three and n=12 had a DSM-IV rating of four. Similarly, 88.3% of the participants scored in the problem gambling range based on the PGSI (score of 8 or more). There were no significant differences between treatment groups on any of the variables reported in the following table.

**Table 13 Table of Baseline group socio-demographics and clinical characteristics (n=297)**

<b>Sociodemographic data</b>	<b>N (%)</b>
Age (years) (mean, SD)	50.5(14.3)
Female	104(45.0)
<i>Relationship</i>	
Married/de facto	88(38.1)
Separated/divorced/never married	134(58.0)
Widowed	9(3.9)
<i>Education</i>	
University or college degree	70(30.3)
Trade/technical certificate/diploma	58(25.1)

Senior high school	42(18.2)
Junior high school	41(17.7)
Other	20(8.7)
<b>Employment</b>	
Full-time	102(44.2)
Part-time	26(11.3)
Casual/self-employed	23(10.0)
Full-time student	6(2.6)
Not working (full-time home duties/retired/pensioner/unemployed)	69(29.9)
Other	5(2.2)
<b>Income</b>	
Less than \$25,000	67(29.0)
\$25,000 to \$39,999	31(13.4)
\$40,000 to \$64,999	45(19.5)
\$65,000 to \$79,999	23(10.0)
\$80,000 to \$129,000	43(18.6)
\$130,000 or more	21(9.1)
<b>Previous treatment</b>	
Participation in a treatment program for gambling problems	96(46.6)
<i>Attendance at Gamblers Anonymous meetings</i>	
In the past 12 months	16(6.9)
More than 12 months ago	56(24.2)
Never	159(68.9)
Participation in treatment for tobacco use	11(4.8)
Participation in treatment for alcohol use	19(8.2)
Participation in treatment for drug use	6(2.6)
Participation in treatment for other addictions	5(2.2)
Participation in treatment for mental health problems	108(46.8)
<b>Gambling data</b>	
Pathological gamblers (DSM-IV criteria)	197(85.3)
Problem gamblers (PGSI score of 8 or more)	204(88.3)
Family history of gambling problems	102(44.2)
Years with a gambling problem (mean, SD)	13.9(10.1)
Poker machines/EGMs as preferred mode of gambling	150(64.9)
Any gambling-related debt	114(49.4)
<b>Psychological well-being</b>	
Kessler-6 within normal limits	155(67.1)
DASS-21 Depression within normal limits	103(44.6)
DASS-21 Anxiety within normal limits	142(61.5)
DASS-21 Stress within normal limits	146(63.2)
<b>Drug and Alcohol Use</b>	
AUDIT score within normal limits	141(61.0)
Daily tobacco use	55(23.8)
Weekly recreational drug use	23(10.0)

## Effects of treatment group and time on key outcomes

Tables of means for constructed for all four primary outcome measures. These were then subjected to ANOVA and ANCOVA repeated measures analyses to examine whether there were time effects i.e. statistically significant changes in outcome measures over time (pre-treatment ( $t_0$ ), post treatment ( $t_1$ ), 6 months post treatment ( $t_2$ ), and 12 months post treatment ( $t_3$ ) and whether there were differences

across the four treatment groups (CBT, BT, MI, CCT) and whether there were interactions between these effects i.e. whether some treatments resulted in different patterns of change. The following table includes the means for the gambling frequency measures for the treatment groups across  $t_0$  to  $t_3$ .

**Table 14 Table of raw means for gambling behaviour measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment**

	Group	Gambling frequency (Occasions per 4 weeks)		Gambling time (hours per 4 weeks)		Amount Lost (AUD per 4 weeks)	
		n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Baseline ( $t=0$ )	CBT	74	18.67 (17.63)	74	31.55 (25.77)	73	\$3,577 (4,033)
	BT	74	17.81 (13.93)	74	38.74 (45.41)	74	\$4,648 (7,420)
	MI	73	18.74 (16.12)	73	42.73 (61.12)	73	\$4,667 (7,048)
	CCT	76	16.14 (18.94)	76	28.11 (31.86)	76	\$4,382 (6,808)
	<b>Total</b>	<b>297</b>	<b>17.82 (16.73)</b>	<b>297</b>	<b>35.21 (43.26)</b>	<b>296</b>	<b>\$4,320 (6,457)</b>
Post-treatment ( $t=1$ )	CBT	62	9.33 (10.83)	62	15.63 (21.81)	62	\$4,183 (22,794)
	BT	65	8.22 (7.39)	65	13.96 (19.04)	65	\$1,826 (4,686)
	MI	65	10.18 (11.62)	65	20.00 (30.10)	65	\$1,668 (3,310)
	CCT	67	9.38 (12.36)	67	15.42 (27.87)	67	\$1,842 (3,348)
	<b>Total</b>	<b>259</b>	<b>9.33 (10.69)</b>	<b>259</b>	<b>16.25 (25.12)</b>	<b>259</b>	<b>\$2,355 (11,616)</b>
Six month ( $t=2$ )	CBT	64	10.82 (14.85)	64	15.51 (20.04)	64	\$1,840 (3,385)
	BT	62	9.33 (8.62)	62	16.84 (22.08)	62	\$2,669 (8,245)
	MI	62	9.98 (9.16)	62	12.12 (14.67)	62	\$1,491 (2,944)
	CCT	61	10.02 (11.34)	61	14.86 (31.06)	61	\$1,324 (1,735)
	<b>Total</b>	<b>249</b>	<b>10.05 (11.25)</b>	<b>249</b>	<b>14.87 (22.56)</b>	<b>249</b>	<b>\$1,843 (4,812)</b>
12 month ( $t=3$ )	CBT	49	7.55 (11.23)	49	12.42 (16.02)	49	\$1,053 (1,285)
	BT	46	10.00 (11.55)	46	17.50 (22.98)	46	\$1,470 (2,954)
	MI	47	13.74 (14.03)	47	27.19 (42.02)	47	\$1,293 (5,119)
	CCT	51	9.00 (9.99)	51	14.51 (23.13)	51	\$1,191 (1,362)
	<b>Total</b>	<b>193</b>	<b>10.00 (11.81)</b>	<b>193</b>	<b>17.72 (27.78)</b>	<b>193</b>	<b>\$1,245 (3,008)</b>

Thus the results show a robust post treatment drop in gambling behaviours across all treatment groups that is sustained up to the 12 month post treatment measurement point (although it must be

noted that the 12 month data collection is not fully complete and therefore significant caution must be exercised in any interpretation of 12 month data). However there is no evidence currently within the 193 completed participants of a drop off in the effect.

The following table includes the means for GSAS gambling symptom measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment.

**Table 15 Table of raw means for GSAS symptom measures for all treatment groups for pre-treatment, post treatment, 6 months following treatment and 12 months following treatment**

Gambling symptoms		GSAS total scores		GSAS urge scores		GSAS frequency scores	
	Group	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Baseline (t=0)	CBT	74	25.82 (7.01)	74	8.58 (2.75)	74	6.55 (2.13)
	BT	73	27.48 (8.17)	73	8.71 (3.49)	73	7.12 (2.89)
	MI	72	26.14 (8.93)	72	8.33 (3.52)	72	6.65 (2.43)
	CCT	76	26.14 (8.04)	76	8.33 (3.25)	76	6.55 (2.31)
	<b>Total</b>	<b>295</b>	<b>26.40 (8.05)</b>	<b>295</b>	<b>8.49 (3.25)</b>	<b>295</b>	<b>6.72 (2.45)</b>
Post-treatment (t=1)	CBT	62	18.19 (8.86)	62	6.11 (3.25)	62	4.77 (2.38)
	BT	63	19.63 (9.11)	63	6.32 (3.84)	65	4.94 (2.56)
	MI	65	17.37 (8.82)	65	5.63 (3.42)	65	4.43 (2.47)
	CCT	66	18.48 (8.87)	66	5.86 (3.36)	67	4.78 (2.59)
	<b>Total</b>	<b>256</b>	<b>18.41 (8.90)</b>	<b>256</b>	<b>6.17 (3.46)</b>	<b>259</b>	<b>4.73 (2.50)</b>
6 months (t=2)	CBT	64	17.94 (9.22)	64	5.90 (3.51)	64	4.47 (2.62)
	BT	62	19.00 (9.30)	62	5.98 (3.80)	62	4.62 (2.91)
	MI	62	16.51 (9.30)	62	5.04 (3.70)	62	4.21 (2.80)
	CCT	61	19.61 (9.49)	61	5.86 (4.14)	61	4.87 (3.06)
	<b>Total</b>	<b>249</b>	<b>18.26 (9.34)</b>	<b>249</b>	<b>5.69 (3.79)</b>	<b>249</b>	<b>4.54 (2.84)</b>
12 months (t=3)	CBT	49	17.88 (9.17)	49	5.85 (3.72)	49	4.61 (2.61)
	BT	46	18.93 (12.89)	46	6.04 (5.07)	46	5.14 (3.49)
	MI	47	18.72 (10.31)	47	5.93 (4.59)	47	4.50 (3.01)
	CCT	51	16.97 (9.97)	51	4.91 (4.37)	51	4.26 (2.77)
	<b>Total</b>	<b>193</b>	<b>18.06 (10.48)</b>	<b>193</b>	<b>5.66 (4.40)</b>	<b>193</b>	<b>4.60 (2.95)</b>

For the GSAS scores a similar pattern of results was observed, i.e. post treatment means fell and the reductions were maintained at the 6 month and 12 month data collection points (while noting the caution required in the interpretation of the incomplete 12 month data collection point).

The data for all four primary outcome measures were then subjected to statistical analysis.

The outcome measures of 'frequency', 'time' and 'expenditure' all demonstrated positively skewed data distributions. This meant that the raw data bunched closer towards the zero measure and had

data points that more lightly scattered towards a larger number. To improve the accuracy of the repeated measures ANOVA analyses, these data were first transformed using a log function (base 10) to improve normality of the distribution. The analyses included all data available at the time of analysis except the 12-month data. The analyses appear in the following table.

**Table 16 Table of ANOVA results for longitudinal analysis for the outcome measures gambling 'frequency', 'time' and 'expenditure,' by time of assessment and treatment group (n=249)**

Dependent Measure	Factor	Repeated measures ANOVA	Effect size (partial eta squared)
Frequency	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,350) = 45.4, p < 0.001$	0.21**
	Treatment group (CBT, BT, MI, CCT)	$F(3, 175) = 0.6, p = 0.59$	0.01
Time	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,346) = 53.5, p < 0.001$	0.24**
	Treatment group (CBT, BT, MI, CCT)	$F(3, 173) = 0.2, p = 0.87$	0.004
Expenditure	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	$F(2,338) = 48.6, p < 0.001$	0.22*
	Treatment group (CBT, BT, MI, CCT)	$F(3,169) = 0.1, p = 0.95$	0.002
*Large effect, **medium effect			

The repeated measures ANOVA analyses indicated medium to large effects occurring over time in these outcome measures. Post hoc examination of the means showed that there was a significant decrease in all measures after therapy and this was maintained at the 6-month time point. There was no effects resulting from the treatment group and all interactions between time and treatment group were non-significant.

Repeated measures ANOVAs were conducted to investigate the effects of time and treatment group on GSAS scores. The following table summarises the repeated measures results for the GSAS outcome measures.

**Table 17 Table of ANOVA results for longitudinal analysis for the GSAS symptom measures gambling 'total', 'urge' and 'frequency,' by time of assessment and treatment group (n=249)**

Dependent Measure	Factor	Repeated measures ANOVA	Effect size (partial eta squared)
GSAS total	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	F(2,434) = 98.3, p < 0.001	0.31*
	Treatment group (CBT, BT, MI, CCT)	F(3,217) = 1.3, p = 0.26	0.02
GSAS urge	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	F(2,436) = 66.9, p < 0.001	0.24**
	Treatment group (CBT, BT, MI, CCT)	F(3, 218) = 1.1, p = 0.35	0.02
GSAS frequency	Time (t <sub>0</sub> , t <sub>1</sub> & t <sub>2</sub> )	F(2,440) = 72.2, p < 0.001	0.26*
	Treatment group (CBT, BT, MI, CCT)	F(3,220) = 0.6, p = 0.77	0.01
*Large effect, **medium effect			

This analysis included all data available at the time of analysis except the 12-month data. There was a significant effect of time on GSAS score ( $F(2,436) = 66.9, p < 0.001$ ) and post hoc examination of the means showed that there was a significant decrease in GSAS score after therapy and this was maintained at the 6-month time point. The effect size indicated that the effect from time was a large effect. There was no effect of treatment group on GSAS score ( $F(3,217) = 1.3, p = 0.26$ ) and the interaction between time and treatment group was also non-significant. Similar results were obtained for two GSAS sub-scores (GSAS-urge score and GSAS-frequency score). There were significant effects from time but not group.

Thus the results for this trial are simple. All four treatment groups have experienced significant reductions in the behavioural and symptom gambling measures and these reductions have been sustained to at least 6 months post treatment and from the incomplete 12 months post treatment data we have it appears that these reductions will sustain for at least 12 months.

The absence of a statistically significant effect does not unequivocally mean that there is no effect. This is why the consideration of statistical power is an important consideration in the discussion of null results. In the present study, the statistical power has been set at relatively stringent levels and there is sufficient statistical power in the current 6-month data to be relatively confident of the outcomes. The achieved samples to date in the 6 month data well exceed those required to set stringent levels. In addition, threats to the validity of the study such as differential attrition have been well controlled in this study. The net expected attrition from end of treatment data collection to the six-month period is 3.89 per cent between these two periods. These are low rates and represent an insignificant threat to internal validity.

The study has shown that durable impacts upon gambling behaviour and gambling symptoms were achieved and these impacts were unrelated to the treatment used i.e. there was no statistically significant treatment group differences but that all treatments achieved large time effects with a strong

reduction in gambling behaviour and symptoms that has been maintained for at least six months for the whole group of study participants. The study showed that manualised psychological treatments delivered by well-trained psychologists resulted in durable and significant reductions in gambling behaviour (frequency, time spent and losses) and gambling symptoms were achieved. Further, in this study, the reductions were unrelated to the type of psychological treatment used. In addition the reductions in gambling behaviour and symptoms was maintained for at least six months across the group of study participants. Because the 12-month data collection is not sufficiently complete the analyses are not included. However for the 193 participants for whom 12-month data has been collected to date the reductions also appear to have been maintained. The reductions obtained in gambling behaviour and symptoms were statistically significant and clinically large as shown in the following table.

For example in the pre treatment phase the participants gambled on average on 17.8 days in a month whereas immediately post treatment the average number of days gambled was 9.33 days and at 6 months it was 10.44. The same pattern of durable major reductions was found in all of the outcome measures.

**Table 18 Table of findings for the PROGRESS trial outcome measures for the combined study sample at Baseline ( $t_0$ ,  $n=297$ ), Post treatment ( $t_1$ ,  $n=259$ ), 6 months ( $t_2$ ,  $n=249$ ) and 12 months ( $t_3$ ,  $n=193$ )**

Study Phase	Frequency (days gambled in a 4 week period)	Time (hours spent gambling in a 4 week period)	Spend (Net Loss AUD in a 4 week period)	GSAS Total
Baseline ( $t_0$ , $n=297$ )	17.80 (16.73)	35.21 (43.26)	\$4,320 (6,457)	26.40 (8.05)
Post treatment ( $t_1$ , $n=259$ )	9.33 (10.69)	16.25 (25.12)	\$2,355 (11,616)	18.41 (8.90)
6 months ( $t_2$ , $n=249$ )	10.05 (11.25)	14.87 (22.56)	\$1,843 (4,812)	18.42 (9.47)
12 months ( $t_3$ , $n=193$ )	10.00 (11.81)	17.72 (27.78)	\$1,245 (3,008)	17.60 (10.64)
Note: Data collection is continuing for $t_3$ study phases				

From these data it can be inferred that over a 12-month period following psychological treatment an “average” individual would gamble on 101 less days than before, spend 227 less hours gambling per year and they would save \$39,975 per year in losses. Of course there is high variability in the data so “average” losses certainly should not be construed to mean that all individuals would achieve those results. Some individuals would exceed these reductions and savings, whereas other individuals would achieve much less favourable results.

The interventions delivered in this study were manualised and delivered by experienced psychologists and hence caution should be exercised in generalizing the results to other clinician groups and also clinicians who are not using manualised interventions.

Notwithstanding these caveats, the magnitude and durability of the reductions in key outcome variables is a pleasing result. The interventions have achieved robust and sustainable reductions in gambling behaviours as measured by days gambled, time spent gambling, net losses and GSAS symptom scores.

Thus it has been found in this study that manualised psychological treatments specifically Behavioural Therapy; CCT: Client Centred Therapy; MI: Motivational Interviewing; CBT: Cognitive Behavioural Therapy, when administered by registered psychologists are effective in the treatment of problem gambling and that the beneficial effects over the groups persist for at least 6 months and very probably they might persist for 12 months when the 12 month post -treatment data collection for the study is completed.

## Analysis of factors that may influence the therapeutic effects other than the treatments

At this point, it can be said definitively that the immediate post treatment gains have been maintained in the 6-month post treatment outcomes for all four of the treatment groups and that the different treatments have not produced discernably different outcomes. The data collected to date for the 12 months post treatment time period are indicative of a maintained therapeutic gain across all groups. However, it is certainly the case that while every effort has been made to ensure minimisation of biases in the study results there are nevertheless threats of bias in this study as with all studies.

One potential source of bias is individual differences in clinicians and in clinician client interactions.

### Clinician Effects on Outcome Measures

In the present study the clinicians chose in conjunction with the researchers the type of treatment they were to deliver to their clients. The same treatment was delivered to all of their clients using the manuals supplied following briefings as to the specific treatments. The clinicians were experienced registered psychologists so the briefings were not primary “training” of the clinicians. 47 clinicians took part in the clinical delivery with contributions ranging from 1 client to 18 clients with an average of 6.6 and a median of 6 clients seen over the entire clinician group.

There were 47 therapists recorded in the data set and there were 26 (from 297) participants who had no therapist recorded. This preliminary analysis used a repeated-measures analysis of variance (ANOVA) to test whether effects differed between subgroups of therapists. For all four main outcome measures (GSAS, ‘frequency’, ‘time’ and ‘expenditure’) repeated measures ANOVA detected no effect from the therapist variable and no interaction effect with time. This was not unexpected given that therapists are clustered within treatment modalities and non-significant effects from treatment had already been seen.

*For therapist, the time–subgroup interaction test on repeated measures ANOVAs was as shown for the following outcome measures:*

- GSAS total,  $F(76, 350) = 0.91, p=0.69$ ;
- ‘Gambling frequency’ outcome,  $F(72, 272) = 0.98, p=0.54$ ;
- ‘Gambling time’ outcome,  $F(72, 268) = 0.89, p=0.72$ ;
- ‘Gambling expenditure’ outcome,  $F(72, 262) = 0.84, p=0.81$ .

The gambling activity measures (frequency, time and expenditure) data were transformed using the log10 function to improve normality of the distributions. This simple analysis has very interesting

implications because it suggests that whomever delivered the intervention the pattern of outcomes were not significantly affected.

Given the large numbers of clinicians in the study (n=47), the population variability of clinician skills is likely to be adequately represented in the study sample. But, notwithstanding this variability “clinician” is not a significant explanatory effect in the patterns of treatment outcomes in the simple analyses performed.

### **The impact of other psychological problems at baseline upon outcomes**

Another factor that could potentially influence treatment progress is the existence of other psychological problems and addictions in the participant group especially if it is differentially distributed across different groups. There is strong evidence of comorbidities between problem gambling and psychological problems and addictions in the various epidemiological reviews that have been conducted concerning this link, some of which have been conducted by the present research group (e.g. Lorains, Cowlishaw, Thomas, 2011). However, because of the limited numbers of RCT studies that have been completed, there is little evidence of whether and how the existence of comorbidities might impact upon recovery from problem gambling as measured in this instance by outcome measures scores.

To address this issue, as outlined in the PROGRESS study methodology, various measures of psychological comorbidity were collected and then the four primary outcome measures were modelled using these measures as covariates. These analyses address the issue as to whether existence of comorbidities may impact upon treatment outcomes.

The measures that were included in this analysis were:

- The DASS three sub scales, depression, anxiety and stress.
  - A DASS sub-scale score of 10 and above indicated the presence of depression.
  - A sub-scale score of 8 and above indicated the presence of anxiety.
  - A sub score of 15 and above indicated the presence of stress.
- The AUDIT measures.
  - AUDIT score of 8 and above indicated a level of “risky” drinking.
  - A score of 20 and above indicated high risk drinking.
- Drug use reported occurring at least monthly during the previous 12 months before the baseline.
  - Yes drug use was reported
  - No drug use was not reported

The next table shows GSAS broken down by comorbidity status for psychological disturbance alcohol use and drug use at baseline, post treatment and at six months.

**Table 19 GSAS total outcome measure broken down by comorbidity status for psychological disturbance alcohol use and drug use at baseline, post treatment and at six months**

		GSAS mean (standard dev.)		
	N	Baseline (t <sub>0</sub> )	Post treatment (t <sub>1</sub> )	Six month (t <sub>2</sub> )
Total Sample	221	26.34 (7.95)	18.50 (8.99)	18.35 (9.35)
<b>Depression_DASS</b>				
No depression at baseline	98	23.43 (7.84)	15.86 (7.39)	16.81 (8.87)
Depression at baseline	123	28.66 (7.26)	20.60 (9.60)	19.58 (9.58)
<b>Anxiety_DASS</b>				
No anxiety at baseline	139	24.51 (7.59)	16.95 (8.10)	17.32 (8.71)
Anxiety at baseline	82	29.44 (7.61)	21.12 (9.83)	20.10 (10.17)
<b>Stress_DASS</b>				
No stress at baseline	128	24.20 (7.67)	16.91 (8.41)	17.10 (8.66)
Stress at baseline	93	29.28 (7.38)	20.68 (9.34)	20.06 (10.02)
<b>Risk drinking AUDIT</b>				
No risk at baseline	137	25.40 (7.86)	18.23 (9.28)	17.83 (9.42)
Risk at baseline	84	27.87 (7.89)	18.93 (8.52)	19.19 (9.24)
<b>High risk drinking AUDIT</b>				
No high risk at baseline	205	26.16 (7.90)	18.49 (8.99)	18.05 (9.32)
High risk at baseline	16	28.64 (8.44)	18.63 (9.19)	22.19 (9.20)
<b>Drug use in previous year</b>				
No drug use	196	26.38 (7.85)	18.40 (9.27)	18.11 (9.53)
Drug use	25	26.00 (8.83)	19.24 (6.42)	20.20 (7.77)

The same analyses were repeated for the three other primary outcome measures namely Gambling frequency (days gambled in a 4 week period), Gambling time (hours spent gambling in a 4 week period) and Spend (Net Loss expressed in AUD in a 4 week period). Tables of means for all the three measures were constructed and subjected to the same analyses. The results for all these analyses are summarised below.

