Where can we get evidence from?

- Our own clinical experience
- Our own clients
  - Satisfaction questionnaires
  - Our own treatment outcome data
- Research literature/Conference Presentations
  - Case studies
  - Outcome studies
  - Randomised controlled trials
  - Think tanks
What is a Randomised Controlled Trial?

- A research design used for testing the effectiveness of a drug, or any other type of treatment, in which research participants are assigned randomly to treatment and control/comparison groups and the differences in outcomes are compared.
Randomised Controlled Trial
100 subjects

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<tr>
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<th>Cognitive N=33</th>
<th>Wait-list Control N=34</th>
<th>Behavioural N=33</th>
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<tbody>
<tr>
<td>Pre-Treatment</td>
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<td>Weekly Exp</td>
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<td>Post-treatment</td>
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<td>6 month follow-up</td>
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<td>12 month follow-up</td>
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<td>24 month follow-up</td>
<td>$220 (n=50)</td>
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<td>$60 (n=50)</td>
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Assumptions

- Because of randomisation (if group samples are large enough) differences in group variables that effect treatment outcome should be cancelled out
- All subjects within each group are given the same treatment
- If treatment is effective there should be significant differences in the mean treatment outcome scores between the treatment and the control group
- There should also be significant differences in mean scores before and after treatment
- The subjects are measured the same way using reliable instruments at each stage of the study
- The measurements are appropriate for assessing treatment success and treatment success is clearly defined.
- Attempts are made to follow-up and report on all subjects
Let’s look at the evidence


- Provides a meta-analysis of 37 outcome studies reported from 1968-2004
- At post-treatment the analysis indicated that psychological treatments were more effective than no treatment
- Overall effect size 2.01 (0.2 is low effect, 0.5 is medium effect and 0.8 is large effect)
- At follow-up (average 17 months) effect size was 1.59
Reviews of PG Treatment Literature


History of Treatment

• Early 1900’s Psychodynamic approaches
• 1960’s Behavioural Interventions (shock therapy)
• 1980’s Multi-modal
• 1990’s Cognitive-Behavioural and Cognitive
• 2000’s Psychopharmacological, Multi-Modal, Cognitive and Cognitive-Behavioural
Psychodynamic

- Gambling results from an underlying psycho-sexual neurosis
- Bergler 1957 – The gambler has an unconscious need to lose which is brought about by early childhood conflicts and difficulties.
- Psycho-analytic explanations are near impossible to evaluate.
- Most evidence is anecdotal, treatment goals are unspecified and no measure of gambling severity or outcome is provided.
- Bergler (1957) reported on a sample of 80 patients from a larger pool of referrals
  - Treatment conducted over 12-18 months
  - 75% achieved successful outcome (only one fifth of total pool of referrals)
  - However treatment success was not clearly defined
  - To date there have been no controlled studies to determine the efficacy of psychodynamic approaches.
Multimodal Therapies (MM)

• MM Treats not only the gambling but other ancillary problems associated with the gambling. Cognitive and Behavioural interventions assume that by reducing the gambling these other problems will be ameliorated. MM assumes that these other problems can be the cause of the gambling in the first place or at least contribute to the persistence of the gambling problem.

• Usually part of a larger substance abuse program involving a variety of therapeutic services including individual and group psychotherapy, family counselling, attendance at GA and various social support programs following treatment.
Multimodal Therapies

• Jackson, Thomas and Blaszczynski (2003) present a good review of the Multi-modal research
• They recalculate success rates based on ‘intention to treat’ analysis which includes drop outs.
• ‘Multi-modal programs appear to be effective in 20-50% of cases over one to two years
• Problems
  – Many of the participants have primary substance abuse disorders
  – Too many components in program to identify successful aspects
  – No controlled studies with random allocation
Behavioural Therapies

• Behaviourists view gambling as learned maladaptive behaviour which is maintained and initiated by positive and negative reinforcement and can be unlearned.