#### Summary of results for comorbidity sub group interaction tests:

- For baseline depression, the time–subgroup interaction test on repeated measures ANCOVAs with outcomes of ‘gambling frequency’ i.e.  $F(2, 354) = 0.86, p=0.42$ ; ‘time spent gambling’ i.e.  $F(2, 350) = 0.83, p=0.44$ ; and ‘AUD loss expenditure’ i.e.  $F(2, 342) = 0.94, p=0.39$ .
- For baseline anxiety, the time–subgroup interaction test on repeated measures ANCOVAs with outcomes of ‘freq’ i.e.  $F(2, 354) = 0.37, p=0.70$ ; ‘time’ i.e.  $F(2, 350) = 0.54, p=0.58$ ; and ‘expenditure’ i.e.  $F(2, 342) = 0.28, p=0.76$ .
- For baseline stress, the time–subgroup interaction test on repeated measures ANCOVAs with outcomes of ‘freq’ i.e.  $F(2, 354) = 0.53, p=0.604$ ; ‘time’ i.e.  $F(2, 350) = 0.35, p=0.70$ ; and ‘expenditure’ i.e.  $F(2, 342) = 1.5, p=0.23$ .
- For baseline RISK, the time–subgroup interaction test on repeated measures ANCOVAs with outcomes of ‘freq’ i.e.  $F(2, 354) = 1.4, p=0.26$ ; ‘time’ i.e.  $F(2, 350) = 1.6, p=0.20$ ; and ‘expenditure’ i.e.  $F(2, 342) = 3.03, p=0.05$ .

- For baseline HIGH RISK, the time–subgroup interaction test on repeated measures ANCOVAs with outcomes of 'freq' i.e.  $F(2, 354) = 2.8, p=0.07$ .; 'time' i.e.  $F(2, 350) = 1.3, p=0.28$ ; and 'expenditure' i.e.  $F(2, 342) = 4.2, p=0.02$
- For baseline reported drug use as more than monthly in previous year, the time–subgroup interaction test on repeated measures ANCOVAs with outcomes of 'freq' i.e.  $F(2, 354) = 0.56, p=0.57$ .; 'time' i.e.  $F(2, 350) = 0.87, p=0.51$ ; and 'expenditure' i.e.  $F(2, 342) = 2.37, p=0.09$

These results indicate that the comorbidities used in this analysis did not provide additional statistical explanatory power tracking the progression of the participants over the time stages of the study. This does not suggest that comorbidity is not an important issue in the onset and treatment of problem gambling *but the data presented using the analysis model adopted show that there are not statistically significant effects in this study in terms of effects upon treatment outcomes.*

Thus two sets of factors that may impact upon the results obtained have been examined in this section. The first factor was “clinician” and the omnibus analyses demonstrate that there were not statistically detectable effects for clinician in this study to date. The second set of factors were comorbidities including depression, anxiety and stress as measured by the DASS, alcohol use as measured by the AUDIT and reports of drug use. These analyses also did not reveal significant effects upon the participant outcomes. Thus, these two major areas of potential impact upon outcomes were found to be not statistically significant in the reported analyses. Of course the absence of an effect may also be explained by a lack of statistical power to detect it or sample bias amongst other explanations. Nevertheless this is one of the largest (in terms of sample size) RCT studies of psychological treatments in problem gambling.

## Study B: Qualitative study – Research methods

---

### Study Design

This qualitative study (Study B) was conducted alongside Study A, and was designed to provide a comprehensive picture of the variability and depth of individuals' experiences of psychological treatment for problem gambling. This qualitative approach provided participants with the opportunity to give a detailed and nuanced account of how they had experienced the treatment, and the outcomes, in the context of their own lives. The qualitative account also provided significant information regarding the participants' social, financial and health circumstances.

### Aim of the Qualitative Study

The aim of the qualitative study was to explore and understand the perceptions of treatment by the participants, and in particular the barriers and facilitators that may have prevented or enabled change over time.

More specifically, the qualitative study aimed to:

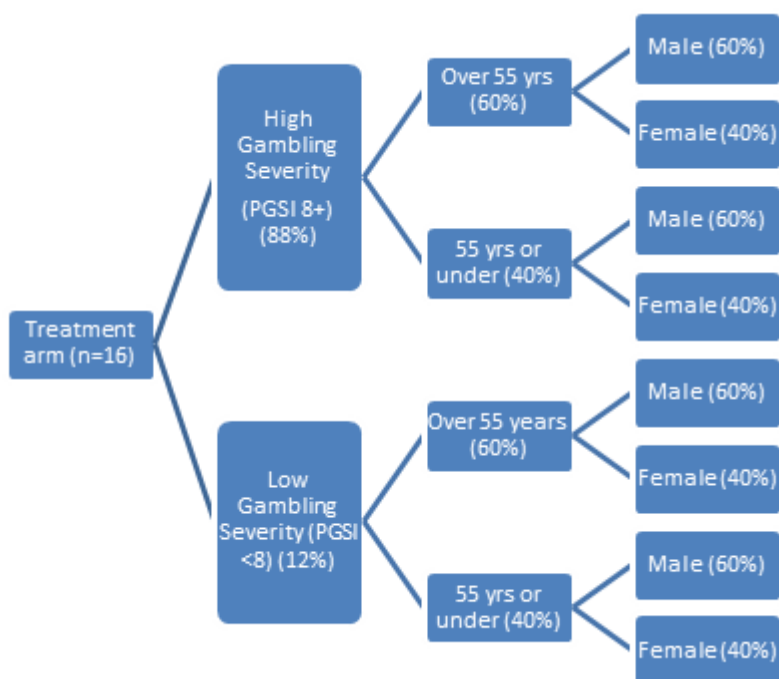
- Provide evidence on the subjective experience of receiving treatment;
- Provide insights into how change is achieved and the factors that may constrain or facilitate change over time;
- Provide qualitative evidence for the diversity in treatment outcomes.

### Recruitment and Sampling

Interest for participation in the qualitative study was ascertained concurrently as participants were recruited for Study A. As people enquired about treatment, they were also informed, in addition to the plain language statement, that additional interviews would be conducted with a subgroup of participants. Hence, participants were self-selected. All participants who participated in the qualitative study signed a separate consent form.

In selecting participants for inclusion into the qualitative study, our primary aim was to ensure that the sample included a diverse range of participants with regard to four key participant characteristics: treatment arm, age, sex and gambling severity. It was not our aim to make comparisons according to these characteristics. A sampling matrix (Figure 6) was constructed to guide the recruitment according to these four characteristics so that the qualitative sample was broadly representative of the full treatment sample in Study A (25% from each treatment arm, 40% females, 40% aged 55 years and under, and 88% with a PGSI score of 8 or over). The total number of participants recruited into the qualitative study was determined by the capacity of the research team to conduct interviews, as well

as being deemed sufficient in number to capture a comprehensive picture taking into account potential attrition.



**Figure 6 Sampling guide for Qualitative Study (B) recruitment for each treatment arm at pre-treatment**

## Data Collection

The qualitative study comprised semi-structured interviews at 3 data collection points. Interviews were administered face to face, and took between 40 and 60 minutes to complete. The time points and number of participants are summarised in Table 20. Sixty-six participants were interviewed at pre-treatment, and 56 of them were interviewed immediately after treatment. Ten participants were not available for the post-treatment interview. If participants did not complete their treatment, they were still invited to participate in subsequent interviews. At the time of writing the report, the 12-month follow-up interviews were not completed and therefore the data are not included in this report. For the purpose of this report, which focuses on the experience of treatment, the analysis is primarily based on the post-treatment interview data.

**Table 20 Data collection points for the qualitative interviews**

Data collection point	Number of participants
Pre-treatment	66 (final)
Post-treatment	56 (final)
12 months post-treatment	45 (data collection ongoing)

The interviews were conducted by experienced members of the qualitative research team at a location convenient to both the participant and interviewer. Participants were allocated to the same interviewer for the duration of the study, a research strategy to promote rapport and continuity for the duration of the investigation. The three members of the qualitative team who conducted interviews took part in a training session and were fully briefed regarding the conduct of the interviews.

The broad aim and focus of each of the three interviews are outlined below.

The aim of the pre-treatment interview was to explore:

- The perceived impact that gambling has on the participant's life;
- Reasons for seeking treatment and their expectations of treatment;
- Their experiences with previous treatments;
- Their goals and expectations for treatment, and what constitutes a successful outcome; and
- Any foreseen barriers or enablers that may influence the treatment process.

The aim of the post-treatment interview was to explore:

- The participant's experience of the treatment and especially what was useful and/or not useful;
- Any changes (e.g. in gambling behaviour, quality of life) as a result of treatment; and
- How the current treatment compared with previous treatment they may have undertaken.

The aim of the 12-month post-treatment interview was to explore:

- Current attitudes to gambling and gambling participation post-treatment;
- Reflections of treatment and its impact on participants' lives; and
- Intentions to receive further treatment.

The interview schedules for all the interview interviews are included in the Appendices (Appendix 1-3).

They include questions that were used as prompts for discussion.

Prior to conducting the interviews, participants were given an explanatory statement and had the qualitative research study explained to them by the interviewer. Participants were also given the opportunity to read and have any questions answered before they signed a consent form. All participants who took part in an interview were offered a \$50 voucher (which could be used at a well-known chain of retail stores) upon completion of each interview. The voucher was a means to compensate participants for their time and travel costs, and to engage them in long term follow up data collection post-treatment, in recognition that this is a hard to reach client and research population.

## Data Analysis and Reporting

A one page summary and field notes were written-up immediately following the completion of each face-to-face interview. All qualitative interviews were audio-recorded and subsequently transcribed by a professional transcription service. NVivo 10 was used to manage and code the qualitative data (QSR International Pty Ltd, 2010).

Two analytical processes were used in the qualitative component of this study. First, is the well-established technique of thematic analysis. Systematic analysis of the post-treatment interview summaries and transcripts generated a wide range of both broad and more specific key themes in line with the central aims of the qualitative investigation (Lincoln & Guba, 1985).

The qualitative interviews also generated data for the identification and development of the second analytic process, in-depth case studies. Case studies better illustrate individual participant's trajectories through the experiences of treatment and post-treatment outcomes (Henderson, Holland, McGrellis, Sharpe, & Thomson, 2012). In this report the cases were not selected for generalisation or representativeness, but rather chosen to illustrate individual trajectories in relation to problem gambling over a period of time. The purpose of the case studies was to present in-depth information about each of the selected cases of interest, and drew on data from the pre- and post-treatment interviews.

While both of these analytical tools – thematic analysis and case studies - are valuable in their own right, the combination of these two analytical processes helped to reveal not only the rich descriptions provided by the participants, but also the complexity of social relationships and understandings in relation to the gambler's overall experiences of treatment. Qualitative research in this context was more than just an account of personal reflections and provided knowledge about gambling behaviours and the outcomes of treatment that may provide insights for future treatment of relevance to a broader population of people with gambling problems.

There is a potential for thematic analysis to fragment the interviews into their constituent elements and as such there is a risk of losing the overall coherence and richness of the participants' stories about their experiences and expectations. The benefit of generating lengthy segments of talk that encapsulate concepts and themes is that they add a rich dimension to the research. The development

of six case studies designed to pose the question ‘what is going on’ in this context (Bouma, 1996) illustrates the complexity of individual participants’ experiences as well as placing the thematic analysis into context.

For consistency and accuracy, the same members of the research team who conducted the interviews also informed the analytic process. A training session was conducted with the research team to guide and streamline the coding and analytical processes. Further, two members of the research team independently coded a random selection of qualitative transcripts in order to validate themes and coding consistency (Braun & Clarke, 2006). Ongoing debriefing with the qualitative team occurred throughout the study to discuss any issues arising and to discuss any inconsistencies in coding and interpretation.

In reporting the data, participant’s sex and age at pre-treatment are included to provide a context for participants’ comments. While participants ranged according to a number of characteristics, these characteristics are not used to facilitate a comparison of individual participants’ experiences.

Quasi-numerical references are used throughout the report (e.g. some (2-5), several (6-10), many (10-27), majority (>28) etc.) to convey the extent an issue was experienced by participants. It was inappropriate to refer to the exact numbers of participants who spoke about a particular issue because not all participants are asked the same questions, given the semi-structured nature of the qualitative interviews.

Direct quotes are used and written verbatim to convey the essence of their words; three stops (...) are used to indicate where the discussion has been edited.

## Study B: Qualitative study – Thematic Analysis

### Participant Characteristics

Fifty-six participants in the qualitative study were interviewed at the completion of their 6-week treatment program. Table 21 shows the post treatment sample characteristics. These data indicate that the post-treatment qualitative study sample was representative of the full treatment sample, when compared to the equivalent reporting of Study A.

**Table 21 Qualitative post-treatment sample characteristics**

Treatment arm#		PGSI at baseline	Age				Sex
	<i>n</i>	% scoring 8 or more	Min	Max	Mean	SD	%Female
CBT	14	100	23	67	45.7	11.9	50
BT	13	77	19	66	43.5	14.5	46
MI	16	88	21	77	50.6	13.9	44
CCT	13	85	26	66	51.2	12.5	54
TOTAL	56	88	19	77	47.9	13.3	48

#BT: Behavioural Therapy; CCT: Client Centred Therapy; MI: Motivational Interviewing; CBT: Cognitive Behavioural Therapy.

### Introduction and Scope

The post-treatment interview data from all of participants were subjected to thematic coding and analysed specifically for this qualitative report. This section presents the findings generated by the thematic analysis of the participants' experiences and reflections of their treatment program.

Individuals who participated in this qualitative study came from a wide range of backgrounds and differed on a range of demographic factors including: sex, age, ethnicity, marital status, level of education, income, years spent gambling, previous treatment experience, co-morbidities, gambling preferences etc. While they had a commonality in that all had sought treatment, their expectations of treatment varied enormously because of these very diverse backgrounds. Furthermore, some participants expressed the view that their expectations were met and surpassed, while for others, their expectations were not met.

Participants' expectations and preconceived ideas about treatment greatly influenced their experience of treatment, and therefore these will be briefly described to provide a context, prior to a description of the themes and sub-themes.

Participants who experienced the treatment as worthwhile and/or exceeding their expectations reported a range of benefits as indicated below:

- Participants gained greater insight in order to check self/behaviour when gambling;
- Participants benefitted from a professional face to face treatment as compared to previous experiences of telephone counsellors;
- Appreciated the opportunity for self-reflection;
- Gained a better understanding of gambling reduction as an ongoing process;
- Explored specific strategies during treatment to enable the reduction of problem gambling behaviour;
- Valued the simplicity of strategies in this treatment as compared to previous treatment attempts.

An example of how the treatment had exceeded the participant's expectations is illustrated by the following comment:

*"I just thought that it was just going to be 'alright well you know tell me about your gambling' you know? And I thought it was just going to be very much possibly like maybe a therapist/client type relationship but it was much more than that because the psychologist was able to offer me cues and tips and ways of being able to see things differently in a different light and she gave me ways of being able to enrich and enhance my life and to become more of a participant in life rather than a spectator...So I'm becoming much more participatory in life and I'm relearning to enjoy life and all the wonderful things that life has to offer and gambling is certainly not a part of that."* Male, 45 years

Participants who explicitly expressed disappointment with their treatment, as well as those whose expectations of treatment were not met, reported a range of experiences as indicated below:

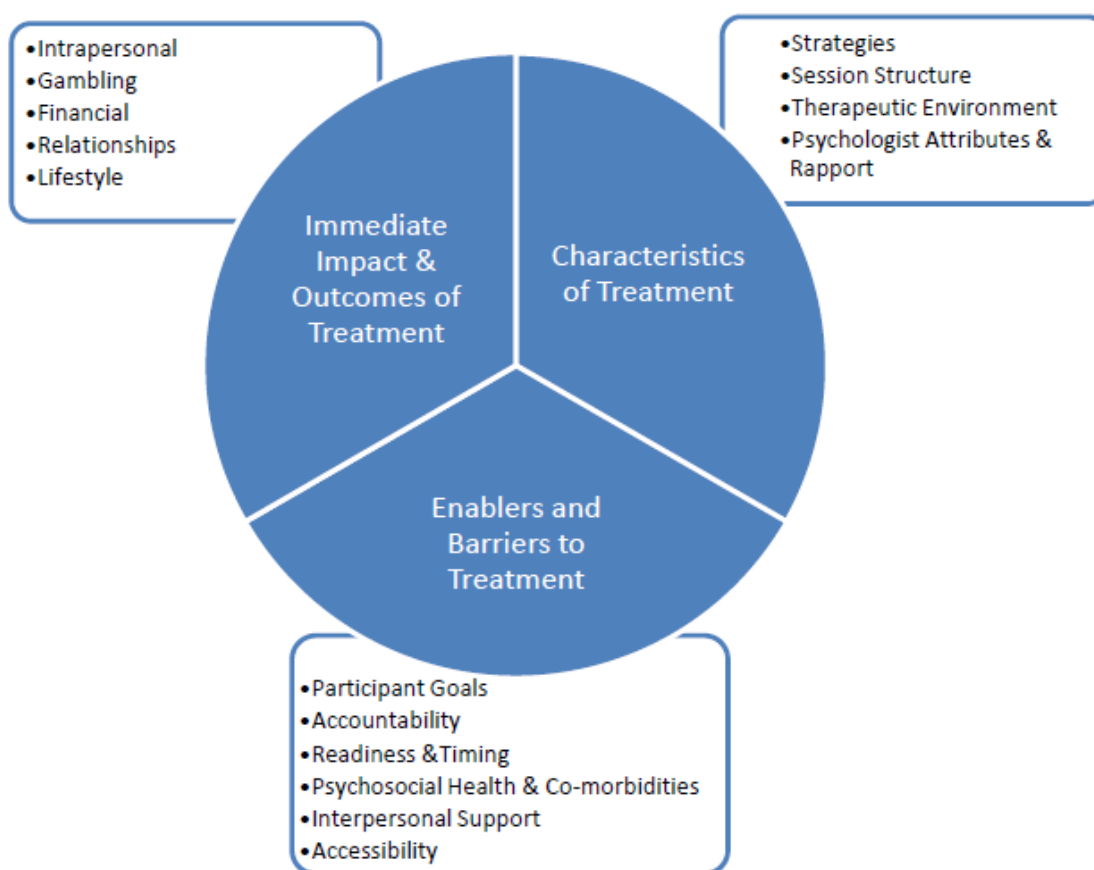
- The need for more from treatment sessions than what participants received;
- Did not obtain any tools/strategies to facilitate change in their problem gambling behaviour;
- Felt they were repeating their gambling stories to yet another counsellor/psychologist;
- Perceived the treatment to be too narrowly focused on gambling problem given issue exists within wider life context;
- Perceived that the psychologist lacked in-depth insight into problem gambling;
- Expected treatment to be more gambling specific, not open ended;
- Treatment goals were not consistent between participant and psychologist (i.e., focus was on stopping gambling and not what triggers behaviour or why gambling began initially);
- Expected a miracle or expected too much;
- Expected something new from psychologist, given the numerous previous attempts at treatment.

An example of the treatment not meeting the participants' expectations, and their consequent disappointment, is illustrated by the following example:

*"She just didn't offer me anything, anywhere along the line. In sort of there was a leading question and then - I just expected more from the other person, regardless of who the other - I expected guidance for me, I expected them to give me some stuff. And I felt that was - she was sort of curious about me and my story and how I got there or what were the drivers for me...But I don't know how to stop this*

*and that's what I'm here for. But I just consistently felt there was nothing coming my way.*" Female, 59 years

It is apparent that participants' expectations and preconceived ideas about treatment greatly influenced their experience of treatment, and it is in this context that the major themes are identified and discussed. The figure below illustrates the major relevant themes that arose from the post-treatment interview data. The first major theme encompassed participants' direct experience of the delivery of treatment itself, which included their opinions about the number of sessions, the structure of the sessions, the therapeutic environment as well as their experiences of the psychologist. The second major theme related to the participants' perspectives about the immediate and tangible impact of the treatment. The third major theme encapsulated the factors that both facilitated and hindered the success of treatment.



**Figure 7 Major themes from post-treatment interviews**

## Characteristics of Treatment

In reflecting on their experiences of the treatment, participants talked about a wide range of issues relating to the treatment sessions themselves. These issues related to the length and structure of the sessions, the session content, as well as having an opportunity to open up about their problem

gambling and wider life experiences. Participants also talked at length about their impressions and experience of the psychologist. Four sub-themes arose from the data:

- Strategies to reduce or stop gambling;
- Session structure;
- Therapeutic environment;
- Psychologist attributes and rapport.

These characteristics are described in further detail in the section below.

## Strategies to reduce or stop gambling

Participants discussed a range of strategies, addressed in the course of their particular treatment, to assist them to either stop or reduce their gambling behaviour. It is acknowledged that participants received one of four treatments (as described in Study A) and therefore the strategies described by participants may well be determined by the type of treatment they received. However, it was not the purpose of this report to compare participant experiences across treatment arms, but to report on their diverse responses and reflections on psychological treatment in general. Qualitative analysis of the strategies as reported by the participants revealed that the strategies could be defined as either monetary based; behaviour and thought modification; self-reflection and increased self-awareness; and knowledge based information.

Monetary based strategies were described as including:

- Setting limits to gambling or planning to gamble a nominated amount;
- Leaving credit cards at home;
- Budgeting;
- Receiving a nominated spending amount and paying bills by direct debit.

Participants talked about these monetary based strategies in a range of different ways as indicated by the following individual:

*"I wouldn't take excess money down there and I wouldn't take credit cards, and - and I tried not to borrow money, so er, if I had, took down \$50 well that was all I could spend, and that was a good reinforcement."* Male, 68 years

Some participants reported that handing control of their finances over to a family member, partner or friend was a useful strategy while other participants talked about having established a savings bank account and working towards a goal, such as a holiday, instead of using these funds to gamble. For example:

*"I can go to a shop and buy something if I want to, or I can put away money for a holiday that I've never been able to do, and it's all because gambling's been, had in the past totally ruled my life."*

Female, 67 years

Behaviour and thought modification strategies were also described by some participants as useful in assisting them to identify triggers to help change their problem gambling behaviour or to identify and alter their cognitions (thinking) and beliefs which drove their continued and problematic gambling.

These strategies included:

- Keeping cue/prompt cards in their wallet;
- Replacing gambling with other interests and activities;
- Challenging their gambling urges by thinking of the consequences of gambling and the loss of money;
- Setting clear goals;
- Modifying their behaviour to gamble less, such as reducing triggers such as alcohol consumption, visits to ATM, actively avoiding specific gambling venues or consciously not driving in the vicinity of gambling venues;
- Keeping an audio diary outlining their typical gambling experiences. The diary included items such as the previous gambling highs/lows, relapses and losses related to the gambling experience - all of which served as an ongoing reminder to the participant to abstain from gambling, without the need to face the consequences of actually engaging in gambling.

The goal setting and behaviour modification strategies were related by one of the interview participants this way:

*"No just like there was um just some goal setting and you know seeing what you can do to modify your behaviours before you go and all that, so you know or if you do go, you know are you going to gamble less..... Yeah strategies you know, you know think about how you felt before you go, so what could you do to change that feeling. So if you did go, don't take your cards."* Female, 58 years

Reflection and increased self-awareness were strategies described by many participants as presenting an opportunity to examine themselves and their problem gambling. This included:

- Addressing their impulsivity or other personal issues such as self-confidence;
- Exploring the triggers for gambling behaviour, including emotional factors;
- Exploring their feelings during the gambling cycle including the impact of losses and wins and subsequent consequences;
- Writing about what they sought from treatment (goals) and establishing an agreement with the psychologist.

Knowledge based strategies described by many participants included receiving information about gambling odds, journal articles about problem gambling behaviour and the cycle of addiction. This

information was at times a revelation to the particular individuals. One older woman who found value in receiving quite complex research materials said:

*"Well, well she did give me um, because I've got um a, a tertiary education she gave me a research paper. She said 'You might be interested in this' and she gave me one or two research um, um articles at, at a more advanced level um on problem gambling and I read through them...the element of duality, was from the article, the element of duality, real selves, gambling selves and stigma, fear of self dislike, negative things, self-identity behaviour, other factors, um, when you had higher control or not, there's a control and, and you'd have two selves; the gambling self of shame and despair and the other self where you're responsible, function well. And, and so it was, that was very helpful because as you see I've got the notes, I've, I've read them and once I write things down and, and, and take the essence of an article out of it or something like that, it absolutely um, what's the word, it you know in your mind, it gels in your mind. So when I'm stable and wish to tackle this problem um seriously, um I um, I, that's clearly in my mind now, that's knowledge acquired, like any study. So that, that's acquired knowledge that I can put onto this, onto my behaviour. So that's tremendously valuable."*  
Female, 65 years

Another participant who was given information that the likelihood of winning was low also found value in the materials:

*"I figured it out, like it did, it does have, you do have like a really small odds of winning in it, and to find out how small was quite shocking because I had no idea how...honestly, like I had been playing, I've been playing the things for a long time. I never knew how bad the odds were. They're really, really bad odds."* Female, 33 years

Some participants, however, reported not receiving any such strategies as listed above during their treatment, as illustrated by the following comment:

*"I would find it helpful to be given strategies. It's, it's, been really helpful to explore everything and why I do it but um..."* Female, 66 years

Another participant felt very let down with the treatment overall, as it did not meet his needs and he was expecting to be given some specific tools from the psychologist:

*"Because I'm telling you, I – I've just wasted six weeks. But uhm, as I said to her, if I go to a restaurant, I don't take my own meal and cook it...But the thing is, she's asking me to talk about myself, which I've already talked to people about for how many years, psychologists, psychiatrists, and I've already analysed myself...Well, what's she going to give me in six weeks, because she was – well, she's got to try and get to know you before they even really give you any tools I suppose. They can give you the usual tools, which, all the literature and what-not about gambling...No, didn't give me anything....And – and go and chat to her, but uhm, again, is what I'm saying is, if you're expecting to*

*see some results, you have to be given something to work with, and there was essentially nothing to work with.”* Male, 42 years

## Session structure

Several people commented on the number of sessions provided to them in the study. For many, six sessions was perceived as adequate for a range of different reasons:

*“It got to the stage where after the six weeks, we - we’d sort of discussed everything we could have discussed”.* Male, 46 years

One participant also felt any change following the treatment program was now his responsibility:

*“Um I think it’s probably something that I need to sort out you know myself, make my own call and whether I can do it or not I don’t know. But seeing a psychologist may help but in the end yeah it probably comes down to one person you know, whether I’m strong enough to do it you know so....It got to the stage where after the six weeks, we, we’d sort of discussed everything we could have discussed, and, and yeah I probably needed, need to take it to the next level.”* Male, 46 years

Other participants reported the number of sessions more than provided ample opportunity to cover the relevant issues:

*“And I mean the reason why I probably didn’t go to the last session is we realised, because we stretched it out a little bit that, you know, really in fact in the last two sessions she sort of asked me ‘Do you still need me?’ And I said ‘Let’s go for one more and see where we end up.’ Um and, you know, it just became a nice talk like I’m talking to you now um and then I said ‘Okay right I think the last one is probably not necessarily because it’s, I think we’ve we’ve-we’ve got to Everest um we can probably just now lock the flag in.’ But um there wasn’t much there so that that’s the one thing that I would say, what would be, I was very happy with the, with the overall structure... I mean there’s nothing else I would I would recommend I think it’s very good.”* Male, 51 years

In contrast, some other participants believed that six sessions were insufficient to fully address their gambling problem or other “conditions” or “personal issues” that arose during the treatment as indicated by the following comment:

*“Well, just talking about the issues with the gambling and how to put other things in place, instead of gambling, and just - we’re just starting to work out things I could do instead of gambling, and, thought, changing your thought pattern about gambling. But, sort of, just starting to sink in, and it was time to stop <laughter>. Yeah, I don’t think six weeks was enough time to deal with it all. But it was a good start.”* Female, 42 years

The reflections of those participants who thought that the six sessions were inadequate pointed out that:

- Six sessions was just the start;
- Follow up treatment was necessary given the other issues brought up in sessions (treatment “produced a lowering of mood”);
- It would be useful to have a “follow up session as a marker of progress at some future time”;
- There was more work to do in order to reduce or stop gambling;
- They required more sessions and time to enable greater disclosure and opportunity to “tell all”;
- Problem gambling was too complex an issue to address in six sessions, as there were more issues involved and therefore treatment was limiting and inadequate.

## Therapeutic environment

A number of participants talked at length about how they valued the supportive structure that the treatment provided. Some participants also discussed how treatment enabled an “unburdening” or “emotional release”, which they had not experienced previously:

*“I think it really helped having someone to talk to about it and just because like as a gambler, like you don’t always have someone to talk to because if you - if you don’t want to confess to people sometimes so it’s really good to have had someone to, to just open up to and then sort of confess what you’ve done or what you haven’t done or how good you’ve been because, you know, like a lot of the time you don’t want to talk to people about it that know you.”* Female, 33 years

Participants also indicated the benefits of having an opportunity to talk about their lives in this way, including:

- The opportunity to address past traumas;
- Discussion and resolution of personal issues;
- Uncovering “reasons”, “motivations”, “drives” and “triggers” for their gambling;
- Emotional release, “permission to cry”;
- “Confronting” their gambling problem head on.

Not all had overly positive experiences of the therapeutic environment, such as the following person:

*“Um...it was an interesting experience but I didn’t really get much out of it in the...yeah I’ve - not walking away with any wisdom or any insight or anything really I don’t think. Um...it was alright to go and chat to someone about my problems and, um, that was probably of some benefit. Yeah I guess I mostly wanted to focus on gambling whereas, um, she maybe wanted to focus on things that’s...Yeah, I’m not sure if it’s motivation but more – more about me I guess rather than actual gambling.”* Male, 44 years

## Psychologist attributes and rapport

In reflecting on their experiences of treatment, participants often talked about the central role of the psychologist to whom they had been assigned. The majority of participants, at least to some extent,

associated their positive treatment experience to the rapport, professionalism and skill of their specific practitioner. Responses varied with regard to the range of experiences but many participants expressed positive responses particularly in recognition of the skills of their psychologist, as well as their therapeutic relationship. When talking about their psychologists, participants used words, which included “approachable”, “kind”, “non-judgemental”, “respectful”, “professional”, “patient”, “genuine”, “objective”, “encouraging”, “honest”, “trust”, “skilled”, and “empathic”.

One older female found the non-judgemental attitude of her psychologist particularly positive with regards to developing a rapport:

*“So, um, but being with this person was really good. Very, very understanding, non-judgemental, um, kind, um, with – I think I told you, in one of my previous interviews that I went with the government person who I found, um, wasn’t really suited to me. By her questioning and the way that she treated me, she’s, she’s really kind and good, you know, like as I said it’s a very gentle quiet exploratory thing and then I go away and then things just happen after that. I can’t really explain it, she doesn’t say, oh do you think you might go and whatever, there’s nothing of that kind happen. Um, she doesn’t say oh, do x, y and z and you’re going to be cured. She doesn’t, she’s empathetic. Empathic, very very much so. I, I felt that <laughs> that if I ever missed a session she’d track me down, do you know what I mean? So I felt that she had my back....It’s very important because if I don’t trust somebody, I won’t be there, you know, like if I couldn’t talk to her and like she never judge, judges about anything.”*

Female, 66 years

Likewise for the following person, trust was a key element of their relationship:

*“I built a good rapport with her, um, I felt she was really, um, ah, I felt she was really honest. I felt trust. I felt I could trust her, um, which I think is really important.....I certainly felt that I could talk to her about anything.... Look, I found her to be very good, um, I really enjoyed working with her, um, and I felt that I could trust - I felt trusted, you know trust in a relationship and you know and there were some times when I was very upset and she was very, um, supportive and - but tried to dig deeper and trying to help me let go of some of the crap I’m carrying.”* Male, 42 years

Those participants who perceived the therapeutic relationship to be positive also discussed the impact of the treatment in favourable terms using language such as “felt understood”, “validated”, “connected”, “able to confide in psychologist”, “supportive treatment”, “trusted” and “a good match”.

Some participants, who predominantly described the treatment as not worthwhile or useful, perceived and described their psychologist in less favourable terms. Their responses included mostly negative statements including: “psychologist not hard hitting enough”, “too young and inexperienced to understand me”, “no emotional connection”, and “cold”. The experience of treatment for these participants was also described in more negative terms such as “treatment too advice driven”, “did not feel understood”, “treatment was repetitive” or “skimmed the surface”.

There was a lack of emotional connection, as described by one younger man in the following comment:

*"Maybe I wasn't listening to her that much, I was more sort of judging her and just, you know, because I know what she's supposed to say and, um, it, it - I wouldn't say it's successful because I - But I don't know if that's my personality, because like I say I wasn't in the right frame of mind to want to change. Um, it was just very, it wasn't hard hitting. It was very, she was too nice. She really was... We never even got to talk about - I've talked to you more about it - I reckon I've talked more to you than I've talked to the counsellor. This and that time I saw you that first time I reckon I opened up more to you."*

Male, 32 years

Not only was there a lack of emotional connection, but also the following participant suggested that his psychologist expressed no emotion whatsoever and he found this quite challenging:

*"In our sessions um I felt like...um...he was just a brick wall that would talk to me. Um, it was purely, um, information, like I probably could've gotten what he delivered in a book. Um, there wasn't. I don't know, there wasn't this sort of connection um, it wasn't sort of an emotional kind of based...sessions, it was um, you know although, you know at times I, I got pretty emotional and, and, I don't know, it was just, he was, like he was just non-emotional, he was just, I don't know if cold's the right word."*

Male, 34 years

For the following woman, she indicated how the age of her psychologist acted as a barrier to developing rapport:

*"I don't know you – you hear things about things on the web, I don't know, a bit apprehensive about stuff. I suppose the web's like, because she was a young therapist, is a way of life for the young people isn't it? And it's not necessarily, yeah, that's right, it's not necessarily natural for me. I'd have to say maybe, yeah because there's only ah, like a therapist round about my age, the 50s, could probably understand my predicament I think a little bit more. That's like um, I worked for the state government and we'd have um, people that were assigned, um social workers that were youngish to - assigned to people that were having family problems and children problems and there was one session there that um, you know, one of the guys says 'You're 22 years old, what do you know about raising children, being married and having mortgages?' Yeah, 'cause I'm a firm believer in um, you know, walk in my shoes."*

Female, 59 years

It was apparent from the qualitative data that those participants who experienced the treatment favourably, also commented positively about the individual psychologist whereas the converse was true for those study participants who did not experience the treatment in a favourable way.

# Immediate Impact and Outcomes of Treatment

Participants were asked to reflect upon whether, and how, their treatment had an impact on their lives and whether they felt any different after treatment in comparison to before treatment. Central to the discussions with all participants was whether participating in treatment did or did not have an impact on them and if so whether the impact was positive or negative. Given that the interviews were conducted immediately post-treatment, as would be expected the focus of the discussion was on the immediate impact for participants.

The majority of participants reported that their treatment did have an impact on a number of areas of their life, and that it was positive at least in part.

The data also indicated that not all participants found that their treatment led to a positive outcome. One participant, for example, reported that the treatment made him want to gamble more, as well as hindered him from working to reduce his debt. He subsequently decided not to complete the treatment program:

*"I went along with it for a couple of sessions and it actually ended up making me feel worse...She just brought to light, like facts that I already knew, but sort of - I actually came out feeling anxious and, as I sort of told her, if I'm not trying to do something in terms of settling my- I've got a lot of debts, in terms of settling my debts, that I feel like, if I'm not trying to do something about it, then I'm sort of failing myself."* Male, 32 years

Furthermore, outcomes were not always attributed to the treatment itself. One participant, for example, had not only reduced his gambling but also spoke about significant improvements in his health and wellbeing at the post-treatment interview. However he explicitly stated that his improvement was not due to the treatment he received but rather he attributed the change to other life events (such as changing his job and his diet), as well as his own personal autonomy:

*"It [treatment] was an interesting experience but I didn't really get much out of it in the...yeah I've - not walking away with any wisdom or any insight or anything really I don't think. Um...it was alright to go and chat to someone about my problems and, um, that was probably of some benefit... it was changing jobs that was really the driver."* Male, 44 years

The five subthemes related to impact and outcome of treatment that were generated by analysis of the data were:

- Intrapersonal issues
- Gambling activity

- Financial impacts
- Impact on relationships
- Lifestyle changes

The impact of the treatment that was most commonly discussed by participants was of an intrapersonal nature and included experiences relating to the sense of control over their lives, their sense of hope and levels of self-esteem. Participants also talked about impact in relation to their gambling activity, their financial status, their personal relationships as well as their lifestyle more broadly. While five key subthemes were identified, they intricately co-existed and interrelated as many participants reported multiple impacts on many aspects of their life as a result of their treatment. These subthemes will be discussed in more detail.

## Intrapersonal issues

The majority of participants who reported improvements in a specific area related to their gambling (e.g. gambling less, spending less, improved quality of life, better relationships, having more money etc.) reported a greater sense of empowerment and control over their life and destiny. With money to spend, for example, participants felt like they were actually able to make more choices about their life and plan for the future. The positive impact of a greater sense of control was described by the following participant:

*"I think in some ways in general I feel like I have a little bit more control over everything I'm doing...I think it's one of the best things I have done."* Female, 33 years

Another participant also reflected on the interconnectedness between the internal sense of wellbeing in relation to their external environment and how this sense of wellbeing reinforced his buoyant mood and sense of empowerment. He said:

*"What surrounded me all of a sudden I started noticing because I think, you know, sometimes those things just don't become important it's almost like you've got blinkers on but all of a sudden that's um my surroundings started 'Oh gee this needs fixing, that needs fixing', and um and I got it done. It's still also this reinforcement of positive things around you, you know, all of a sudden you start improving your environment around you, ah physical environment your emotional environment and all that and all that reinforces the good spot you're in versus the negative spot."* Male, 52 years

## Gambling activity

Participants' experiences ranged widely with regard to the impact of treatment on gambling activity. Some participants reported stopping completely, while others were able to significantly reduce their gambling, especially in terms of frequency, amount of hours spent gambling and the money spent. Some participants reported to be satisfied that they had stopped some specific forms of gambling (e.g. pokies), despite still gambling on other forms (e.g. TAB). And while one participant reported that she

went less often to gambling venues, she still spent more money overall. Despite spending more money, this participant still perceived the changes in a positive light.

Overall, the majority of participants talked about positive experiences related to their gambling, as indicated in the following comment:

*"I walked up the back thing where you get the money and I looked around and then I walked back to the machine I was on and I looked around and I took the card off it and thought, bugger it and went home. So that's really good for me."* Female, 67 years

## Financial impacts

Having reduced their gambling activities, several participants reported that, as a result, they actually had money to pay off debts, pay bills and financial commitments, budget and were able to save money as well as make plans for the future. For some people, this was a feeling they had not experienced for a long time, if at all, as illustrated by the following reflections:

*"So what it does is it opens up in a sense a financial freedom. So suddenly the money that was a hundred or two hundred dollars a week or a fortnight, is there and it's money that in a sense I didn't have before. So it enables me to actually save money, even though I'm on a pension, and to be able to find that there's always money left over at the end of the next fortnight whether it be twenty dollars, fifty dollars, a hundred dollars and that's something that didn't happen for a very, very long time."* Male, 46 years

However, while a number of participants may have experienced some improvement in their financial status, they acknowledged that it was just the beginning and their accumulated debt, for example, was not going to be resolved immediately:

*"It's not so much at crisis point because the income's starting to come in...I always pay bills but um I'm in very serious credit card debt still."* Female, 66 years

Other participants reported that having money and saving money gave them a greater sense of empowerment and a feeling of being less stressed coupled with a sense of the future. Another man encapsulated these emotions:

*"It's an exhilarating kind of experience because it basically means that the money is now there to be used for what I need it for and what I don't need it for is gambling.....Now that money goes towards a rainy day just in case something happens and it might go towards a security deposit or rent or something like that in the future...Just being able to plan financially for the future and being more comfortable in so far as I don't have to worry about money."* Male, 46 years

## Impact on relationships

Participants also reported changes in their relationships with other people following the treatment. For some individuals these changes meant letting go of relationships that they recognised as being unhelpful. For others, who had been unable in the past able to talk openly to significant people in their lives about their gambling, they now reported that their sense of guilt had been lifted and it had improved their relationships:

*"I socialise with my friends, you know what I mean. It's infinitely easier to talk to women, you don't have that, that shame factor about it, you know what I mean? It's just completely different. That, that's the only way I know how to put it. It's a lot better and that's a good thing."* Male, 39 years

It was not easy for many participants to discuss their involvement in the treatment offered by the study. One participant reported that he had discussed, albeit with trepidation, his treatment with his wife, the result of the discussions leading to a positive outcome for him:

*"I talked to the psychologist more than I talked to you (his wife) because I'm scared and she responded with a commitment that it's our problem, if we have an issue it's ours...So now life is actually better now after I found a more caring wife."* Male, 52 years

## Lifestyle changes

Beyond personal relationships, some participants indicated that their lifestyles had also changed, sometimes in significant ways. These changes described by the participants included how they had started to think about undertaking different activities as the following reflection illustrates:

*"To start to explore um other options in life and the fact that there are many other things that I could be doing rather than gambling including recreational activities, you know joining community groups, taking on some tertiary study, taking on voluntary work."* Male, 46 years

For another participant these changes meant being free from worry about the consequences of their gambling:

*"How do I put it, um, it just feels right. I thought that it would be like this massive relief. It's good that it's more normal. It's good that I don't have to dodge phone calls because I don't know who it is. It's good that you don't dread opening mail, it's good that you, you're not freaking out as soon as you've woken up because you lost X amount of dollars the previous day."* Male, 39 years

In summary, participants reported that there was significant impact or change that had occurred following treatment and that those positive changes were integral to participants' experiences of the treatment. Furthermore, change was experienced in various ways and across a number of areas including intrapersonal attributes, gambling behaviour, financial status, interpersonal relationships and lifestyle. These positive changes often resulted in a sense of self-empowerment and looking forward and being able to plan for the future because life was no longer determined by gambling activities.

While the impact of the treatment was mostly perceived as positive, this was not always the case in the short-term, as was indicated in the following observations by a participant who decided not to continue treatment:

*“Well, just you know she just questioned me on rants and ‘are you borrowing money from people? How are you paying that back?’ and that sort of stuff. And stuff I know and I’m totally aware of <laugh>. I just yeah, I felt like I had to do something to try and fix all that. Like quick fix, not, not, yeah, so that’s why I ceased doing any more sessions, is one of the reasons. Like I wasn’t feeling better, I was feeling worse and I know in the long run it probably will be better, but, right now, yeah, it was doing me more harm than good I felt. And that’s probably my fault ‘cause I’ve got no control of - But I didn’t want to come out of those sessions feeling like I was in a worse situation and that’s how it made me feel, so I don’t know if it’s the chicken’s way out or whatever. But I just didn’t think it was. You need to be in the right frame of mind for that stuff to work, you know, and I wasn’t even thinking about - I’m just thinking about how to get out of my situation that I’m in at the moment.”* Male, 33 years

## Enablers and Barriers to Treatment

Participants discussed a range of factors that assisted them to achieve a positive experience and outcomes from their treatment as well as the barriers that prevented them from reaching their goals or to reduce or stop their gambling. Analysis of both the enablers and barriers for gambling and treatment outcomes generated the following sub-themes and will be discussed in greater length in the section that follows:

- Participant goals relating to treatment;
- Accountability for their actions;
- Psychosocial health and co-morbidities
- Readiness and timing to address problem gambling behaviour
- Interpersonal support
- Accessibility of gambling opportunities

### Participant goals relating to treatment

The majority of participants described their goal or goals for treatment, and how these had influenced their experiences of treatment in a number of ways.