• Reinforcements can include:
  – Money won (partial reinforcement schedules)
  – Excitement associated with cognitions and environmental stimuli.
  – Negative reinforcement associated with a reduction in aversive emotional states produced by a narrowing of focus and distraction form awareness of life problems (Anderson and Brown, 1984)
Aversion Therapy

- Electrical Aversion therapy was first used to counter-condition the arousal and excitement associated with gambling. Results:
  - Goorney (1968)- client had not returned to gambling at 12 month follow-up
  - Seager (1970) treated 14 clients 5 of which had not returned to gambling during a follow-up ranging between 1 and 3 years.
  - Koller (1972) achieved reductions in gambling for 8 of 12 patients at 3 year follow-up. However some patients had received other therapies within the follow-up period.
Blaszczynski, McConaghy and Frankova (1991) treated 120 clients with one of four techniques: imaginal desensitization, aversion therapy, imaginal relaxation & in vivo exposure.

- Procedures were administered over one week.
- 60 were allocated to ID, the remaining 60 to the other 3 therapies
- 63 clients were followed up over 2 to 9 years (mean of 5.5 years)
- 33 in the ID group were followed up
- 26 of the 33 reported cessation or control. (i.e. did not experience loss of control and negative financial consequences)
- 16 of the 30 in the other groups reported control or cessation
- Lack of pre-treatment data is also problematic.
- Possible after 5 years that clients ‘matured out’ of problematic gambling.
- Not clear whether treatment integrity was maintained.
Cognitive Therapy

• Problematic gambling is initiated and maintained by inaccurate beliefs about gambling. For instance:
  – They erroneously believe that they have greater skill or control over gambling events than they do in reality.
  – Discount their losses and over-estimate their wins leading to an over-evaluation of success
  – Maintain a belief in their own luck when gambling
  – Act from erroneous beliefs about randomness

• Treatment aims to bring the client around to more realistic and accurate perceptions about gambling.
CT- Controlled Trials

Laouceur, Sylvain, Boutin, Lachance, Doucet, Leblond & Jacques (2001)

- 66 gamblers meeting criteria for PG randomly assigned to treatment or waitlist control condition
- 35 completed treatment of up to 20 one hour sessions (mean 11.03)
- Dependent measures were South Oaks Gambling Screen, No of DSM criteria met, gambler’s perception of control, frequency of gambling, perceived self-efficacy and desire to gamble
- Assessment- pre-treatment, during treatment, post-treatment; and 1 3,6, and 12 months post-treatment.
- The cognitive treatment was manualised.
CT- Controlled Trials

• Results indicated highly significant changes in treatment group on all outcome measures and gains were maintained at 6-12 month follow-ups.

• 19 of 35 people completing treatment improved by at least 50% on the four dependant variables compared with only 29 in controlled group.

• In treatment group 31 of 35 completed 6 month follow-up significant differences were found between pre and post measures on four dependant variables
CBT- Controlled Trials

- **Echubera et al. (1996)** investigated three treatments (a) exposure-response prevention, (b) group cognitive restructuring, (c) combined treatments and (d) waiting list control.

- Exposure-response prevention (primarily behavioural treatment). Consists of training to better manage money, avoid gambling situations, remain in presence of gambling situation but resist gambling.

- Cognitive treatment- challenges ‘illusion of control’ and memory biases in group format
CBT- Controlled Trials

Results

• All three treatment groups had higher rates of abstinence than controls at six months

• Individual response prevention was more effective than the cognitive group or combined treatment group in terms of abstinence

• Control group showed considerable improvement over 6 months- supporting natural recovery
CBT- Controlled Trials

Problems

• It is not clear whether differences between exposure response prevention and cognitive restructuring were due to the content of the treatment it’s structure (individual for exposure response prevention and group for cognitive)
• Don’t know whether treatment was manualised
CBT-Controlled Trials

Sylvain, Ladouceur & Boisvert (1997)