Participants described a range of goals, most of which were specifically related to their gambling behaviour including: “to reduce time spent gambling”, “to stop gambling”, and “to save money”. However, many participants also talked about more psychologically related goals such as “increasing self-esteem” and “finding out what triggers my gambling” and “to understanding why I gamble”.

When participants described gambling-related goals, it was interesting to note whether they talked about reducing their gambling or stopping. One participant described being an 'all or nothing' person, so for him reducing gambling was unlikely to be an effective or achievable goal:

*"Yeah, so it's got to be nothing. It's got to be no - no - no gambling at all."* Male, 65 years

Other participants mentioned that they discussed their goals with their psychologists and that this process was important in identifying an achievable goal and striving to reach it, as illustrated here:

*"I said to her like from the get go I don't think it's realistic although I've said it, I don't think it's realistic that I will be able to give up the punt full stop but if we could reduce what I'm doing drastically then I will be just chuffed. And, and it has, and it's happened and she listened to what I had to say and so we worked towards that."* Male, 38 years

Having to articulate and discuss a goal served as an important marker for participants in order to evaluate their progress. The following participant indicated that he had higher expectations than he was able to achieve and acknowledged he still had work to do on reaching his goals:

*"Now, that sort of, you know, I'm, that's the level I'm at. I wanted to, I wanted to be more than that level."* Male, 54 years

Participants also expressed a range of responses to the question about how they would know that their goal was reached. The marker of success for the following participant was financial:

*"It doesn't feel like an achievement because I still haven't saved anything."* Female, 36 years

The experience of a relapse for one participant was described as having caused him to reconsider what success actually was:

*"Well, I suppose you could - I could view - I could take a view of the last week as being successful or unsuccessful. The success is that I've never - I've never been so long without - without going there. This - but the other side is, of course, that I did go in one instance."* Male, 65 years

Participants also responded in different ways to questions about whether their goals could be achieved and, as one participant put it, when talking about her progress towards the achievement of her goal:

*"So I'm happy with being very close."* Female, 54 years

Yet another participant described how she had intentionally set her goal extremely high, recognising that even if she didn't achieve her final goal she would make progress by trying:

*"I'm not sure if that's going to happen, yeah. Even though that was my goal I knew, like, because I wanted to set the maximum goal so that if I just went at it sort of even halfway I had achieved more*

*than I would have if I'd made a minimal goal and then I wouldn't have tried as hard. But I, I sort of said to myself, 'Yes, I want to stop'. So that helped, like, make a goal big and then even if you failed a little bit, you're still, still ahead."* Female, 33 years

It was clear that some participant's goals changed, and often this was instigated by the treatment. Goals changed and became more realistic, as was the case for the following participant:

*"Um you know, like when I first started the program I thought to myself 'Well I still do want to gamble, but I only want to gamble once a week or once every two weeks' and just cut it down that way. But, you know I realise now, and I suppose um from the last experiences that I've had over the past three weeks is that one will turn into two and two into three and it'll turn into five sessions a week. So um I don't really want to go down that path again."* Male, 50 years

Another participant indicated that they had the opposite experience and realised that to cut down was more realistic, than to stop completely:

*"I'd like to probably my goals may have shifted a bit, in that I'd just like to control it more, be able to walk away.....Just wouldn't stop, yeah, but I think it's unrealistic I've been sort of thinking about that a fair amount."* Female, 59 years

The goals for some participants remained the same but they realised that the goals they had set were ongoing and not likely to be achieved in the short, six-week period of treatment. In fact, several participants' described that they "had a lot of work still to do", and that "only time would tell" if their goals were achieved. In this sense, their recovery was now viewed as a process.

In summary, treatment goals had a big influence on participants' experiences and evaluation of their treatment. Treatment goals were dynamic, and served as important markers in the recovery process.

## Accountability for their actions

The majority of participants described issues related to their feelings of accountability. What, and to whom, they felt accountable varied in a number of ways. Within the context of this analysis, accountability has been taken to mean that the individual participant felt compelled to do something (e.g. complete treatment, stop gambling, adhere to goals etc.) usually related to feelings of obligation either to oneself or to someone else (for example, the psychologist, family members, Monash University, or the researchers).

For some participants, the sense of having a commitment was very much tied up with their notion of accountability. The following participant, for example, had made a commitment to the psychologist and did not want to be seen to be failing or not meeting his commitment and that these factors provided him with the motivation to persevere with his attempt to reach his goals:

*"Because next week, or the next session, I've got to go in there and say what I - what I've done. And I find - I - I did find myself pulling back because of that. Thinking, no, I'm not going to go in there and -*

*and, ah ... be seen to be failing...I've got a commitment now, or there is a commitment that somebody's going to ring me up and ask me...Yes. I'd be embarrassed to go back, if I hadn't done a lot of improvement."* Male, 66 years

In the following observation, another participant also illustrates how her commitment and connection to her psychologist reduces her risk of relapse:

*"I felt connected to her [psychologist] in a way that if I went back again I'd let her down. Does that sound silly <laughing>? Even though I won't ever be seeing her again I sort of felt...ah...yes accountable to her."* Female, 68 years

Another participant who had been in prison, felt particularly accountable to his family and friends who he said had supported him along the way, and this was a sufficient impetus to keep him motivated and to "stick to his goals":

*"I think, well yeah, I, I took it quite seriously, you know what I mean? It's like I had, I probably had notes that thick, that was, and the entire book was filled up of homework and notes, yeah. Like for me it, I just can't, like a lot of promises have been made to a lot of family members, to a lot of close friends, you can't, it's, I don't want to do that anymore."* Male, 39 years

Several other participants also described what they viewed as being the benefits associated with having a sense of accountability. For one participant, having a psychologist who "took an interest in me" curtailed her sense of freedom and the belief that she could do what she liked because she did not want to lie. While she acknowledged that feeling accountable to someone was challenging for her, she could appreciate the benefits and acknowledged that it was beneficial in the long run. On the other hand, another participant expressed his sense of reluctance and conflict about sharing one's goals and desires, specifically because it would hold him accountable for his actions. Furthermore, some participants acknowledged their desire to feel accountable, knowing that it may be of assistance to their progress; however their sense of accountability was not sufficiently strong enough to reap any substantial benefits from their treatment.

Finally, a small number of participants stated explicitly that they "did not feel accountable to anyone". One participant, for example, recounted his gambling behaviour, and that it was really down to himself to regulate his own behaviour because he had no one he felt accountable to, especially as he was on his own. Furthermore, he had a highly disposable income, and did not feel as if his gambling was affecting other people in any way at all. Having a personal sense of accountability to others was not a significant motivating factor for ceasing to gamble, as he described:

*"It's a positive thing but um its – when, when you have to self-regulate yourself. I suppose that's the best way of terming it. It's, it's, it's very hard to, to, do it when no one's over your shoulder, you really have got no one to be accountable for but yourself...If you want something, you're going to get it. It*

*doesn't matter – I mean it obviously depends on price as well, but if you really want something, you're going to do it.*" Male, 52 years

In summary, a sense of accountability as talked about by the participants emerged as a potentially important influence on participants' experience of treatment, mostly by assisting them to adhere to their goals and continue to recover.

## Psychosocial health and comorbidities

Many participants indicated that they faced serious challenges in relation to their overall physical and mental health, in addition to further personal issues. This meant that for these participants, their problem gambling behaviour was not an isolated issue, but rather existed within an often complex life context. As such addressing their wider wellbeing was integral to their ability to also address their problem gambling.

One young man, for example, spoke specifically of his poor physical health:

*"I've done pain management clinics and things like that but at the end of the day the tablets and patches and things that I take - like when - when they're all at their highest levels - in fact they're few and far between times where I actually feel half decent within my body."* Male, 39 years

Problem gambling behaviour was also linked to more general life challenges facing some participants. When discussing their problem gambling many of the participants reflected on how these broader life issues, including the social relationships associated with gambling activities, interconnected and played a substantial role in their continued gambling. As one woman reflected:

*"That was how I met friends, and how I did things, was through, gambling. I want to meet people, and the pokies was my only way to do it."* Female, 42 years

Once again in what follows the theme is the role of gambling and social interactions and friendships based on gambling activities:

*"...and it's all tied around social activity because it's at the local RSL and I meet my mates down there and we play pool, and after we have a few beers we go in (to the pokies) and - and I stay too long, stay longer than them...and as soon as you've had four or five beers you think, 'Oh well, I'll just spend the 20 here and, er, be home by six', and, er, it doesn't work out like that."* Male, 68 years

The relationship between gambling and other life issues is complex. This complexity was reflected by many participants who viewed gambling as a form of escape from life stressors, relationships or situations, physical pain, ill health and other personal issues. Participants related how they had turned to gambling as a way to relax, or as a form of stress management that they acknowledged was self-defeating:

*“The escape from um, you know, everyday life um, ah, you know, traumas... And the fact that ah - that in a way ah it’s therapy (the gambling) because you get away.”* Female, 59 years

In addition, other participants reported that gambling offered them a means to make up for loss of control in the private sphere of their lives and as one middle aged woman put it:

*“Some things that were out of my control in my private life...that’s why I was using that (gambling), to make up for it, sort of thing.”* Female, 55 years

Other participants spoke specifically of their struggle with depression particularly in relation to their problem gambling and as one man indicated:

*“She (psychologist) was concerned about depression levels that I was suffering from, from that and she wanted to try and work on cutting back that depression level as well. Um, I think to stop gambling and - and achieve that - er, yeah like it would help...help with the depression level.”* Male, 39 years

One of the oldest participants in the study described the relationship between depression and gambling quite bluntly, saying:

*“Perhaps...when I’m feeling down about all these things that’s when I’d go to the poker machines.”* Female, 78 years

Having a sense of failure and shame related to their gambling activities was a cause of stress for others, and it was this sense that was captured in the following comment:

*“I’m so ashamed about it when I walk into those places I despise myself. I despise those places and I despise myself. I’m like a walking robot.”* Female, 67 years

Whilst some participants reported significant issues with their mental health and related co-morbidities (e.g. depression and anxiety), others recognised that alcohol played a role in triggering and exacerbating their problem gambling behaviours, as illustrated by this man:

*“I needed to, um, to stop, um, being on poker machines, um, but, but part of that I needed to stop drinking. I know I’m an alcoholic, you know. It does create a, um, fair bit of turmoil that I can’t deal with really and I’m prone to depression, so I’m on anti-depressants anyway. So I don’t really need to, um, you know, to drink, um, more than, you know, a couple of drinks, is not going to help me, um, you know, in managing my, my mental, my moods.”* Male, 49 years

The interplay of mental health, co-morbidities and problem gambling coloured the experiences of treatment for a number of participants particularly as their treatment goals were frustrated by the mood swings associated with their mental health. Some of the “pressure of expectation” related to the potential of failed treatment is illustrated by the following observation:

*"I was being super critical and the only person I've got to blame is myself. Sometimes I'd become very frustrated and I'd become annoyed and sarcastic in talking with people because it was hard to contain the frustration and disappointment of another loss, another loss."* Male, 46 years

Other participants reported that the treatment had a marked affect in reducing depression and anxiety, particularly associated with their improved financial situation due to either stopping or reducing their gambling activities:

*"Improving the quality of my life yeah. And I've also found that it's had a marked improvement on my depression that was caused by the financial stress from gambling."* Male, 46 years

This sense of relief and subsequent improvement in mood, related to improved financial circumstances, is captured in the following reflection:

*"Yeah, it, it just takes a load off your mind. Um, you know, you're carrying the world on your shoulders when you're gambling and if you don't have win the wolves are barking at your feet. Um and having that lifted off me, not always having to borrow money and chasing your tail, that's what a gambler does, has just been really good and even my, even my partner said even my mood swings have changed because before all this I was very snappy."* Male, 46 years

## **Readiness and timing to address problem gambling behaviour**

Many of the participants discussed at length how they were ready to address their problem gambling behaviour, although for some this was coupled with feelings of ambivalence given that gambling was often an enjoyable and favoured pastime. There was a sense of reluctance related to stopping gambling on the part of some people despite the realisation that continuing to gambling was quite problematic:

*"Kind of like, you're in two minds, a tough thing to have to decide to give up if you've been doing that same thing for a long time."* Female, 37 years

Others indicated a strong motivation to address their problem gambling and expressed this in numerous ways. Many participants indicated that they were ready to change, or that they had made a commitment to themselves and to the treatment:

*"I... think I've made a - I made a commitment by picking the phone up... To do something about it and I'd be letting myself down if I didn't continue."* Female, 67 years

There was a sense of hitting rock bottom for other participants and they knew that there would be disastrous consequences for them if they continued with their gambling. The prospect of facing such outcomes was reported by some people as being a strong motivation to change:

*"I decided that I needed to do something about it because it was getting just too much, too unbearable for me basically."* Male, 49 years

By way of comparison others recognised that despite their treatment attempts, they were not motivated enough to change their behaviours and reduce or stop their gambling activities as the motivation and readiness for change was just not strong enough:

*"You need to want to change. You just can't go to a counsellor and think they're going to fix you up. Like you need to want to. You need to make the effort as well and I know that and I...it was very half arsed my approach."* Male, 33 years

## Interpersonal support

Participants discussed how they had found relationships and support from family or friends to be an invaluable source of support in relation to their treatment for problem gambling. As one young man recounted:

*"...that was the only thing that saved me and I was as close as you can get to rock bottom but you cannot underestimate the importance of having either close family members or a partner or close friends, something like that in your life that you can tell that won't judge you and will support you."* Male, 39 years

However other individuals described the struggle to disclose their problem gambling with those closest to them, for fear of being judged or of not receiving support:

*"I haven't really sat down and said oh look I've been getting treatment for my gambling. Because I guess what I'm worried is that once you own it like that with other people then you know, they might, it's their judgement on you that, you know, they'll see you as an addict, a pokie addict."* Female, 55 years

Further analysis of the qualitative data revealed that disclosure of problem gambling was linked to issues of secrecy and trust. Some participants described the deep shame and stigma that was a barrier to their disclosure and consequently to getting and receiving support:

*"...but it's like a hidden sort of thing. I mean nobody knows that I um I go gambling still. My partner doesn't know. My kids don't know. My friends don't know."* Male, 51 years

Loneliness was also described as a barrier, both for those who chose not to disclose their problem gambling, and for those who did not have friends or family in whom to confide. Many people spoke of seeking refuge in gambling as a result of their loneliness and acknowledged that the treatment for their gambling served as an invaluable support structure, when other supports did not exist for them:

*"I do totally recognise that my loneliness and not having a significant other and not having a group of friends down here, and all these things, leave my life with big gaps that I don't seem to fill with anything else except eating or gambling."* Female, 60 years

## Accessibility of gambling opportunities

Accessibility of gambling opportunities was discussed by many participants and they were often described in the context of a barrier to participants' attempts to reduce or cease gambling. Access as reported by participants took many forms, including access to money, proximity to venues, gambling via various modes of technology and working day structures that enabled gambling to occur.

Access to money was mentioned by many participants including the relationship between having access to funds and their continued and uncontrolled gambling.

Proximity to gambling venues also posed another challenge for some people and they reported that the urge to gamble and being close to a venue were strongly related. Others revealed a loss of control and a vulnerability to gambling when they were near venues as illustrated by the following comment:

*"You can just walk streets randomly and you'll find two or three gambling places, some form of gambling.... because I'm frightened of it. I...I cross the street or walk quickly past, or speed...walk... Or suddenly go back. I don't want to be near the door."* Male, 61 years

For some participants access to gambling via technology posed significant challenges to their desire to curb or cease their gambling activities. Specific technologies mentioned by the participants included Sportsbet accounts, Foxtel, and online gambling on both personal computers and mobile phone. Some participants were aware that unlimited accessibility to gambling via these sources was a major barrier to their reduction in gambling. Many participants acknowledged the need to reduce their access to these technologies in order to achieve some successful outcomes from their involvement in treatment, such as the following man:

*"I know there's the main thing I could do is get rid at home the racing channel, it's just there on the whole time, when I get home I turn on channel 598 and there it is....they've just made it too easy now. You know with the access to the internet and the TV's."* Male, 46 years

Access to gambling as a result of the working environment or flexible working hours, presented some individuals with a further challenge and required them to make significant changes to their lifestyles in order to address their problem gambling behaviour. Whilst these participants understood the need to remove themselves from situations that promoted gambling, this was difficult to action as unfortunately for some drinking and gambling were an integral part of their work culture. For others, flexible hours or working in a car meant they were able to visit TAB venues during their working day.

As such access to gambling, as described above, was an important factor and contributed to participants' ability to reduce their gambling.

## Study B: Qualitative study – Case Study Analysis

This section comprises the second part of the analysis of the qualitative data: the case studies. While the thematic analysis enabled the identification of key themes across the whole sample, the analysis of the case studies illustrates these themes and how they interact in the context of individual lives. The case studies also provide insights into the trajectory of change and the factors that constrained or facilitated change over time in the selected cases.

The aim of this analysis is to add an additional dimension and detailed account of the experience of treatment for a small selection of participants, or cases. For each of the six participants, a brief background and history was written, followed by a description of how they described their experience of treatment, the impact it had, and the enablers and barriers to treatment success (see Appendix 4 for the full description). In this way it is possible to see how themes, identified in the first part of the qualitative report - thematic analysis - are more significant for some participants than others and how they interact and intersect. Table 22 presents the characteristics of each of the six cases, as well as an overview of which themes were significant for each individual.

**Table 22 Participant characteristics and significant themes (as identified in thematic analysis)**

	Rachel	Ian	Ned	Margaret	Robyn	Sam
<b>Sex</b>	Female	Male	Male	Female	Female	Male
<b>Age</b>	55	45	47	41	65	23
<b>Treatment Arm*</b>	BT	CCT	CCT	MI	CCT	CBT
<b>Gambling severity**</b>	20	10	18	16	13	9
<b>Characteristics of Treatment</b>						
<b>Strategies</b>	✓			✓		✓
<b>Session Structure</b>		✓	✓			
<b>Therapeutic Environment</b>		✓	✓		✓	✓
<b>Psychologist Attributes &amp; Rapport</b>	✓		✓	✓	✓	✓
<b>Immediate Impact and Outcomes of Treatment</b>						
<b>Intrapersonal</b>	✓	✓		✓	✓	✓
<b>Gambling</b>	✓	✓	✓	✓	✓	✓
<b>Financial</b>		✓	✓	✓	✓	
<b>Relationships</b>		✓	✓	✓		
<b>Lifestyle</b>	✓	✓		✓		
<b>Enablers and Barriers to Treatment</b>						
<b>Participant Goals</b>			✓	✓	✓	
<b>Accountability</b>			✓		✓	
<b>Readiness &amp; Timing</b>	✓	✓	✓	✓	✓	
<b>Psychosocial Health &amp; Comorbidities</b>	✓			✓	✓	
<b>Interpersonal Support</b>		✓	✓	✓	✓	

<b>Accessibility</b>		✓	✓			✓
----------------------	--	---	---	--	--	---

\*BT: Behavioural Therapy; CCT: Client Centred Therapy; MI: Motivational Interviewing; CBT: Cognitive Behavioural Therapy.

\*\*As measured by the Problem Gambling Severity Index (PGSI). Score ranges from 0-27: >8 indicating problem gambling with negative consequences and a possible loss of control.

Each of the six case studies differs one from the other and what follows is a snapshot of each.

The first case study describes Rachel, who brought to her participation in the treatment program a history of family dysfunction, violence and mental illness plus a long history of involvement in gambling activities. This case highlights the sense of lack of control and fear that accompanied Rachel's past gambling activities coupled with unsuccessful attempts over time to deal with gambling through previous treatment programs. Despite her previous history, Rachel's expectations of this treatment were clear - her goals were to stop gambling and for the urge to gamble to be gone within 12 months, and to her surprise, the treatment assisted her to make some improvements.

The case study of Ian illustrates how he was forced to acknowledge and address his problem gambling once his habit had been discovered by his family. Ian's case also illustrated the impact that gambling had on his family, particularly in relation to their financial circumstances. A major facilitator of comprehensive treatment success as illustrated by this case, related to the role of good timing, family support and the participant having clear goals around working towards stopping gambling completely.

The next case study, Ned, was deeply remorseful about the impact of his gambling on his family and in particular their financial circumstances. The fear of losing his family was devastating to Ned and it was within this context that Ned took part in the current study. Ned's story was one of success and accountability, highlighting the central role of family support during and after treatment. For Ned, the continued support of his family was paramount to his treatment success and his commitment to not gamble.

By way of stark contrast, Margaret's case reflects a significant history of complex social and mental health issues and her journey into homelessness and financial instability. Margaret found that her participation in the treatment program had assisted her to make significant changes to her life and thinking patterns. In addition she was hopeful that she would be able to manage her stress better, although she was also very realistic about her ongoing battle to suppress the urge to gamble.

Robyn was an older divorced woman with a long-standing history of gambling. While Robyn was appreciative of the treatment, especially the supportive nature of the sessions, Robyn's story illustrates her sense of loneliness and trauma, coupled with her ambivalence towards ceasing to gamble. Robyn was not prepared to give up her addiction despite the dire economic and social circumstances in which she found herself. Goal setting in this case was presented in an unrealistic manner and it was unclear whether Robyn was capable of making the necessary changes in her behaviour and whether she presented her idealised self-versus the real self during her treatment.

The final case study is that of Sam, one of the study's youngest participant's. Sam's case can be categorised as reflecting a poor understanding about the process and potential of treatment for

problem gambling. Although concerned about his gambling activities, and particularly its impact on his financial and social circumstances, this case reflects the unwillingness of the participant to engage in a serious way with the treatment or confront the potential impact that gambling may have on his future life.

While the cases selected are not statistically representative of the entire participant sample they have been selected specifically to illustrate the diversity of experience within the sample, both in participant characteristics (age, sex, treatment arm, gambling severity) (see Table 22) as well as individual experiences of treatment, and whether they perceived their treatment as having an impact or not on their gambling behaviours.

## Concluding Remarks for the Qualitative Analysis

---

The thematic analysis of the qualitative data from the post-treatment interviews revealed three major themes encapsulating participants' experiences of their treatment: the characteristics of the treatment, the immediate impact and outcomes of the treatment, and the enablers and barriers to treatment.

First, in relation to the characteristics of the treatment, participants discussed a range of strategies that had been addressed in the course of their treatment. Participants indicated that these strategies had assisted them to either stop or reduce their gambling. The strategies could be defined as either monetary based interventions; behaviour and thought modification; self-reflection and increased self-awareness, and knowledge based information. Further, participants made both positive and negative comments about the structure of the treatment sessions. The therapeutic environment was important for some participants who valued the supportive structure that the treatment provided that enabled "unburdening" or "emotional release". The participants often talked about their psychologist and associated their treatment experience to the rapport, professionalism and skill of their psychologist. Responses varied, but many participants expressed a range of positive responses regarding the skills of their psychologist, as well as their therapeutic relationship. Some participants, who predominantly described the treatment as not worthwhile or useful, perceived and described their psychologist in less favourable terms. It is apparent that for those participants who experienced the treatment favourably, their comments about the individual psychologist also tended to be positive, whereas the converse is true for those who did not experience the treatment favourably.

Secondly, the majority of participants reported that their treatment had an impact on a number of areas of their life, and that treatment was positive at least in part. The impact most commonly discussed by participants was of an intrapersonal nature and included experiences relating to the sense of control over their lives, their sense of hope and increased levels of self-esteem. Participants also talked about impact in relation to their gambling activity, their financial status, their personal relationships as well as their lifestyle more broadly. While five key subthemes were identified, they intricately co-existed and interrelated as many participants reported multiple impacts on many aspects of their lives as a result of their treatment. The reported impact or change that occurred following treatment was integral to participant's experience of the treatment. Furthermore, change was experienced in various ways and across a number of areas of their lives and these impacts often resulted in self-empowerment and looking forward and being able to plan for the future because their life was no longer determined by their gambling. While impact was mostly perceived as positive, this was not always the case.

Thirdly, the enablers and barriers to treatment revealed a range of factors that assisted participants to achieve a positive experience and outcomes from their treatment as well as barriers that prevented them from reaching their goals. Six sub-themes were identified: participant goals, accountability,

readiness for change and timing, psychosocial health and co-morbidities, interpersonal support and accessibility of gambling opportunities.

Individual goals had a significant influence on participants' experiences and evaluation of their treatment. These goals were dynamic, and served as important markers in the recovery process. A sense of accountability to the psychologist and the research was also a potentially important influence on participants' experience of treatment. The interplay of some participant's mental health, co-morbidities and gambling impacted on their experiences of their treatment. They struggled to find meaning in their predicaments because their lives and treatment goals were frustrated by the complexities thrown up by the vagaries and mood swings related to their mental health. For yet other participants, the treatment had a marked and positive affect in reducing depression and anxiety, particularly associated with improving their financial status, because they were able to stop or reduce their gambling. Participants discussed at length their readiness to address their problem gambling behaviour, with many expressing feelings of ambivalence in this regard. After all, gambling was a favoured pastime that some enjoyed, and they were reluctant to stop entirely, despite the realisation that it was problematic for them. A wide range of relationships and support were described and those who had discussed their problem gambling and treatment with family or friends, found this support invaluable. Conversely, those who struggled to disclose their problem gambling with those closest to them described the fear of being judged or of not receiving support. Disclosure of problem gambling was linked to issues of secrecy and lack of trust. Some participants also described their deep shame and the stigma that was a barrier to their disclosure and consequently their prospects of getting and receiving support. Accessibility to gambling opportunities took various forms and illustrated the multitude of barriers that participants faced in their attempt to reduce or cease gambling behaviour. Access to money was mentioned frequently, including the relationship between access to funds and uncontrolled gambling. Technology was another important factor for some participants and related to their ability to reduce or stop problem gambling.

Participants in the qualitative study had a commonality in that all sought treatment, their expectations of treatment however varied enormously because of their diverse backgrounds. For some participants, their expectations were met and surpassed. They described very positive rapport and positive therapeutic alliance with their psychologist that was often coupled with positive outcomes. However, the expectations for others were not met, some describing disappointing or negative experiences of the treatment, and many did not appear to develop, experience, nor describe any rapport or therapeutic alliance with the psychologist. In conclusion, it is apparent from the thematic analysis, that participants' expectations and preconceived ideas about treatment greatly influenced their experience of treatment overall.

In addition to the thematic analysis, the case studies were able to confirm and add a more extensive and contextualised account to the findings. Having supportive family and friendship relationships, for example, was identified in a number of case studies as being of key importance in the journey towards achieving expectations and goals. The case study analysis pinpointed how positive relationships

specifically contributed to a more hopeful view about achieving their goals, both for those who had and had not had treatment in the past.

Inclusion and analysis of individual case studies has added depth and detail to knowledge and understanding about the immense problems faced by people who gamble. In particular, the cases highlighted the complexities inherent in ongoing problem gambling and the relationship and intersection of the social, financial, health and wellbeing circumstances confronting the participants. In addition, the cases foreground how, for some individuals, the journey and battle to overcome problem gambling was not one of immediate success, but rather a process of compromise and adjustment, as they worked towards their treatment goals and preferred outcomes. Together the thematic analysis with case studies tell of the expectations about what the future may hold for the participants as they face not only the challenges of life, but specifically in relation to the place of gambling in their lives.

It must be acknowledged that the participants in this study were all actively seeking treatment, which is not a representative feature of people with gambling problems. The majority, indeed, do not seek treatment. Furthermore, for those who do seek treatment, it is often after a significant length of time of gambling and a range of problems have emerged and become established. This experience is reflected in the often complex stories told by participants. While this may have meant that participants' readiness to change was perhaps quite advanced, it also meant that the often dire consequences of problem gambling that had accumulated made it more challenging to make changes.

While receiving treatment facilitated participants to make the changes they desired, participation in the research, particularly the qualitative interviews, provided participants with additional opportunities to reflect on their lives, clarify the issues, and make further links for themselves. The role of the study in this regard was explicitly articulated by some participants in the form of increasing their sense of accountability and commitment to change. Thus the influence of the research on individual outcomes, in combination with treatment, is to some extent unknown.

## Discussion and Conclusions

---

### Research and Clinical Implications

This report describes the 6-month post treatment outcomes for the Psychological Treatments for Problem Gambling (PROGRESS) Study: A Pragmatic Randomised Controlled Trial and Qualitative Study as at 1 December 2014. This is an ongoing longitudinal study of treatment outcomes for a sample of 297 Victorians who enrolled in a treatment program for problem gambling.

The objectives of this study were to:

1. Study the relative effectiveness of four manualised psychological interventions (Cognitive Behaviour Therapy, Motivational Interviewing, Behaviour Therapy and Client Centred Therapy) in the treatment of problem gambling.
2. Determine the durability of any therapeutic gains obtained by the four psychological interventions as measured by the key outcome variables (a) instances of gambling in the past four weeks, (b) hours spent gambling in the past four weeks, (c) dollars spent gambling in the past four weeks and (d) gambling symptom severity as measured by G-SAS.
3. Study the experiences of problem gamblers seeking treatment throughout the course of the treatment and following its cessation.

The major outcomes for the study are described in the body of the report and in the abstract to this paper so it is not proposed to repeat them yet again. The focus in this discussion is on the clinical implications of the findings and whether they are credible.

If the findings are taken at face value, then there is good evidence that manualised psychological therapies “work” in the treatment of problem gambling. The somewhat unexpected result obtained in this study is that the exact content of the therapy used does not seem to affect the participant outcomes. Although there has not been strong previous empirical evidence to suggest that this might be the case, some commentators might be prepared to claim that for example CBT, because it has the greatest evidence base to date, it would be likely to be the most effective. However, absence of evidence for effect is not evidence for no effect. In the present study the four types of psychological therapy have been compared using a rigorous research methodology in the context of a longitudinal study and now there is evidence, as opposed to speculation, that suggests the differences in outcome effectiveness are not statistically significant. This is an interesting finding.

The other finding of interest is that the effects seem to be durable. This report is focussed on six months outcomes and these show little evidence of relapse. Although it has not been analysed in this report, the 12 month data already held (193 participants and approximately 50 per cent of the total ultimate 12 month sample) show the same trend quite strongly. The results suggest robust and durable treatment effects.

Once again if the findings are taken at face value, then there are simple and clear implications for good practice in the treatment of problem gambling. Manualised psychological treatments implemented by well-trained psychologists appear to achieve robust and durable results. Thus treatment services should use this model in the design and delivery of their services.

## Strengths and Limitations of this study

As outlined in the introduction in this report, the study design was informed by a rigorous analysis of previous studies in the form of a published Cochrane review. Many actions were taken to address potential areas of bias in the study design and its execution and the analyses performed to address the study aims. These actions are discussed in detail in the study report.

Nevertheless some potential biases remain.

A major issue in the study is the use of predominantly self-report data. The best available measures were chosen and these measures are “industry-standard” in that they are used widely within the problem gambling literature, but they nevertheless are a source of potential bias through inadvertent errors in self report or intentional errors made with the intention of concealing the true situations for the participants. These intentional errors may be made because of embarrassment, symptom maximisation, hypochondriasis or other mechanisms.

A second issue that affects all studies is the sample validity. However, our analyses of the study sample compared to previous studies and most notably the Australian Productivity Commission’s shows no statistically significant differences in terms of gender composition and age profile with the present study sample. The representativeness issue is directly affected by the group to whom the study results are intended to be generalised. As is the ethical requirement with all studies, the participants in this study were volunteers so there is no suggestion that the high rate of durable and successful treatment outcomes would apply to a higher acuity group. These were volunteers responding to public advertisements sponsored by a university. It is possible that this may have induced some expectancy effects amongst the participants. Also because the treatment was free there may have been a cognitive dissonance effect where people are more affected by social desirability in their reporting of outcomes because they did not want to appear to be ungrateful. However there is no firm evidence that any of these effects were in operation.

Further while we have made every effort to ensure blinding through the separation of staff conducting assessments and those involved in group allocation it is possible that expectancy effects may have been in evidence in the study.

The main problematic issue in the project execution related to speed in recruitment. The study took much longer to complete than was originally planned. However, this was not a threat to study neither

integrity nor validity. The effects of timing of data collection for the participants has been modelled and has been found to be negligible.

We thank the many who supported this study for their wonderful efforts and our reviewers.

The next step in the project is the completion of the 12-month longitudinal data collection. This will provide a longer-term view of the durability of the treatment effects and enable the full outcome prediction analyses to be completed.

# Appendices

---

## APPENDIX 1 - Qualitative Pre-Treatment Interview Schedule

### ***Part 1: Participant's perception of impact of gambling***

- Can you tell me how gambling is/has affected your life? *(In the more recent past)*

### ***Part 2: Reason for participating/seeking treatment***

- What are your reasons for seeking treatment? What were the triggers for you seeking help?
- What are your reasons for participating in the study? (Prompt: What led you to respond to the advert to participate in this study?) *Enquire about qualitative sub-study as well.*

### ***Part 3: Expectations of treatment***

- You are about to start your treatment program. What are your goals and expectations of the treatment? (Compared to how you feel and act now, how do you think/hope/expect you will feel and act (1) immediately after your treatment, as well as (2) 12 months on?)
- How do you imagine your treatment to be?
- How do you think treatment will enable to achieve your goals/expectations? What do

### ***Part 4: Previous experiences of treatment***

- What are your previous experiences of treatment? *(List treatment types and when they took place, formal (e.g. involving a practitioner) and informal (e.g. GA))*
- What worked well/not so well? Why do think it worked/didn't work?

### ***Part 5: Understanding of recovery and change***

- The aim of the treatment is to make you feel better. How will you know if you're better? How can you measure it?
- Please describe in your own words how you think you will act and feel when you are better. (Prompts: is it changes in behaviour, emotions, financial status, relationships etc.) - What does recovery look like to you?
- What do you think are the main barriers/enablers to change/recovery/improvement from your gambling problems?
- What factors do you think will enable/hinder your recovery?

*Is there anything more you would like to say, or anything you think is important that we have not yet discussed?*

## APPENDIX 2 - Qualitative Post-Treatment Interview Schedule

*(If participant did not complete all 6 sessions, confirm number of sessions completed and find out about their reasons for not completing the treatment program. Then proceed with the following interview schedule).*

### **Part 1. Experiences of treatment**

Now that you have completed your treatment program, what do you think about your treatment?

- Has the treatment helped you in any way?
- Do you feel that your problems were resolved when you finished treatment?
- How would you describe the help you received?
- What parts of the treatment did you find useful/not so useful? Why?
- What things enabled or prevented you from achieving your goals and expectations?
- Was the treatment what you expected?

### **Part 2. Life now compared to pre-treatment**

- What's life like now compared to before your treatment (when we first interviewed you)?
- If you feel that you have changed, do you think this was due to your treatment or to other events in your life?

### **Part 3. Reflections on treatment**

- How have you felt and thought about your treatment since commencing?
- Do you think your treatment should have been different in any way in order to have helped you more?

### **Part 4. Expectations over next 12 months**

- We will contact you in 12 month's time to see how you are going. How do you think your life will be in the next 12 months in relation to your gambling and general health and well-being?
- Do you think you will seek further treatment?

*Is there anything more you would like to say, or anything you think is important that we have not yet discussed?*

## **APPENDIX 3 - Qualitative 12 Month Post-Treatment Interview Schedule**

### ***Part 1: Current life and management of gambling***

Now that 12 months has passed since we spoke to you and your treatment finished, how are you going?

- How are you managing your gambling?
- Are you meeting your goals in terms of management of your gambling? If yes/no, please explain.
  - Reduced gambling participation, urges, expenditure
  - Better quality of life
  - Financial stability and security
  - Improved personal relationships
  - Self-efficacy (control, power, esteem)
  - Support from family, friends and community

### ***Part 2: Reflections on treatment***

- What are your thoughts about the treatment program which you took part in?
- If you experienced benefits as a result of the treatment, are you able to maintain them?
- What impact do you think that the treatment has had on your life?

### ***Part 3: Search for additional support***

- Have you sought additional support in the form of treatment or counselling since completion of this study's treatment program?
  - If so, what kind of support – give details. Why have you sought this support?
  - If not, why not? Is it because you feel better, no need for further treatment - or you haven't got around to it, and don't know where to go?

### ***Part 4: Current/future beliefs about gambling***

- Now that this study has finished what are your views on your gambling? Please describe.
- Have your views about gambling changed since you first became involved in the study? If so, what do you attribute this change to?
- How do you think your life will be in the future in relation to your gambling and general health and well-being?

*Is there anything more you would like to say, or anything you think is important that we have not yet discussed?*

## APPENDIX 4– Case Studies

### RACHEL (Female, 55, BT, PGSI: 20)

#### Background

At the time of recruitment into the study, Rachel was a 55 year old single woman who lived with her ex-partner. She had a limited income, and was undertaking an administrative course to try and secure more stable employment. She talked of having a difficult upbringing with a family history permeated with substance use, gambling, violence, and mental illness. Rachel remembered a time about 10 years ago when her gambling problem was at its most severe and she was almost homeless. While she admitted that currently her gambling was “not all consuming”, she said that it was horrible to live with the feeling that she has no control:

*“Well, I have lapses of not doing it [gambling] for a while and I sometimes think, oh it’s gone away, it’s gone away and then I’ll think, oh I’ll be right to just have a little bit, do a little bit, then it just comes back and it’s happened to me lots of times and then it’s there again. And I really – it’s really horrible to live with the fact that you just really feel like you have no control over it, I mean, like any bad addiction, you know... And I just think, oh well, I’ll put it away again and then, but it’s just got a mind of its own. It’s got a life of its own.”*

Rachel described feeling very alone on account of being a highly educated, middle class woman with a gambling problem. After losing a long-term friendship following disclosure of her gambling problem, she had since decided to be more selective when talking about her gambling. She was irate that an addiction to gambling was also accompanied by stigma, more so than another addiction such as substance abuse:

*“The thing that upsets me about gambling addiction is it’s – it’s almost got worse press than alcoholism. Like people seem to have some understanding of that, but they just think that gamblers are just irresponsible or somehow that’s a lesser addiction or something and it’s way less understood and it’s got a gigantic stigma and I’m sure that nobody respects particularly alcoholics and heroin addicts, but they seem to sort of understand that, but nobody seems – so you have this thing and you just feel very alone with it.”*

Rachel reported that she had tried various treatments for her gambling in the past, and was highly critical of them. For example, in one instance, she felt that the counsellor she spoke to was extremely insensitive, which had made her angry:

*“And I’ve been to the psychologists about it [gambling] before, but the last one I went to actually said, “How much did you spend this week? Well why didn’t you just give it to me? I’ve got plenty of other things I could be doing with it.” And I just wanted to punch her, you know.”*

Her expectations of the current treatment were different this time around:

*“Well, I’d like to think that it [treatment] might have a different type of impact now that I’m far more stable in so many ways. I don’t know. I’m just going to give it a go.”*

#### Characteristics of treatment

Rachel spoke about her treatment experience and her therapist in very positive terms. She said:

*"Well, my therapist was very thorough. He was really good, he was very diligent and he really listened. Like I felt like he really listened and I'm sure my other people [therapists] had really listened, but he wrote stuff down and went away and did homework on me and would come back with written things."*

She found the treatment confronting, especially when her therapist read her own "script" back to her. This was a very powerful part of the treatment. She felt that this process really exposed her and she experienced an "aha" moment, a first for her. In that very moment she reported that something shifted in her that was difficult to explain in words:

*"It's the way he worded it somehow. He kind of did a lot of direct quoting and, um, I don't know, he just seemed to really nail the concept...It's um, just even a couple of seconds and I can't even tell you what those words were, but I just know that, at that moment something shifted. So you could have your whole six-hour sessions and the whole of the weeks in between and it just can lead to that one thing and that was worth the sessions. And I can't even tell you what it was."*

The psychologist asked Rachel to undertake various tasks outside of the treatment sessions. These tasks included identifying and writing down her feelings to various situations, though she indicated that she had feelings of paranoia about these strategies since she keeps her gambling activities secret:

*"But he did give me lots of paperwork, but I am doing a part time course at the moment and I've just got, I'm not, I'm a real homework dodger, you know, it was just like more homework and um, and also I didn't, I had someone come and stay in the house, and I didn't want them seeing all these strategies for gambling, you know, all over the house. I'm really paranoid if there's a piece of paper that's going to be, someone's going to go, "what's this?" You know?"*

### **Impact**

Rachel was surprised to find that the six treatment sessions had an effect. After years of various treatments, this impact was a new experience for her:

*"Ten years ago when I did similar stuff [treatment], it didn't really seem to have much of an effect because I think I was just in too much of a state. But, um, I was, I could see an effect. I mean I could feel, feel a bit of an effect from it, so that was a whole new experience for me."*

Rachel reported that while the treatment had slightly reduced her gambling, it had not eradicated the addiction. At times of increased stress she said she still found it difficult to not gamble. Previous to the current treatment, her compulsion to gamble was very strong, yet now the urge had dissipated:

*"I do feel that it has made a bit of a dint on my habit, not completely eradicated it, but it's definitely had a good effect and I can, whereas before...there is no way I could talk myself pretty much out of going...But this time it's, the, the urge is just a little bit dissipated somehow. And so I've got, I can talk myself out of it every ... three out of four times or something, which is a whole new thing. So that's pretty good."*

After the current treatment Rachel no longer thought about gambling all the time and had been able to find some joy in other things. This has not happened prior to the current treatment, nor in the past in response to other forms of therapy or treatment:

*"But I don't think about it so constantly at all and I do find some enjoyment in other things, whereas before I didn't find enjoyment in anything else."*

The treatment also provided further personal insight. For example, that she used gambling to shut off her thoughts (like a "short cut" to meditation) and that she was hypersensitive:

*“He had kind of pin pointed things that were really strong triggers, which was relationship stuff. You know, not just intimate relationship stuff, friend relationship stuff, family, you know, the usual stuff, but he had pin pointed for me that I am really hyper sensitive to these things more than other people, which I hadn’t kind of, I didn’t really realise. I just thought everybody reacted like that, but of course they don’t.”*

### **Enablers and Barriers**

Rachel described herself as more treatable now, as opposed to the past and that she was in a much better state to take up treatment and had “allowed” this current treatment to have an effect.

*“Back then [10 years ago] I had too many other health issues and things going on, so I was a lot more treatable this time.”*

Rachel reflected that she had taken up other activities, as well as taking better care of her health overall.

*“I’ve been doing my yoga much, much, much more, which is good. You know all the yoga activity, all that stuff and eating better and all that and it all does contribute, you know, because otherwise your brain is really foggy and no therapy can get through if you’re very toxic.”*

Rachel reported that in previous treatments she had undermined therapists by “running rings around them”. However, she reported being very committed to this current treatment, and that the dynamics between herself and the therapist worked very well. Much trust and respect was established with the current therapist. She did not feel this level of a connection with past treatments, as the bond with previous therapists was not strong and she had previously felt judged by them.

When discussing treatment expectations, Rachel was emphatic that these had been “surpassed”. Rachel reported that the type of treatment she now sought, and believed to be effective, had changed dramatically over the years. She reported a shift away from alternative therapies, what she referred to as “fish slapping therapies”, and now sought “straight down the line” therapies, something she equated with the current treatment she received. She believed that her previous aversion to mainstream treatments had meant that it had taken her a long time to arrive at the place where she could accept conventional treatment, such as that offered in the study, and that in doing so, had made it harder for herself in the long run. Indeed, she conveyed a sense of regret at having arrived at this point so late in her life.