- Compared the effectiveness of cognitive-behavioural treatment with a waiting list control group
- 29 participants randomly assigned to individual treatment (consisting of cognitive corrections; training in problem-solving; social skills training and relapse prevention) or delayed treatment (max 4 months)
- Outcome measures: SOGS, perception of self-efficacy in refraining from gambling, desire to gamble, number of DSM-III-R criteria met, and measures of gambling behaviour (frequency, hours spent gambling, amount spent)
- Treatment was manualised
- Treatment delivery was audio-taped and checked to ensure treatment integrity
- No process measures were included (couldn’t determine whether cognitive distortions, self-efficacy, social skills etc had improved)
CBT-Controlled Trials

Results
- 8 of the 14 treated participants compared with 1 of the 15 control participants improved by at least 50% on all post-treatment measures
- 10 of the 14 treated participants maintained treatment gains
- At 12 months following treatment 10 participants were contacted and 8 did not meet the criteria for pathological gambling.

Problems
- Couldn’t determine the contribution of the various cognitive and behavioural components
- Didn’t provide comparison with other types of treatment
- Some clients received almost double the length of treatment, the effect of treatment length was not investigated.
Pharmacological Studies

- Very few controlled trials of pharmacological treatments
- Reported significant improvement once clients were on the drug

Problems
- Side effects for drug treatment led participants and clinicians to predict which group they were in and hence was not double blind
- Measures were based on clinician ratings of urges to gamble and gambling behaviour
- No follow-up was reported
- Can’t conclude anything about either drug
Self-Help Treatments

- 102 participants in this study were randomly assigned.
- Follow-up was 3, 6 & 12 months.
- Daily gambling data was obtained for the 2 months pre-treatment data & in the period preceding each follow-up assessment.
- Significant reductions in gambling behaviour were reported by 84% of participants over the 1 year follow-up period.
- Considerable rates of improvement were also seen in the waiting list group (suggests high natural recovery- also seen in echeburua group).
What can we Conclude?

- Treatment does seem to have a significant positive impact on problem gambling.
- Interventions that fall within the cognitive-behavioural range have the most empirical support.
- Can’t yet determine which type of the CBT treatment and which elements of the CBT and CT treatments are most effective.
Methodological Issues

Treatment objectives-

– Abstinent vs non-absitinent (addictions programs) – don't look at reduced frequency, urge, ability to control gambling, reduced problems associated with gambling.

Treatment Outcome criteria:

– Many studies do not present data on rejection (refusal to enter program) or attrition (drop-outs). Excluding non-starters or drop-outs from statistical analyses results in an over-estimate of success rates.

– Not reporting subjects that are lost to follow-up- usually 50-60% from 6 months to two years.

Attrition of Treatment Effects

– Combining group and individual interventions
– Combining different therapies- e.g. cognitive, behavioural, relationship and financial counselling. Which had the most effect?
Methodological Issues

Valid and Reliable measures

– How is improvement measured? It is not always clear whether reliable and measures of change are being used, or how concepts such as 'improvement' are measured.
– Often don’t even measure gambling involvement (i.e time and money spent gambling)

Definition of Success at Discharge:

Some studies only report discharge status but do not include follow-up, many subjects are doing well at discharge only to find that they relapse afterward.

Definition of Lapse and Relapse and Relationship to Treatment Failure:

– Intermittant gambling interspersed by periods of abstinence
– Regular gambling at lower levels

Post-treatment Follow-up Intervals

– Varies from 6 months to 9 years
Where to now?
Conducting your own assessment and follow-up
Assessment: What do you need to ask yourself?

• Is it psychometrically valid?
  – Inter-rater reliability
  – Test-retest reliability
  – Internal reliability (Cronbach’s alpha)

A good rule of thumb:
<0.7 acceptable
<0.8 to 0.9 moderate to high
<0.9 is high
Assessment: What do you need to ask yourself?