Rachel viewed gambling as her only vice left. Due in part to her thyroid condition, she no longer drank alcohol, ate unhealthy food, had sex etc. like other ‘normal people’ do. She believed if she gave up gambling for good she would be monastic:

*“It’s the only vice I’ve got left, I can’t have sugar, I can’t have ... I can have a drink, I can’t smoke, I can’t, you know, I’ve got nothing what, apart from this. It’s very hard to say no, no, I’m going to be a monk.”*

She further described gambling as a replacement to sex and akin to a relationship that did not break your heart. In saying these things, Rachel articulated the meaning and role that gambling played in her life, and provided indication of the challenges that still lay ahead.

### **Future**

Rachel reported that she would like to continue treatment but could not afford it at present. She felt that during the six sessions of her current treatment, she had done the groundwork and had identified strong triggers to address in future treatment. She still reported feeling significant denial about her

gambling addiction and acknowledged that she expected to relapse. She believed that if she were forced to stop, or put pressure on herself to stop gambling entirely, her gambling relapses would be worse. Given this expectation and belief, she felt it was “safer to not say never” to gambling.

Rachel hoped that in 12 months time, she would have stopped gambling entirely and that the urge to gamble had gone.

## **IAN (Male, 45, CCT, PGSI: 10)**

### **Background**

Ian was a 45 year old man, who lived with his wife and teenage children. He worked as a shift worker in regional Victoria and therefore taking part in the study involved many hours of travel. However, being involved was something he said he was very willing to do due to his commitment and desire to address his problem, not to mention the lack of appropriate services closer to home.

Prior to his involvement in the study, Ian had gambled for 5 years (mainly pokies, but some sports betting and lotto too). He started gambling when he went away on trips with work. Generally he would gamble alone, and it somewhat affected his social life in that he would avoid going out with friends, preferring to gamble instead. He started losing money, and the more he lost the more he felt he needed to gamble in order to recoup his losses. He was motivated by “the big win” in order to pay off his home loan:

*“I suppose what drove me more is a need to try and get that money back. Um, I was not putting money into the house to pay the house loan off but um, and then, yeah, each week that I wouldn’t do that, I’d use that money to try and win money to try and, the ultimate goal that I saw, was if I can have that big win, I’ll be able to stop.”*

Upon reflection, Ian said that he had been living week to week, never really seeing the big picture and the financial impact of his gambling. Then about three weeks before responding to the advert about the study, his gambling problem came “out into the open” after his wife found out, and he had a big realisation about the extent of his problem:

*“My wife found out what was actually happening and yeah, I think everything’s just, I suppose, oh it hasn’t fallen apart but, yeah it’s been pretty hard.”*

At that time Ian had taken a week off work because he was addressing his financial situation and his relationship with his wife and could not face work. Furthermore, coming to terms with how much money he had lost had been a shock to him.

His reason to gamble was to recoup the money he lost, in part so that he would not be found out. Now everyone knew about his gambling, Ian had expected the urge to gamble to dissipate. Ian was surprised that his gambling urge was still strong and acknowledged that gambling had become a habit.

Ian had not sought treatment for any issue in the past, and had preferred to handle his problems alone. Further he described himself as someone who did not open up about his feelings to others.

When discussing his goals for treatment, Ian wanted to stop having urges to gamble and to repair his relationship with his wife, but felt like he also had to get himself better first:

*“I want to, stop... I want to be able to just, look at a poker machine let’s say and just, be able to just turn the other way around and not even have a thought of “Oh okay if I go and just slip a dollar in there I might win some money” um, it’s those thoughts that I’ve just, I want to get my head right and just make sure I’m*

*doing the right thing... and it would be good to, I suppose, start feeling good about myself again... I suppose I've come to that realisation that of what I've done and until the day we actually worked out, uh, exactly what it cost, um, yeah, that sort of hit me pretty hard and um, yeah I just, probably want to feel better about, and I know I want to repair my relationship and build that trust with my wife, but um, I don't know it might sound selfish, but I've got to get myself right too."*

### **Characteristics of treatment**

Given that Ian had never experienced any kind of psychological treatment before and he did not know what to expect, Ian initially found the sessions quite hard, but by the end they worked for him:

*"Um it [treatment] was different, it was probably hard, initially, because I think I said in my last interview I am a pretty closed off person so it was hard to actually talk to someone about my problems or issues but at the end of it I found it quite good, actually, really helpful."*

By the third session Ian wondered what there was left to talk about, but still found that the sessions went by extremely quickly and he was more able to speak freely.

Whilst Ian realised that the treatment provided him with an opportunity to talk about his various issues, the onus was very much on him to resolve them. Ian worked out that the therapist would not necessarily provide him with the answers to his questions; but that the sessions prompted him to ask questions of himself and that he ultimately had to do the work for himself:

*"I identified the things that were probably wrong in my life but um she wasn't there to give me answers for them, she was there just to help me try and figure out the answers for myself."*

### **Impact of treatment**

By the end of his treatment Ian reported that he had not gambled since two weeks before his first, pre-treatment, interview when his wife found out about his gambling problem. In addition to not gambling, he had already noticed his improved financial status:

*"There is a lot more money going on the house loan now anyway than there used to be...that's probably something I never really looked at but now in the last couple of months I probably have and to see that figure come down is actually a good feeling."*

The treatment also enabled him to identify the triggers for his gambling (e.g. going to venues with pokies) and it had changed the way he thought about things, and increased his understanding about the process:

*"There was probably a lot of stuff um that I didn't realise within me that triggered my gambling issues and for that to sort of come out and for me to process that and talk out loud about it probably um, how would you say it? There was probably a lot of stuff there that was probably sitting in my sub conscious but um but when I was actually aware of it, that helped me, I suppose, react or treat it differently. Yeah, yeah or change my mindset."*

In relation to his state of mind, Ian worked through a lot of issues and felt much more positive:

*"I suppose over the sessions that I had there were a lot of things that were resolved in that time that yeah just basically made me feel positive about how things were."*

He understood during the treatment, that there was no "quick fix" and said: *"I would be foolish to say that I'm right now and I am completely cured and I will never fall into gambling again".*

Ian also claimed that his lifestyle had changed since the first interview. He no longer went to places he used to, and had sought out alternative venues without pokies in which to socialise. He had even taken up cooking, much to his wife's delight:

*"I suppose, what's changed as well. Um and it was brought up in therapy as well that what hobbies and all that I had before. And I was a fairly keen golfer and all that sort of stuff, but I have probably lost my passion for that but yeah much to my wife's delight, for some reason, I have taken to cooking."*

Prior to treatment Ian had recurring scenarios running through his head about what he would do with extra funds, had he won the lottery. Ian reported that these thoughts were now gone, and as a result his sleep had improved too.

His relationship with his wife was "the best it has been in years". Ian put this down to being more open generally and sharing his feelings. Previous to treatment, Ian had kept the different parts of his life compartmentalised (work, home, gambling), but he had stopped this way of thinking and now discussed his work and gambling with his wife.

He had taken on new challenges at work, and while he had not sought acknowledgement for this, he was able to see that his increased efforts were being rewarded. So, overall, Ian's life had been transformed by his treatment:

*"If you asked me today compared to where I was, yeah it is like a – I believe like a two hundred per cent improvement."*

### **Enablers and Barriers**

A major facilitator of treatment success was the fact that Ian's gambling problem had been found out, and Ian was quickly forced to acknowledge and address his problem gambling. In this sense, the timing was significant, and enabled Ian to develop clear goals to stop gambling completely. These goals were motivated by his long felt guilt and the need to repay the mortgage.

Ian also acknowledged that he had a lot of support close at hand. Ian said that his wife had not left his side in the early days, mostly because she did not trust him, but this meant he could not gamble even if he had wanted to. While he had not appreciated the support from his mother, he found his wife's support helpful:

*"a little bit too much support from oh my mother, she, she can be a little bit over the top so I sort of have to just say "look back off." Um but yeah everyone else has been good so um Annie's been, my wife, Annie's been good. Um I suppose once she has got over the initial shock and she has processed it um yeah it has been good."*

Ian said that therapy "has triggered a lot of the work that I have done myself" which included the need to avoid going into venues with pokie machines.

### **Future**

In one year Ian hoped he would no longer have to put effort in to avoiding venues etc., but that it would be automatic and he would be able to walk through Crown and not be fussed about gambling. He saw this as a realistic aim.

*"I would like to not even have to put any effort into thinking about those processes I have got in place - as far as I am concerned, I shouldn't even have to put any effort into that at all."*

While he did not expect to have a problem with gambling again, he would definitely consider more therapy if he felt he could not get support from elsewhere:

*"I can see the benefits with it [treatment] yeah. Um yeah, like I said, I have never done it in my whole life and possibly, I didn't think that highly of it for most of my life. But after actually experiencing it, um I found it really beneficial so if there is another instance where there is, I suppose, trauma in my life or I do sort of fall back into that gambling cycle, um yeah I would be looking to go and see someone, yeah."*

Furthermore, Ian said that if he did have a problem in the future, he would probably deal with it differently:

*"I will cope on my own but probably not in the way that I used to because if I am having problems or anything like that, well I will be more open about it with the people that are around me that can help me and talk to someone about it."*

Thus, the treatment for Ian in the short term proved to be a positive and useful experience, which had the promise of holding him in good stead for the future.

### **NED (Male, 47, CCT, PGSI: 18)**

#### ***Background***

Ned was married with two grown children and arrived in Australia six years ago. He was born in Asia and during the course of the study planned to return on two separate occasions to visit family overseas. These return trips were a significant source of anxiety to Ned as he was fearful of relapse and knew visits to the local casino were inherent to family social events.

Previously in 2011 Ned had received 4-6 treatment sessions for his problem gambling. He recalled this treatment attempt as supportive but ultimately unsuccessful. He described himself as someone who did not readily discuss his problems or inner life to others, but preferred to carry burdens alone and unassisted.

Ned experienced significant financial difficulties due to his problem gambling, exacerbated by loans and high interest repayments. A few years ago he lost his job in the finance area, which he had enjoyed tremendously and had received considerable recognition for, due to his good work. Up until that time his manager had been extremely supportive and knew about Ned's problem gambling. However, Ned stole funds that were returned a day later. This was Ned's lowest point in life and he indicated that he had recurring suicidal thoughts:

*"I was on the stage of committing suicide after that...the verge of committing suicide because of that incident. Yeah. There are a lot of things that is playing - Yeah, going in my mind that I want to end my life because I'm a failure..."*

The previous treatment in 2011 had provided much needed support at this dark time in Ned's life and Ned found it useful:

*"It's more releasing your emotions. Yeah, I, I, I think that's one, one of the purpose of ah, acknowledging the habit or the - -addictiveness that you got into and opening your mind to other endeavours that...."*

Ned continued to discuss the impact of his gambling problem and what led him to the study and his current treatment attempt:

*"...it infringed to the point that my, my wife already gave me a um, ultimatum that we will part our ways if I won't stop and ah, that I believe will be the worst part that this gambling will, I mean, the affect.... Yeah, the worst thing that could um - - ever happen to me."*

Ned was deeply remorseful for his problem gambling and its impact on his family. The thought of losing his family was devastating to him and it was within this context that Ned contacted the current study.

### **Characteristics of treatment**

Ned scheduled his treatment sessions 2-3 weeks apart, which provided him with much needed time for self-reflection. He viewed this as an extremely important factor in his treatment. The therapeutic relationship Ned formed with the psychologist was a major strength to his treatment as evidenced below. He was able to articulate clearly what was most beneficial about this therapeutic relationship:

*"Because the first impression I got from her I can trust her. If I don't I will, she won't see me again...It's wonderful. It's a big factor, it's a big factor, if you don't think you can trust the person you are about to tell what's in your mind and in your heart, I don't think that it will work out well."*

Ned valued the opportunity to be listened to and to be heard:

*"And um she has, she had a very wide ears, not just to hear, but to listen. She just don't hear me, she listens. Um what else, um she allows me, she allowed me to release all my emotions, um we, we discussed the things that pushed me to be into gambling, ....um basically she was just there to listen and what I am now is more of I did it for myself, she was just a guidance."*

The strength of the therapeutic relationship enabled significant unburdening for Ned, which he valued highly. More so Ned was also able to reconnect with his priorities, and to formally acknowledge his problem gambling. The discussion and disclosure within the therapeutic environment contributed significantly to the value of treatment, as perceived by Ned. It was evident during the post treatment interview that these insights resonated deeply with Ned and in recounting his experience of treatment he was visibly deeply affected and brought to tears:

*"It's a good foundation for me, because I can't exactly say it's the one that pushed me, but somehow it lessens, it lessened the load that I carry.... I discussed with her, so the next thing that ah, we did is we emphasise on the things that I am doing before, things that I'm doing before I became an addict, my relationship with my family, um the sports that I'm into, um what else? Um (...) I think those were the two things that we discussed and I put myself into, into a fear that my family will be guarded, I won't stop. Um as I mentioned to you, I discussed my problem with my grown up kids and my wife and they're all supporting, so I don't want to waste it, so sorry." <crying>.*

Ned acknowledged the depth of his addiction during treatment. He was able to do so, due to the supportive nature of the sessions and his bond with the psychologist. He had immense trust in the psychologist:

*"Yeah I think from my own perspective I'm an addict, so I won't be healed or cured if I won't accept it, so that's the first thing, I really did accept it.... Yeah and the path that I'm trying to, I tried and I did, the path that you know when I started I have this path that I need to go through just to get rid of this gambling, so she's there."*

## Impact

Ned was able to identify significant changes in his life due to his participation in the treatment. He had stopped gambling entirely and had handed over control of his finances to his wife. He was now financially accountable and had no funds with which to gamble. He was delighted by this successful outcome and could not recall when he last time visited a gaming venue to play the pokies. He said that his quality of life particularly in relation to his family and marriage had improved and he was deeply happy:

*"I went back to the old ways, my old ways with my family to give you ah, to inform you that my wife and I went to a marriage enrichment. I, I'm a catholic, we're catholic, every fortnight I go with her to attend the mass together with the family, which is so so unusual, it's been a while since I've been like that. I don't shout at my kids now. They can speak to me, I'll speak to them nicely, I'm not irritated, so the, those are the things that; even my wife she notice the changes."*

Ned experienced a great sense of empowerment as a result of his treatments sessions, and the fact he had stopped gambling. He saw himself as an active participant in his treatment and that the treatment was a two way process. In doing so however, he did not underestimate the value of the therapeutic relationship, which he valued highly. The positive impact of treatment enabled an improvement in Ned's self-worth and confidence; he felt a renewed sense of control. Furthermore, Ned had not expected such a relaxed and friendly atmosphere during the sessions:

*"Yeah I'm so relaxed telling her what happened to me every fortnight. I am, I never felt awkward of telling her things like, so as I mentioned earlier, the trust as soon as I, my impression lasted or I've got the correct impression... Yeah and so... And honestly I believe it's my own doing.... I'm happy and I just can't tell it to anybody that look I did it myself, of course with the help of you and the psychologist, but I know this is all about me..... Yeah I was able to hurdle, overcome the first step on my way to recovery, so this is the hardest part."*

Ned acknowledged his active role in addressing his gambling problem during treatment, and he also felt more confident in his ability to control his urges:

*"She never asked me to do exercises, no. She will ask me what are my plans, after I tell her what I did and what will be my plan for the next fortnight. It's more on me yeah."*

Ned appeared realistic about the challenges long term and he was cautiously optimistic of his recent changes. His general outlook however was positive:

*"...I just hope I can sustain this, ah this mindset that I made so I won't be back again, it's a hell. With regards to my finances, I during our, our my sessions I take before our sessions, I already cancelled all my credit cards except one and that one is linked to my account, so I am going to use. But all the accounts that I, all the accounts that I can use for gambling I requested for the cancellation, so I'm paying it now with the help of my wife. I still owe a lot of money, but you know the fear of where to get the payment the next being... It's not there anymore yeah."*

Ned acknowledged the significant debt and financial burden he continued to experience, but he felt he was making progress without resorting to gambling or the fantasy that his gambling wins could get him out of his financial problems:

*"Now I'm seeing the interest that I paid, it's really huge, so... So by next month I'm done, I'll just be paying my credit cards, the one that I closed. I don't have personal loans, so it's only the credit cards that I am concentrating on paying."*

Without doubt the biggest area of impact for Ned was in his relationships with his family, for whom he expressed a deep love. He was grateful to have also gained back their trust and respect.

### **Enablers and barriers**

For Ned, the continued support of his family was paramount to his treatment success and his commitment to not gamble:

*"Yeah, but they know that I underwent therapy or sessions with the psychologist, they know it. As I mentioned to you before, I called them, we were in a room and I discuss it and lay my plans just to get rid of it and they are so supportive."*

His deep love of his family and his fear of losing them provided the ongoing motivation to not gamble. He felt accountable to his family and Ned often brought to mind the devastating consequences of his past gambling behaviour, in his ongoing quest to not gamble. These consequences were a huge deterrent for Ned.

*"...Yeah I don't know that if I will say I have to or I must, but it's a must for me, because they're the, how should I say, the strength, the one that contradicts the urge whenever I think my wife told me that they would be gone if I will not stop gambling. I don't want to lose my family because of gambling."*

Ned emphasised on many occasions both before and after treatment his readiness to change his gambling behaviour. He felt he had hit rock bottom and was motivated to stop gambling and put this issue behind him. He was able to articulate his goal to stop gambling and to confront this issue:

*"Um, totally healed. (from problem gambling) I know this sickness. Because I can't control it."*

Q        You want to heal the sickness is that what you mean?

*"Yeah. I can't control this...And it's destroying my life and my family as well. If I'm just living here just by myself I, I will never undergo this treatment, I mean this counselling. Because the problem with me actually is there is no acceptance that I'm addicted to gambling. Yeah, I, that acceptance. It took me so long before I accept this, accepted this that it's already inside me..."*

Ned expressed his motivation and deep desire to change. He was committed to the RCT treatment and wanted to achieve his goal to cease gambling entirely:

*"...The only positive thing that's in my mind and it's set there, it's always I will end up the winner in this treatment... Yeah, but ah, the way the, the counselling or treatment will go I have no idea.... Ah, in my mind whatever the counselling, psychologist will ask from me that I can do, I can say, I can tell - - - I will do it....I will open up myself, everything."*

Ned was also able to identify the barriers which posed a threat to his goal to cease gambling. Having access to money and being in a gambling venue were areas of significant anxiety, both of which made Ned feel vulnerable and at risk of relapse:

*"What I can assure you right now is I cannot, I cannot go there, I won't go there regardless of who invites me right now. But 12 months I can't answer that, I hope that if I will be there and I have no choice, but to mix or socialise with them, I can, I will I will put a little money, but not as a gambler, but just to socialise. That's what I'm hoping and the best thing is for me just to be with them and watch them while they're playing.....I know, I'm not yet cured.....Yeah um as I mentioned to you if you ask me to go the Crown or go to the pokies, believe me if I have money in my pocket I will gamble....Urges are not there, but I guarantee you once you go, once you ask me to go there I will gamble."*

Ned was firm in his belief that his vulnerability was real and that he wished to avoid gambling venues. When discussing his urges to gamble on a day to day basis however, he felt confident in his ability to control himself. Battling gambling urges were generally no longer a feature or challenge for Ned.

### **Future**

Ned was extremely grateful for the treatment he received during his involvement in this study. He had reached a stage of readiness that saw him accept his gambling problem and he was extremely motivated to stop entirely. For Ned, this involved a very different mindset, as compared to his previous treatment attempt. His current success also set the scene for his future and he indicated that he remained hopeful to being free of gambling and to continue in his newfound happiness and inner peace:

*“No and no one can force you to be happy, it’s inside you..... Yeah I think I can, I will tell you that I’m done with it, it’s a history and I can look back and tell myself that (...) you did pass, I know that it’s a test from the spirit world side. I’m talking about the spirit world side, it’s a test for me that I need to go through and luckily I was able to pass that stage and heal myself. And I can tell you by that whenever someone invites me to go to the Crown I can easily say yes, because I know that I’m in control.”*

## **MARGARET (Female, 41, MI, PGSI: 16)**

### **Background**

Margaret who was a single mother with three children, an adult son and two primary aged daughters came to the study with a significant history of complex social and mental health issues. Despite her significant problems she remained hopeful and motivated while participating in the treatment. She willingly travelled for an hour to attend the qualitative interviews and spoke candidly about her gambling experiences. Margaret talked about how the impact of gambling had serious implications on her life:

*“It’s affected my life massively. We’re, um, paying bills, being able to afford anything really, just anything to do with living expenses, going errands with the kids, I can’t – we don’t do them. ....Well, I think if I’ve got – say, the way I work it, I have very limited budget to start off with, and sometimes I get that stressed I don’t have enough money to pay everything, so I think well, maybe if I go to the pokies, I might get lucky. I could win enough money to pay everything.”*

Margaret experienced ongoing isolation and a lack of meaningful social contacts. She suffered ongoing anxiety and depression brought on by her escape from a violent marriage. In addition Margaret had lived in fear for years and reported suffering from post-traumatic stress disorder. Margaret indicated that she had sought social contact by attending gaming venues:

*“So – and then I am very isolated. I’ve only just made friends now, so I’ve had no friends for eight or nine years.....And that’s my reason why I didn’t make any friends. We were constantly moving, and I was living in fear, and I didn’t know if the friend I made would be someone connected to him, or ...I stayed completely to myself....No contact with nobody. I lost all previous friends I had, just – yeah, no contact with nobody because I didn’t know what was safe, and didn’t want to put anyone else in danger.”*

Margaret had been homeless three times over the past 5 years, but had worked hard in the last two years to establish herself and her two daughters.

Following a recent car accident however, Margaret was fearful of becoming homeless again as without reliable transport she would not be able to get herself to her place of employment.

Being involved in the treatment program was Margaret's first serious attempt at treatment, although she had previously called a telephone service which she found to be unhelpful.

### **Characteristics of treatment**

Margaret indicated that she had gained value from the treatment and that she had made significant progress, but still felt that she needed to continue ongoing treatment:

*"Well, just talking about the issues with the gambling and how to put other things in place. Instead of gambling, and just - we're just starting to work out things I could do instead of gambling, and....thought, changing your thought pattern about gambling. But, sort of, just starting to sink in, and it was time to stop <laughter>."*

During treatment Margaret received support and reassurance from the psychologist, discussed her ongoing battle with gambling urges and was forced to see the consequences of her actions. This ongoing dialogue with the psychologist at regular intervals was important to Margaret in her quest to cease gambling:

*"And sometimes I shock myself. Like, for the first couple of weeks of the course, I did not want to walk into the bank and pay my rent. I really really - if I hadn't have been talking to the counsellor I think I would've blown three weeks' worth of rent at the pokies, at that point..... I really had to force - think of the girls, and make sure that we have a roof over our heads... and walk from the teller machine into the bank to pay the rent. And like I said to her. I said, I was not wanting to do that. I fought - I walked in, I walked out, I walked in, I walked out, and then I eventually just went in and paid it, and I felt horrible afterwards. I - I wanted to bash myself because I wanted to go the pokies and, really had that battle with myself. But, at two days later, I felt I was really glad that I'd put the rent money on, and I was glad that I hadn't blown it all, because that would've been a worse feeling, and that's what the psychologist explained to me. I probably would've felt worse, because that's what I told her - how I feel. And I would've felt ten times worse, if I had wasted that money, and then try to think, how am I going to pay the rent now?"*

Working with the psychologist, Margaret gained significant insights into the fact that she did have choices in her life. This knowledge combined with the strategy of using the consequences of her gambling behaviour as a mechanism to fight her gambling urges, was extremely helpful:

*"And then we're going to be living on the street, and I could lose my kids. So, yeah, there's - yeah, that's a tough... tough choice. But then, I was battling in those early weeks, and I still do it sometimes, now. That - that 300 could've got me \$1000, I could've paid two weeks rent, and still had money to buy food."*

### **Impact**

Whilst Margaret felt very strongly that the length of treatment was inadequate, she experienced significant change in many areas. For example she felt a greater sense of control in her life, leading to more confidence and optimism.

Margaret specifically wanted to establish meaningful social contacts, and to address the relentless isolation and disconnectedness that often triggered her gambling behaviour:

*"...joined a course, and a community group 'Outlook' for people with - because I have post-traumatic stress order. So, another way of, uhm, interacting with adults instead of having to do it at the pokies,*

*because my - that was my social thing..... So I'm, sort of, just - and we were just starting to work on my skills to make friends.....So I didn't have to go to the pokies, and it will be about having a win on the machines to talk to people. So it was good that way socialise that do not depend on pokie venues."*

Furthermore Margaret sought to divert her energy away from gambling into more meaningful activities. This included walking for improved fitness and undertaking an internship to open up a new career path. In undertaking these activities, she was more confident and secure in her home and at less risk of homelessness.

Margaret was very motivated to establish security for herself and daughters, and she reported this as a top priority for her:

*"Getting the skills that I need to change my career.... My girls are the most important thing, so keeping them happy, and in - in a house. I mean, I still juggling how to pay the power, and the gas, and the water, and... You know, still don't have enough money to pay everything, but at least we've got a house.....So, I've changed my thinking to, okay, change your job, and then you got the money the pay the rent, and you can live, or you can afford to live wherever you want."*

Being involved in the treatment program further enabled Margaret to feel more positive about her life and future, and she reported that she coped better with her significant life stressors. She demonstrated a shift in her thinking patterns and a renewed determination to survive:

*"But before - before I - I went there, I probably wouldn't have cared, and not paid the rent, and just went and brought everything you wanted, and now I, sort of, focus on the rent first and then do everything else after And don't feel so bad about it, because it's a positive thing paying the rent and on, everything....I have fought, and kept it (the house)..... Well, I fought hard. And, uhm, paid every cent I could on it."*

As Margaret continued to experience an improved quality of life, she felt less anxious generally, and calmer. She talked about how her gambling urges diminished somewhat:

*"So there's, you know, there's a lot that - that is really really much different.... because I can relax with the girls and I can have a hot bath... ..and we can watch TV together, or we hop in my bed and watch a movie... So we're all comfortable. Where, I was escaping the house before, because I just didn't want to be at home and deal with what was going on...And not so stressed - I don't want to go to the pokies. I'm more happy to stay at home and bake a cake with the girls, or muffins, or do... yeah, something around the home."*

### **Enablers and Barriers**

Margaret reported a greater determination to escape the cycle of poverty she found herself in and her desire to establish a secure and safe home for herself and her daughters. She came into the treatment with very clear goals and was motivated to work towards these with the psychologist. Prior to commencing the treatment Margaret had said:

*"And maybe seeing light at the end of the tunnel. Right now, I just - yeah, I don't see any - any positive outcomes...I just see it all as negative at the moment. And that just - the more negative I feel, the more I need to go to the pokies. So I feel if I can get rid of that negativity that I have, maybe I wouldn't spend the money at the pokies and maybe I would be able to cope doing what I need to do for the bills. I'm hoping that will be the end how it comes. I need - I want - I'm - the only thing for my girls. It's me and the girls. I don't have family. They have no options. I have no options. And I'm really trying to do what I can to keep us together somehow. Somehow. There has got to be some - some way."*

Margaret articulated her goals during treatment and believed she was on the way to achieving these. She was determined to address her gambling behaviour and it was her sense of desperation which had propelled her into significant action and change as she fought for a better life. Despite her determination, Margaret's complex social circumstances and ongoing mental health issues posed significant risk to her relapse. The end of six sessions of treatment left her vulnerable again to her urges. Margaret acknowledged the ongoing battle with her gambling urges:

*"Like I said to, ah, the - the, uhm, psychologist, every day I fight the urge to want to go, because I live on a limited income. I've got \$30, if I could put that \$30 in today, and pull out \$300, be living comfortably for the rest of the week. And if I put that \$30 in, and we lose. Well it makes no difference to what we're living..."*

Furthermore Margaret acknowledged that without ongoing treatment and support she had begun to gamble more:

*"And I've found I've gambled, probably \$150 since then, though <laughter>. More than - more than... Well, I probably gambled the whole of, maybe \$70 the whole time in that seven weeks. And probably even less."*

Margaret required significant ongoing psychological support to address the complexity of her gambling problem and this was a serious barrier to her continued improvement. Margaret had obtained a mental health plan from her GP and planned to continue treatment with the psychologist. Unfortunately she had not yet acted upon the mental health plan and without ongoing support her resolve to reduce her gambling and to continue fighting - her progress could falter:

*"I've got a mental health plan. But, uhm, I've just started a course where I'm doing a warehouse traineeship. And the days that she's in Deer Park are the days I'm doing my course. So I've got to try and work out some time to catch up with her at Richmond. But I'm - in takes me a lot of time to do things. Like, I'm really slow at organising - it's taken me the three weeks to get the mental health plan. I've got that done, now."*

## **Future**

Margaret had made significant changes to her life and thinking patterns as a result of treatment. In addition she was hopeful, and managed her stress better although she was also very realistic about her ongoing battle to suppress the urge to gamble:

*"It's not something you could just say, "Oh, I'm cured now." I'm not - I'm not going to go to the pokies anymore, because it doesn't happen. I don't find the ads on TV make me want to go. Nothing like that makes me want to go. It's just how I feel within myself... ..to whether I feel like I want to go or not."*

Despite this realisation, Margaret hoped to be free of gambling in the future and achieve further improvement within herself, her lifestyle and her family life:

*"Uhm, in a stable job, being able to pay rent, and not gambling at all. And even if I did gamble once a year, on a social outing with friends that I've met out - outside the pokies.... Having a - having - living somewhere...we want to live, working, and...no gam - I just want to get rid of the gambling completely. It's not - not something I want to do."*

Margaret wanted to secure stable employment, and viewed this as a disincentive to her problem gambling:

*“But I hope to get a nine-to-five job, as I say, Monday to Friday...Because when I work for my money, I’m less likely to put in the pokies...I don’t want to, I’ve worked for it. I’m proud of the money I’ve earned, and I don’t want to waste it.”*

Margaret hoped that with secure employment and housing in the future, she could plan for more pleasurable things, not just be focused on necessities and survival:

*“Yeah. I’d really like to be able to say, I’m booking a holiday for me and the girls. We’re going to Queensland-because we really want to go to the Gold Coast.”*

Margaret was realistic about her journey and future challenges, but had a new found optimism about the future:

*“Yeah. I still battle some days. I still battle with the finances but it’s a lot better. It’s not so scary. And not so stressed - I don’t want to go to the pokies...”*

## **ROBYN (Female, 65, CCT, PGSI: 13)**

### **Background**

Robyn has been divorced for close to 20 years and lives alone. She has an adult daughter interstate and a son in country Victoria. She has an extremely difficult relationship with her son who suffers from schizophrenia. She described her life as very isolated and consumed with constant worry about her son. At one point he went missing for two years, until she found him in the outback close to death. This situation continues to be very traumatic for Robyn.

Robyn has gambled for 17 years and kept it secret from everyone, except her ex-husband. The impact of her problem gambling was profound. She was very anxious about her financial state, the increasing debt on her credit cards and her inability to repay these. Further she had no assets, lived in rental accommodation and worried constantly about how she would manage upon retirement.

Robyn also revealed the emotional impact of her problem gambling:

*“I feel wretched, depressed because I – you lose and I don’t eat – eat there, so I’m usually totally starving and dehydrated and everything. I drink water, but, yeah, I’m totally depressed, I go into a real deep depression for – a reactive depression for a day.... Then I will – that if I have problems in my life, I will tend to go straight off to gamble, so that’s a trigger. It’s a real – it’s a trigger.....And then I will keep going back to the ATM machines and withdraw more so and then if I have a loss of say 400 and it has happened, four or five hundred, that absolutely devastates me and I’ll go home and I will be depressed maybe. I mean the moon depressed. For two, three days. And then I’ll – and then I’ll gradually get back to normal.”*

Robyn undertook four sessions of hypnotherapy with a GP about four years ago, in an attempt to stop gambling. She was not hypnotisable, but recalled being in a very relaxed state. This previous treatment was unsuccessful and Robyn had not engaged with it mentally.

### **Characteristics of treatment**

Robyn described the treatment she received through the RCT as enjoyable and stimulating. She liked the psychologist and developed very good rapport with her. She utilised the sessions to explore her current life circumstances and her extensive personal issues, including her traumatic childhood:

*“Um, very helpful and apart from the gambling it’s, it was helpful in the sense that it was a professional person, an, an objective person very importantly who I felt I could confide, speak about these personal issues who I, had the, I knew had the background to comprehend what I was saying and it was just in itself very helpful for sure because um I’ve never really spoken, I don’t speak about it, certainly not to other people. “*

Robyn found the unstructured nature of the treatment sessions worthwhile and described the benefits of treatment as twofold: an increased awareness about the emotional triggers for her gambling behaviour and an outlet to explore her many personal issues:

*“They were very good, they were very open-ended if that’s the word um and not um...the psychologist did not define or, what’s the word, or, or set up what I should talk about. It was open and I could talk about things and if I, when I wanted to talk about my, why I had to leave my other job, my job, she allowed me, and I would say “Look I know this is getting way aside from the gambling” but she said “No go ahead” and she would allow me to talk about that because that was important to me at the time. So I like the fact that she did that but I brought it back to gambling. I tried to, and she, and, and she always, um asked pertinent questions...”*

To date Robyn had spent many years thinking about her life, life stressors and circumstances, but this was the first time she undertook treatment with a professional and felt able to divulge so much information. This in itself was extremely helpful to Robyn and she highly valued the support she received. In addition, Robyn gained much needed clarity about the issues she presented during the treatment sessions:

*“... and what I really liked about the session was that the psychologist gave me feedback on what I said. Um in other words um maybe a mirror, she sort of mirrored what I said and she brought, put it back to me when I, when I...when it was appropriate...”*

For Robyn the opportunity for self-reflection was invaluable:

*“...and she would put it more precisely, more eloquently and maybe in a couple of psychologist terms which I understand um and I’d say “Yes that’s it”. Yes so she would, what’s the word, she would clarify, that’s the word, she’d clarify...clarify the statement or issue or problem so I understood it. What’s the word, it became more...concrete in my mind. So yeah, great. Helpful in that way, yeah.”*

## **Impact**

When asked about the impact of the treatment sessions Robyn reported the following:

*“The problem is at the present time I’ve been going through tumultuous life changes; loss of job and um financial uncertainty by...enormous insecurity um and um so it’s been a bad time really. I haven’t, have been in an unstable life situation and, and because gambling is so connected to money um and also connected to stress, um it’s been hard to seriously address my um addictive, my addiction in, when I’m in an unstable position.”*

At one point, Robyn reported that the treatment highlighted for her that there were links between her problem gambling and life stressors:

*“... just my maturity has allowed me to self-examine over time but um it, it, how it was helpful was that it defined more clearly the um, the reasons of why I’d behave as I do, for example gambling. .... in terms of addressing my gambling which is a really real life problem for me, an enormous problem um it has helped me become more conscious of reasons why I gamble.”*

Robyn was unable to foresee stopping or reducing her gambling due to her current life stressors and financial instability. She was often contradictory in her perceptions of both the impact of the treatment and of her current gambling behaviour:

*"Ah I'm not gambling more because I can't afford to <laughing> but I'm doing it more mindlessly because it's an outlet because I'm so stressed out I just said, I go oh, it's ah I would relate it to exactly to smoking or drinking where you'll drink more, you know, or smoke more because you're under stress.....Well I think it's, it's, it's that the hold on me is less. ... Yeah, yeah. Yes I feel it has loosened its hold on me. It sounds so pathetic."*

Robyn also discussed in more detail the changes she perceived in her emotional attachment to problem gambling:

*"I feel more detached from the whole business of gambling. I'm a bit more objective, I am more objective about it, like I'll, you know, and I think, I think I'm a bit less interested in it. Just a bit, yeah. I'll, I'll leave the venue <laughing> only go about twice a week but I keep calling it the venue but I'll leave, um...and you know, I'll leave it and I won't feel the... Yes I'm less emotionally attached to it, to the whole...whole of it. A little bit. I'm sure, I'm sure I'm, I've changed about, in how I... Oh well, I, I'm, I'm less um fraught when I leave, oh my god I've lost the money, ah, you know, I wish I could stay longer, if only I had more money. Yeah, yeah, it's settled down, you know. I'll put money in, I might even go home with a bit. I'm less, I'm less um...caught up in, um my emotions are less caught up in it."*

It was interesting to note the differing ways Robyn reported changes in her gambling patterns. Her insights highlighted the conflict for Robyn between her desired outcomes versus real outcomes:

*"What I think is I am gambling <laughing> more responsibly and that's partly because of my awareness, increased awareness, you know, from, from the sessions for sure..... I do feel that, yes. I think I feel stronger um... I'm less likely to go back to the bank and make another withdrawal, yeah..... I can um... I can now um...leave, I can now leave the venue um and make a decision in my mind, even whilst I'm in the venue and, and I've <laughing> finished my pathetic \$50.00, I can make the decision to leave and also what, if, if I still have money I can now, instead of gambling till it's all gone, putting it in the pokey machines, I can now say "Oh well I've got \$60.00 left, I'll withdraw that, it's time to go, I'm tired" and I'll go and I'll get the money changed into notes and I'll leave with, with money in, in my hand. So that is a real change. Oh well I'm getting somewhere <laughing>."*

### **Enablers and barriers**

Robyn began the treatment with very clear goals in mind: to cease gambling entirely, to develop strategies to overcome gambling urges, to find replacement activities for the gambling, to develop financial strategies to assist in her debt repayments, and to receive support. Yet at the completion of six treatment session, Robyn had not achieved many of these goals and did not refer to them further. She emphasised that she received much needed support, but when pressed during the interview, she conceded that perhaps some strategies may have been helpful, but otherwise was indifferent:

*"But I won't – I can't do it on my own. Yeah, yeah just the support would be terrific.... Yeah, just some support but then again it's six sessions, I wouldn't have high expectations, you know, it's not like if I had a husband or something, that would be an ongoing thing, wouldn't it?"*

Robyn discussed the need to be accountable to someone else in order to curb her gambling activities. Even after treatment concluded Robyn did not feel she was able to alter her gambling urges or behaviour on her own initiative and believed that control needed to come from elsewhere, outside of herself:

*"I have – I feel that if – if I'm - I can be persuaded enough to get really involved with financial goals, but then sometimes I think "If I put – if I had put my money somewhere where I cannot touch it, then I can't - I don't have the money to gamble and I do find the less I'm able to gamble, the less I want to*

*gamble". I used to give my husband envelopes with money in it to pay the bills and I'd actually take the envelopes with the money to his house, he knew I was going there."*

Ultimately Robyn did not report or present any real motivation to change her problem gambling at the end of treatment. She listed reasons why the timing was not ideal and reflected how things would need to be different for her to be more motivated for any real change to occur:

*"It's the compulsion, the compulsion to gamble .....and the habit, the compulsion and, and the habit of it and, and as I, to be more definite it's factors like my age, you know, my age and no responsibilities to other people like co-dependents and um... That's, that's also like other addictions. So I feel that I have to get um...I don't know. I think definitely I can tackle the compulsion once I have, I feel, once I have a stronger imperative, you know, need to do, to give up. Like when I go on the aged pension, I, I would have to give up. Um...Oh well it's just my life's a bit of a mess at the moment so yeah I wouldn't, I can't...I can't focus. Yeah"*

Despite not having secure employment and mounting debt, Robyn did not perceive her circumstances as imperative enough to change her gambling behaviour. Although these stressors continued to trigger her gambling behaviour, they were not motivation enough for her to address her problem gambling.

There also appeared to be a fundamental element of instability that Robyn felt was part of her constitution or make-up; she wondered on various occasions if she had some type of mental illness and chronicled the family members who had a known mental illness aside from her son. She wondered out loud if some undiagnosed mental illness (or undisclosed during the interview process) made her more prone to addictions such as gambling. This may have been another way for Robyn to deflect responsibility for her ongoing problem gambling, and reinforced the idea that she was helpless in controlling her gambling urges:

*"Ah yes. Almost like you'd like to be put in jail and then <laughing>. It's, it's um, it's a battle we have to, it's, it's um...yeah. Plus the gambling is a, as a...an enemy as a sense."*

## **Future**

Robyn expressed great appreciation for the treatment and its supportive structure. She was a deeply private and isolated woman without support structures or meaningful social contact. The treatment, whilst not assisting her to reduce her gambling problem, offered much needed support and an opportunity to discuss many deep seated issues. For Robyn this need for support was ongoing and she may well undertake future sessions on her own initiative. It was apparent Robyn required ongoing treatment, if she was to become more motivated and indeed more capable psychologically to address her serious and entrenched gambling problem.

Her prospect of financial security appeared grim. Whilst Robyn was looking for employment, she was not confident of obtaining work, due to her age. Further she could not see how she would repay her ongoing debts:

*"Yeah, well, I, I always pay bills but um I'm in very serious credit card debt still. I don't even open the envelopes. They're just piling up, they're about this high. I don't open them because I know and I can't afford to even do them each month at the moment, so lord knows what's going to happen there but um, ah...yes, so...I don't know. Very difficult."*

Ultimately Robyn appeared confused and lost, and she remained ambivalent about her gambling behaviour. She came into treatment hopeful, with a clear list of goals which remained unmet:

*"Well I don't have a strong sense that I must, I want to give up gambling because it's the one relaxation that I have. Um, so for me it has, it's um, it's a pleasant thing to do but it's harmful <laughing>."*

Robyn was unable to view her future realistically and lacked conviction that life was possible without gambling. Her hopes for the future remained uncertain. Any future goals she discussed at interview were in a wistful and fantastical way. The future version of herself she presented also appeared to be an idealised rather than a real self:

*"I desperately want to um be financially secure and so hopefully that will just um, that will kick in strongly and I'll just pay off the credit card debt, lord knows how <laughing> um and um I have to because I, I'm probably going to have grandchildren in the near future, I haven't got any now but a grandchild um and ah so I'll have to make serious commitment to um, to giving up I think. Mm....yes, because that's of paramount importance, that, that I'm a responsible and, and supportive grandmother. That comes absolutely first."*

Robyn had attended one further session with her psychologist, once her initial six sessions had ended. The additional session was arranged through a GP mental health plan.

### **SAM (Male, 23, CBT, PGSI: 9)**

#### **Background**

Sam was a 23 year old single male who finished university in 2012 and had two jobs at the time of entering the study. He worked both for his family business and had set up his own business with a friend. Sam was born in China but had grown up in Australia.

In 2008, during his second year at university, he described being under financial pressure, in a turbulent relationship, and under stress in relation to his studies. He regarded gambling as a form of escape, a thrill and partly as a way to win money.

Sam implied that his gambling had been more problematic in the past. While he seemed to have his gambling more or less under control, as he talked about his current life Sam was clearly reflecting on his past experiences and was worried about his mind-frame and the ease with which he gambled:

*"The reason why I say I'm not in the right mind-frame because I remember playing a game and my friend was in the tote and I was playing a game of blackjack online and my friend - next to my friend who happened to be there and or watching. Uhm when I put wagers on; gambled it was just like- it was- it was very uhm, it was very easy to do uhm and when I looked at him, he gave me a look and I could see it in eyes. He- he thought wow this guy must- this guy it must be habit for him, because it was very natural for me and when I look at him, when he was - his turn to gamble - put wager on, he was very '...' - he had to go through a thought process."*

Sam recalled another time when he won a lot of money, he "was on a roll" and "was getting lucky" and again it was cause for alarm:

*"That really affected me mentally because uhm, like your mind just doesn't uhm - you constantly - you don't - sometimes you don't think about other stuff. You don't think about eating."*

Growing up, gambling had not been a past-time for Sam. He began gambling when he was 17 years old, as his friends were playing cards (poker) and described a certain amount of peer pressure. He

said it was fun at first, using chips, but then got “serious” and soon turned into regular trips to the casino using real money.