• What do I want to measure?
• Does it measure what it says it measures?
• What are the costs and benefits of the assessment I am using?
  – Length
  – Price
  – Relevance
  – Appropriateness- Can I use it to compare with data worldwide/Australia?
The SOGS -Lesieur and Blume (1987)

**Background**
- Most widely used screen in the world and in NSW
- Based on DSM-III and DSM-III-R criteria
- Self-screening device.

**Content**
- 16 questions comprising 37 items
- 20 items are scored
- yes/no response set
- each item is given equal weighting (one point)

**Psychometrics**
- Internal reliability —Cronbach’s alpha 0.97
- Test-retest reliability — 0.71
The SOGS -Lesieur and Blume (1987)

**Scoring**
- A score of 5 or more indicates a probable pathological gambling disorder (usually 10 or more in Australia)

**Problems**
- Over-diagnosis:
- Life-time questions
- Insensitivity to change
- Biased towards borrowing money (50%)
- Seems to be measuring several different constructs

**Benefits**
- Good Psychometrics
- Quick and easy to use
- Widely used
The SOGS -Lesieur and Blume (1987)

**Further Reading**


Victorian Gambling Scale

Background
• Developed in response to current measures that defined gambling as an addiction dependence syndrome.
• Developed a scale purporting to measure harm caused by gambling

Content
• Self-screening devise
• 21 items
• 3 scales – harm to self, harm to partner, enjoyment of gambling
  – Only Harm- to- self scale could be used to identify problem gamblers (using DSM-IV as validation)
• Harm to Self Scale consists of 15 items
Victoriaan Gambling Scale

**Psychometrics**
- Internal reliability- Cronbach’s alpha 0.96.

**Scoring**
- Harm Scale:
- Questions 4-15, and 19-21
- Any questions scored 8=can’t say, 9=N/A, or blank should be considered missing
- If 4 of 15 items are blank then the score cannot be calculated.
- To compute final score, sum the 15 items to create a score from 0 (no harm to self) to 60 (high harm to self).
Victorian Gambling Scale

Problems

• Mixing of items: some items target the gambling behaviour whilst others the problems caused by gambling. It would be better to have a pure measure of each.

• Inappropriate scaling: for e.g. Q(12) “Have you thought you shouldn’t gamble or should gamble less?” If a respondent answered either I rarely/sometimes/often/always think I should gamble less, they could be referring to only the occasions after which they have gambled or alternatively the percentage of the time that the respondent is awake.

• Ill-defined units of analysis: Q (19) “How often have you spent more money on gambling than you can afford?” Is the author here asking about the amount of overspending after a gambling session, or a week of gambling? The unit of analysis has not been delineated.
Victorian Gambling Scale

Benefits

• Good Psychometrics
• Not biased towards borrowing money
• Broader definition of problem gambling
• Includes harm
• Australian scale
• Harm to Partner Scale
• Quick and easy to administer and score

To obtain copies

• The Victorian gambling Screen project report 2001. Look up “Victorian gambling Screen” on www.google.com
BANFF CONSENSUS

• What do all gambling therapies have in common?
  – make an attempt to change gambling behaviour (gambling behaviour);
  – work from the assumption that by changing gambling behaviour the problems caused by gambling can also be reduced (gambling problems);
  – assume that the change in gambling behaviour has resulted from a change in some specified aspects of individual functioning (process of change).
Measuring Change in Gambling Behaviour

The two most basic measures of gambling behaviour would involve the financial losses incurred by gambling and the time spent thinking about the gambling activity. These can be best measured by asking the gambler to estimate:

(a) the average weekly monetary loss to the individual caused by involvement;

(b) the frequency of gambling involvement, measured in days per week. It should only include frequency estimates relating to the problematic forms of gambling;

• NB: these estimations should only refer to the gambling activity/ies that are causing problems for the gambler.
Measuring Changes in Gambling-Related Problems

• The problems caused by excessive gambling involvement occur across a number of domains.