In 2010, Sam indicated that he was playing a lot of Black Jack, and also started an online account which saw him lose several thousand dollars over a period of a couple of weeks. He lost his savings, and as such it was affecting his study grades and social life, as he was unable to afford to go on dates:

*“I lost all my savings, uhm and I was still working. Uh that affected me and yeah, I ‘...’ uh mentally I didn’t know how to deal with it. Uhm my- my first instinct was- was- was get a new job uhm and get that money back and get myself ‘...’ uhm light at the end of a tunnel, because I don’t want to - because I yeah - I need money survive as a uni student. Uhm the thing I noticed is that it has really affected my results uhm.”*

While he did not know how to deal with his problem gambling at the time, he now described himself as more mature, and better able to manage his gambling behaviour. However, he is still “in the red”.

Sam had not sought professional help previously for his gambling. He had however used an online casino helpline but had not found this helpful, and was sceptical of its motives. Upon reflecting on why he had not sought help sooner, he said: *“Pride I guess or...and probably a little - well it was a huge lie. I think it was a huge lie to myself”.*

The goal of treatment for Sam was to get a new “mind-frame”, psychologically, so that he did not feel the need to chase his losses. He also wanted to “clear some past demons”, to “try and reduce gambling”, and for his gambling to become a hobby not an outlet.

### **Characteristics of treatment**

Sam’s first recollection of treatment was that “it was a good opportunity to reflect on what had happened”. Sam then went on to discuss his psychologist, who he felt positive about initially but not as the sessions went on:

*“He was great, very friendly, approachable, he’s very personable. Um we um from the start we went to the deep end and talked about um what the factors affecting – gambling factors – the mindset he - okay the advice part, the treatment part – um he gave a lot of advice, advice, a lot of psychological jargon, a lot of terms. Um yeah he was quite good – then by the second, third session I felt he was still talking and giving these advice about mindsets but nothing specifically on gambling. Um I felt he didn’t have the in-depth insight into gambling factors and what effect – he was very – he, he knew only a small part – or only the skimming the top part of what the issues are.”*

Sam reported that the psychologist gave him lots of advice and talked a lot – which he found strange. He said it “seemed like a lecture”, listening to him talk.

Sam reported not knowing what to expect from treatment (because he had not been to a psychologist before) yet in the same vein, when he described his treatment experience, it appeared he had expected more. He was quite fixated about the fact that he needed a “plan”, repeating it numerous times, and seemed put out that his psychologist had not provided him with one:

*“Yeah and by the fourth/fifth session I expected a plan, like an actual tangible plan, a written down plan. But yeah I didn’t receive that or didn’t really - I probed him - I asked him a bit about a plan however he didn’t have any.”*

Further Sam reported that if the psychologist had written down what he had discussed with him, instead of talking so much, then he may have been able to use the information.

Sam spoke as if his attendance at the treatment should have entitled him to more in return, particularly because he revealed so much about himself:

*“Because I pretty much told him my life story and yet he was repeating the same stuff, he was repeating the same advice...He did give me a little cue card. It’s a very general cue card you could pick up anywhere <laughter>. Even the Casino you can pick that up about preventing gambling, preventing compulsive gambling but I felt – yeah I felt like um I felt like, you know, I could have used a bit more of his advice or a bit more tangible – from someone a bit more knowledgeable to go away with because yeah. Because you’re paying him good money to see me and I’m taking my own good time to see him.”*

Despite his critical attitude of the treatment, Sam was reluctant to challenge his psychologist:

*“I didn’t want to, you know, remind him of his job and say ‘Look you know’ because he’s reading my mind and I’m telling him all my life story then you know just expected he will go onto next phase but I don’t want to tell him, you know, do his job, right.”*

### **Impact**

When asked whether there had been any change since the first interview, Sam said that his mindset had changed completely. When asked how, he said: “Oh it’s more optimistic. It’s more hopeful.”

However, later on in the interview, he said that his new mind-frame was only “half there”.

Sam disclosed that he had gambled during his treatment. However, he said that on one occasion he had been able to turn the car around when he had been heading to the casino:

*“Yeah well my mindset has completely changed. I mean of course there’s once – there was a couple of times when I was eager to go to the Casino and ah I knew I was very strong for that – however I did end up going to Casino but the point was that I did, I did have a really strong – I did turn the car around because I didn’t want to go back and I had a strong pull, a strong willpower not to go um. Yeah I felt like yeah, yeah I definitely have changed, I’ve – the mindset has changed.”*

When he was asked what he attributed to this change, he said:

*“Half psychologist, half willpower and just knowing that you’re going there to psychologist you’re taking control and that control comes with, you know, confidence and optimism.”*

### **Enablers and Barriers**

While the treatment had made some impact, Sam referred back to his need for a plan and used the lack of a plan as a reason for not making more progress:

*“Yeah, yeah, um, yeah during the treatment I did go back and gamble again. Yeah and I felt that that could have been prevented if he there was a plan like a tangible plan.”*

And again: “You know obviously I feel optimistic, I feel hopeful but it doesn’t work – it won’t last long if I don’t have a tangible plan.”

When asked about whether he could try and write his own plan, he said he probably could but clearly had not thought of doing so himself.

Sam had also noted that in the past he had worked part-time shifts in the city, and that the casino was in close proximity to his employment. The easy accessibility of gambling opportunities was an ongoing issue for him.

### **Future**

The psychologist provided Sam with information about where he could go for further assistance with gambling and creating a plan. Sam reported that while it was not a priority for him to seek more treatment, he may seek more assistance at some stage:

*“Yeah I think I still need stuff. I feel like yeah I feel like I – yeah I feel like he just touch the iceberg but um the more the psychological part.”*

Sam indicated that the psychologist had said that he could continue treatment if he wished. However, Sam was not keen to undertake further sessions for his problem gambling behaviour– but would consider treatment for other issues in the future.

## References

---

- Allen Consulting Group, Problem Gambling Research and Treatment Centre, & Social Research Centre. (2011). Social and economic impact study of gambling in Tasmania. Melbourne: Allen Consulting Group.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington DC: Author.
- Antony, M., Bieling, P., Cox, B., Enns, M., & Swinson, R. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, 10(2), 176-181.
- Australian Bureau of Statistics. (2012). 4817.0.55.001 - *Information Paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys*. Canberra Australian Bureau of Statistics.
- Babor, T., de la Fuente, J., Saunders, J., & Grant, M. (1992). AUDIT: The alcohol use disorders identification test. Guidelines for use in primary health care. Geneva: World Health Organisation.
- Babor, T., Higgins-Biddle, J., Saunders, J., & Monteiro, M. (2001). AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for use in Primary Care (2 ed.): World Health Organization.
- Blaszczynski, A., & Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction*, 97, 487-499.
- Bouma, G. (1996). *The research process*. Oxford: Oxford University Press.
- Bowden-Jones, H, & Smith, N. (2012). The medical management of problem gamblers. *BMJ*, 344(e1559).
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Brown, T., Chorpita, B., Korotitsch, W., & Barlow, D. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behav Res Ther*, 35(1), 78-89.
- Brown, T., Chorpita, B., Korotitsch, W., & Barlow, D. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behav Res Ther*, 35(1), 78-89.
- Browning, C., & Kendig, H. (2010). Cohort Profile: The Melbourne Longitudinal Studies on Healthy Ageing Program. *Int. J. Epidemiol*, 39(5). doi: 10.1093/ije/dyq137.
- Browning, C., & Thomas, S. (Eds.). (2005). *Behavioural Change: An Evidence-based Handbook for Social and Public Health*. UK: Elsevier Limited.
- Carver, C. (1997). You want to Measure Coping But Your Protocol's Too Long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92-100.
- Cowlishaw, S., Merkouris, S., Dowling, N., Anderson, C., Jackson, A., & Thomas, S. (2012). Psychological therapies for pathological and problem gambling. *Cochrane Database of Systematic Reviews*(11). doi: 10.1002/14651858.CD008937.pub2.
- Crisp, B., Jackson, A., Thomas, S., Thomason, N., Smith, S., Borrell, J., . . . Holt, T. (2001). Is more better? The relationship between outcomes achieved by problem gamblers and the number of counselling sessions attended,. *Australian Social Work*, 54(3), 83-92.
- Davidson, T., & Rogers, B. (2010). 2009 Survey of The Nature and Extent of Gambling, and Problem Gambling, in the Australian Capital Territory. ACT: Australian National University.
- Delfabbro, P. (2008). A Review of Australian Gambling Research: Gambling Research Australia.

Department of Justice. (2009). A study of gambling in Victoria. Melbourne: Victorian Government.

Dowling, N., Jackson, A., & Thomas, S. (2008). Behavioral interventions in the treatment of pathological gambling: A review of activity scheduling and desensitization. *International Journal of Behavioral Consultation and Therapy*, 4(2), 172-187.

Egbewale, B.E., Lewis, M. & Sim, J. (2014). Bias, precision and statistical power of analysis of covariance in the analysis of randomized trials with baseline imbalance: a simulation study, *BMC Medical Research Methodology*, 14:49.

Ferris, J., & Wynne, H. (2001). The Canadian Problem Gambling Index. Ottawa: Canadian Centre on Substance Abuse; .

Gotestam, K. G., & Johansson, A. (2003). Characteristics of gambling and problematic gambling in the Norwegian context: A DSM-IV-based telephone interview study. *Addictive Behaviors*, 28(1), 189-197.

Henderson, S., Holland, J., McGrellis, S., Sharpe, S., & Thomson, R. (2012). Storying qualitative longitudinal research: sequence, voice and motif. *Qualitative Research*, 12(1), 16-34.

Higgins, J., & Altman, D. (2008). Assessing risk of bias in included studies. In J. Higgins & S. Green (Eds.), *Cochrane Handbook for Systematic Reviews of Interventions*. Chichester, UK: John Wiley & Sons.

Higgins, J., Deeks, J., & Altman, D. (2008). Special topics in statistics. In J. Higgins & S. Green (Eds.), *Cochrane Handbook for Systematic Reviews of Interventions*. Chichester, UK: John Wiley & Sons.

Hodgins, D., Stea, J., & Grant, J. (2011). Gambling disorders. *Lancet*, 378, 1874-1884.

Hodgins, D., & Stinchfield, R. (2008). Gambling disorders. In J. Hunsley & E. Mash (Eds.), *A Guide to Assessments That Work* (pp. 370-388). NY: Oxford University Press.

Horvath, A., & Greenberg, L. (1989). Development and Validation of the Working Alliance Inventory. *Journal of Counseling Psychology*, 36(2), 223-233.

Hotopf, M. (2002). The pragmatic randomised controlled trial. *Advances in Psychiatric Treatment*, 8(326-333).

Hutton, J L, & Williamson, P R. (2000). Bias in meta-analysis due to uotcome variable selection within studies. *Journal of the Royal Statistical Society Series C*, 49, 359-370.

Jackson, A. (2005). Problematic gambling behaviour. In C. Browning & S. Thomas (Eds.), *Behavioural Change: An Evidence-based Handbook for Social and Public Health*. UK: Elsevier Limited.

Jackson, A., Wynne, H., Dowling, N., Tomnay, J., & Thomas, S. (2010). Using the CPGI to determine problem gambling prevalence in Australia: Measurement Issues. *International Journal of Mental Health and Addiction*, 8, 570-582.

Kessler, R., Andrews, G., Colpe, L., Hiripi, E., Mroczek, D., Normand, S., . . . Zaslavsky, A. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32, 959-976.

Kim, S., Grant, J., Potenza, M., Blanco, C., & Hollander, E. (2009). The Gambling Symptom Assessment Scale (G-SAS): A reliability and validity study. *Psychiatry Research*, 166, 76-84.

Korn, D., Gibbins, R., & Azmier, J. (2003). Framing public policy towards a public health paradigm for gambling. *Journal of Gambling Studies*, 19(2), 235-256.

Korn, D., & Shaffer, H. (1999). Gambling and the health of the public: adopting a public health perspective. *Journal of Gambling Studies*, 15(4), 289-365.

- Lewin, S., Glenton, C., & Oxman, A. (2009). Use of qualitative methods alongside randomised controlled trials of complex healthcare interventions: methodological study. *British Medical Journal*, 339.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage.
- Lorains, F., Cowlishaw, S., & Thomas, S. (2011). Prevalence of Comorbid Disorders in Problem and Pathological Gambling: Systematic Review and Meta-Analysis of Population Surveys. *Addiction*, 106(3), 490-498.
- Lovibond, S., & Lovibond, P. (1995). *Manual for the Depression Anxiety Stress Scales* (2 ed.). Sydney, Australia: Psychology Foundation of Australia.
- Lund, I., & Nordlund, S. (2003). Pengespill og pengeproblemer i Norge Oslo: Statens institutt for rusmiddelforsning
- Melville, K., Casey, L., & Kavanagh, D. (2007). Psychological treatment dropout among pathological gamblers. *Clinical Psychology Review*, 27, 944-958.
- Miller, W. (1983). Motivational Interviewing with problem drinkers. *Behavioural Psychotherapy*, 11, 147-172.
- Miller, W., Benefield, R., & Tonigan, J. (1993). Enhancing motivation for change in problem drinking: a controlled comparison of two therapist styles. *J Consult Clin Psychol*, 61(3), 455-461.
- Miller, W., Benefield, R., & Tonigan, J. (1993). Enhancing motivation for change in problem drinking: a controlled comparison of two therapist styles. *J Consult Clin Psychol*, 61(3), 455-461.
- Miller, W., & Rollnick, S. (2002). *Motivational Interviewing: Preparing for Change* (2 ed.). New York: Guilford Press.
- Miller, W., & Rose, G. (2009). Towards a theory of motivational interviewing. *American Psychologist*, 64(6), 527-537.
- Mohr, D., Spring, B., Freedland, K., Beckner, V., Arean, P., Hollon, S., . . . Kaplan, R. (2009). The selection and design of control conditions for randomized controlled trials of psychological interventions. *Psychotherapy and Psychosomatics*, 78, 275-284.
- Neal, P., Delfabbro, P., & O'Neil, M. (2005). Problem gambling and harm: Towards a national definition. Melbourne: Gambling Research Australia; .
- Newell, D. (1992). Intention-to-treat analysis: implications for quantitative and qualitative research. *International Journal of Epidemiology*, 21, 837-841.
- News Australia. (2014). Herald Sun Media Kit 2013/2014.
- NHMRC. (2009). NHMRC additional levels of evidence and grades for recommendations for developers of guidelines Canberra: NHMRC.
- Nielson, A. C. (2007). Prevalence of gambling and problem gambling in New South Wales. Sydney: NSW Office of Liquor, Gaming and Racing
- O'Cathain, A., Thomas, K., Drabble, S., Rudolph, A., & Hewison, J. (2013). What can qualitative research do for randomised controlled trials? A systematic mapping review. *BMJ Open*. doi: 10.1136/bmjopen-2013-002889.

- Patsopoulos, A. (2011). A pragmatic view on pragmatic trials. *Dialogues Clin Neurosci*, 13(2), 217–224.
- Power, M. (2003). Development of a common instrument for quality of life. In A. Nosikov & C. Gudex (Eds.), *EUROHIS: Developing Common Instruments for Health Surveys* (Vol. 57, pp. 145-163). Amsterdam: IOS Press.
- Problem Gambling Research and Treatment Centre (PGRTC). (2011). Guideline for screening, assessment and treatment in problem gambling. Clayton: Monash University. (access at <https://www.nhmrc.gov.au/guidelines/publications/ext5> )
- Productivity Commission. (1999). *Australia's gambling industries, Report No. 10*. (10). Canberra AusInfo.
- Productivity Commission. (2010). *Gambling, Report no. 50*. Canberra.
- QSR International Pty Ltd. (2010). NVivo qualitative data analysis software (Version 9).
- Queensland Department of Employment Economic Development and Innovation. (2010). Queensland household gambling survey. Queensland.
- Raylu, N., & Oei, T. (2004). The Gambling Related Cognitions Scale (GRCS): development, confirmatory factor validation and psychometric properties. *Addiction*, 99, 757-769.
- Read, K.L., Kendall, P.C., Carper, M.M. & Rausch, J.R. (2013). Statistical Methods for Use in the Analysis of Randomized Clinical Trials Utilizing a Pretreatment, Post-treatment, Follow-up (PPF) Paradigm in The Oxford Handbook of Research Strategies for Clinical Psychology (J.S. Comer and P.C. Kendall Eds) DOI:10.1093/oxfordhb/9780199793549.013.0014
- Reinert, D., & Allen, J. (2007). The alcohol use disorders identification test: an update of research findings. *Alcohol Clin Exp Res.*, 31(2), 185-199.
- Rogers, A. (2011). Using Qualitative Methods to Complement Randomized Controlled Trials: Researching Mental Health Interventions. In J. Mason & A. Dale (Eds.), *Understanding Social Research: Thinking Creatively About Method*. Newbury Park: Sage publications.
- Rogers, C. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, 21, 95-103.
- Rogers, C. R. (1959). A theory of therapy, personality and interpersonal relationships as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A Study of a Science. Vol III. Formulations of the Person in the Social Context*. New York: McGraw Hill.
- Roland, M., & Torgerson, D. (1998). Understanding controlled trials: What are pragmatic trials? *BMJ*, 316(285).
- Rollnick, S., & Miller, W. (1995). What is Motivational Interviewing? *Behavioural and Cognitive Psychotherapy*, 23, 325-334.
- Rubak, S. (2005). Motivational interviewing: a systematic review and meta-analysis. *Br J Gen Pract*, 55(513), 305-312.
- Schulz, K., & Grimes, D. (2002). Generation of allocation sequences in randomised trials: Chance, not choice. *The Lancet*, 359, 515-519.
- Shaffer, H., & Korn, D. (2002). Gambling and related mental disorders: a public health analysis. *Annual Review of Public Health*, 23, 171-212.
- Sharma, T. (2012). Client centered therapy for self growth. *International Journal of Management and Computing Sciences*, 2(3), 32-38.

- Sharpe, L., & Tarrier, N. (1993). Towards a cognitive-behavioural theory of problem gambling. *British Journal of Psychiatry*, 162(MAR.), 407-412.
- Sherbourne, C., & Stewart, A. (1991). The MOS Social Support Survey. *Social Science and Medicine*, 32(6), 705-714.
- Shih, W. (2002). Problems in dealing with missing data and informative censoring in clinical trials. *Current Controlled Trials in Cardiovascular Medicine*, 8(3), 4.
- Social Sciences Research Centre University of Hong Kong. (2005). Study on Hong Kong people's participation in gambling activities: key statistics. Hong Kong: Home Affairs Bureau.
- South Australian Centre for Economic Studies. (2008). Social and economic impact study into gambling in Tasmania. Adelaide
- South Australian Department for Families and Communities. (2006). *Gambling prevalence in South Australia: October to December 2005*. Adelaide
- Spinella, M. (2007). Normative data and a short form of the Barratt Impulsiveness Scale. *International Journal of Neuroscience*, 117, 359-368.
- Spokas, M., Rodebaugh, T., & Heimberg, R. (2007). Treatment Outcome Research. In D. McKay (Ed.), *Handbook of research methods in abnormal and clinical psychology* (pp. 513-530). Los Angeles: Sage Publications.
- Stinchfield, R., Govoni, R., & Frisch, G. (2005). DSM-IV Diagnostic Criteria for Pathological Gambling: Reliability, Validity, and Classification Accuracy. *The American Journal on Addictions*, 14, 73-82.
- Stinchfield, R., Winters, K., & Dittel, C. (2008). Evaluation of State-Supported Pathological Gambling Treatment in Minnesota: Compulsive/Problem Gambling Services Program; Minnesota Department of Human Services.
- Toneatto, T. (1999). Cognitive psychopathology of problem gambling. *Substance Use and Misuse*, 34(11), 1593-1604.
- Toneatto, T., & Ladouceur, R. (2003). Treatment of Pathological Gambling: A Critical Review of the Literature. *Psychology of Addictive Behaviors*, 17, 284-292.
- Tunis, S., Stryer, D., & Clancy, C. (2003). Practical Clinical Trials: Increasing the Value of Clinical Research for Decision Making in Clinical and Health Policy. *JAMA*, 290, 1624-1632.
- Volberg, R. A., Nysse-Carris, K. L., & Gerstein, D. R. (2006). 2006 California Problem Gambling Prevalence Survey. Chicago, IL: National Opinion Research Center; .
- Walker, M, Toneatto, T, Potenza, M N, Petry, N, Ladouceur, R, Hodgins, D C, . . . Blaszczynski, A. (2006). A framework for reporting outcomes in problem gambling treatment research: the Banff, Alberta Consensus. *Addiction*, 101(4), 504-511.
- Wardle, H., Moody, A., Spence, S., Orford, J., Volberg, R., Jotangia, D., . . . Dobbie, F. (2011). British Gambling Prevalence Survey 2010. Retrieved from [http://www.gamblingcommission.gov.uk/research\\_\\_consultations/research/bgps/bgps\\_2010.aspx](http://www.gamblingcommission.gov.uk/research__consultations/research/bgps/bgps_2010.aspx).
- Wei, L., & Lachin, J. (1988). Properties of the urn randomization in clinical trials. *Controlled Clinical Trials*, 9, 345-364.
- Westphal, J. R. (2008). How well are we helping problem gamblers? An update to the evidence base supporting problem gambling treatment. *Journal of Mental Health and Addiction*, 6(2), 249-264.

Young, M., Abu-Duhou, I Barnes, T Creed, E., Morris, M., Stevens, M., & Tyler, B. (2006). Northern Territory Gambling Prevalence Survey 2005. Darwin: School for Social and Policy Research.

Zwarenstein, M., Treweek, S., Gagnier, J., Altman, D., Tunis, S., Haynes, B., . . . Moher, D. (2008). Improving the reporting of pragmatic trials: an extension of the CONSORT statement. *BMJ*, 337, a2390. doi: 10.1136/bmj.a2390