(a) Health of the individual;
(b) Relationships with family and friends;
(c) Financial state
(d) Employment
(e) Legal.
Measuring Process of Change

Process variables are the therapeutic factors that are responsible for change. These can include:

**Specific variables.** These are informed by the theoretical basis of the therapy. For example, in cognitive therapy, it is assumed that therapeutic change occurs because the client has moved from an erroneous set of beliefs to an accurate or realistic set of beliefs.

**Non-specific variables** are the factors that are unrelated to the specified theory but also effect therapeutic outcome, e.g., rapport building and active listening.
Measuring Changes in Gambling Related Problems- QOLI

**QOLI** Quality of Life Inventory (1994)

**Description**
16 domains of life are assessed. Each domain is defined and the client is asked to rate the importance of that domain to their happiness (three point scale) and then their current with this domain of life (six point scale).

**Test Administration**
It usually takes between 10 minutes to complete the QOLI (excluding the section entitled “Problems that get in the way of your satisfaction”).

**Obtain Copies**
Psychological Assessments Australia 9589 0011
Specific change measures for different types of therapies

**Multimodal Problem Solving Therapy**
GTAQ Harm Scale (Stinchfield et al, 2001)

**Cognitive therapy**
GBQ Gambling Beliefs Questionnaire (Steenberg et al, 2002)

**Imaginal Desensitisation/Behavioural interventions**
GUS The Gambling Urge Scale (Raylu & Oei, 2004)

**Solution-Focused Therapy**
Self-efficacy Questionnaire
The Gambling Urge Scale- Raylu and Oei (2004)

**Background**
Australian Questionnaire developed at the University of Queensland
Based on 8-item Alcohol Urge Questionnaire

**Content**

- Six-item self-report questionnaire:
  1. All I want to do now is gamble.
  2. It would be difficult to turn down a gamble this minute.
  3. Having a gamble now would make things just perfect.
  4. I want to gamble so bad that I can almost feel it.
  5. Nothing would be better than having a gamble right now.
  6. I crave a gamble right now.

- Each question is rated using a 7-point likert scale indicating how much the respondent agrees or disagrees with the six statements.
The Gambling Urge Scale- Raylu and Oei (2004)

**Scoring**
- Scoring consists of totalling the values (a score of 0-7 for each item). The higher the score the greater the urge to gamble.

**Psychometrics**
- Internal Consistency is good (Chronbach’s Alpha of 0.81)
- The GUS was able to discriminate between problem and non-problem gamblers as measured by the SOGS (non-problem gamblers, SOGS =0 and probable problem gamblers SOGS ≥ 4)
  - The GUS correctly classified 87% of respondents into the two SOGS groups (92% of Group 1 and 78% of group 2)
- Gender Differences were also found. Men had significantly higher GUS scores than women.
- No retest data.
Gambler’s Belief Questionnaire- Steenbergh, Meyers, May and Whelan (2002)

**Background**
- Developed in the United States
- Self-report measure of gambler’s cognitive distortions

**Content**
- 21-item questionnaire
- Each item is rated on a 7-point likert scale ranging from 1 (strongly disagree) to 7 (strongly agree)
- Consists of two factors. Luck/Perseverance and Illusion of Control.
- Thirteen items loaded most heavily on Luck/Perseverance factor and 8 items on Illusion of Control
When and how should follow-ups be conducted- Best Practice?

**Two-year follow-ups**
Given the high relapse rate for clients between the twelve and twenty Four month post-treatment period, it is appropriate to conduct follow ups two years subsequent to treatment termination in order accurately Evaluate treatment outcome. A six month, 12 month and 24 month follow-up is ideal.

**Face-to-face follow-ups**
Interviews conducted face-to-face increase the reliability of the assessment scores.

**All clients are followed-up**
Biased evaluation of treatment outcome can also be reduced by ensuring that all clients who begin treatment are followed up irrespective of treatment completion.