New Zealand Prospective Research: The Pacific Islands Families Study, Treatment Outcome Study and National Gambling Study

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Director, Gambling and Addictions Research Centre
Auckland University of Technology
Prevalence Studies

- Cross sectional and retrospective
- Assess current participation and problems
- Provide an indication of lifetime participation and problems
- Information on distribution, and potential risk/protective factors
- Additional information – eg. help-seeking
- Frequently methodologically compromised
- Limitations re. temporal sequence, causal inference, risk/protective factors for problem onset and progression
- Prevalence study ‘replications’ assess change over time (snapshots at population level)
Prospective Studies

- Provide a temporal perspective
- Assess change/stability at cohort and individual trajectory levels
- Determination of incidence requires large-scale prospective studies
- General population incidence studies rare in mental health/addictions
- Provide estimates of problem onset – inflow (and cessation/outflow)
- Potential to identify risk/protective factors for problem onset (cross sectional studies include both new and extant disorders)
Prospective Studies

Have additional strengths including:

- Reduced recall error
- Stronger causal inferences

However

- Expensive
- Design sensitive to attrition and missing data points
- Changes in definitions/diagnoses/ measurement over time
- Long time to generate useful data
- Administrative challenges – staff attrition/funding
Abbott & Volberg (1996, 1999) concluded that the major weakness in gambling research is heavy reliance on cross-sectional correlation studies and a lack of field research employing prospective, experimental, and quasi-experimental designs. They also called for greater use of qualitative methodologies.

Taken up by Shaffer et al. (2004) with the phrase “The road not (yet) taken.”

Abbott & Clarke (2007) – review

“While few in number, recent in execution, and typically methodologically compromised, findings from these studies significantly challenge core assumptions about the nature, development, and measurement of problem gambling and raise important questions for future research.”

“The potential (of prospective research) is profound – to serve as both catalyst and vehicle to move the field from its rather disjointed preoccupation with description and distribution to become a theory-driven, cumulative science of problem gambling determinants and consequences.”
Approximately 25 published gambling studies

- No jurisdiction-wide incidence studies
- Mostly non-representative small/moderate samples
- Various methodological problems including high attrition
- Psychological focus
- Large-scale general population studies underway in Sweden, Canada, Victoria and New Zealand
New Zealand Studies

Add-ons

- Pacific Island Families (PIF) Study
- Dunedin Multidisciplinary Health and Development Study

Gambling Studies

- National Gambling Study (NGS)
- Treatment Outcome Study
An ongoing longitudinal study
Tracks the health and development of 1,398 Pacific children born in South Auckland in 2000 and their families
Collects data through structured interviews and other means
Quantitative methodology
‘Life course’ approach
Aims

- Determine optimum pathways for children and families during critical developmental periods
- Identify risk and resilience factors that influence positive and negative outcomes
- Provide Pacific-specific evidence
- Make empirically-based strategic recommendations to improve the health and well-being of Pacific children and families and address social disparities
What is investigated?

- Demographics
- Child development
- Child behaviour
- Peer relationships
- Child and family health
- Family finances
- Cultural aspects
- Partner relationships
- Parenting and home environment
- School and community environment
PIF Supplementary Studies

- OME at 2 years
- Gambling (6 & 9 years)
- Nutrition and body size (4, 6 and 9 years)
- Physical activity (6 years)
- Traffic & indoor air pollution (9 years)
- Oral health (9 years)
- Hearing (11 years)
• Core funding from the Foundation for Research, Science and Technology and the Health Research Council
• HRC Programme grant for 5-year *Transition through Adolescence* phase at 14 and 16 years (pending)
Who are the researchers?

Back left-right:
Fa’asisila Savila
Leon Iusitini
Dr El-Shadan Tautolo
Nick Garrett
Steve Taylor
Prof. Philip Schluter
Dr. Gerhard Sundborn

Front:
Shamshad Karatela
Amor Hirao
Prof. Janis Paterson

Absent:
Prof. Max Abbott
Dr. Melody Oliver
Upasana Jhagroo
Phases of PIF Study

<table>
<thead>
<tr>
<th>6 weeks</th>
<th>1 Year</th>
<th>2 Years</th>
<th>4 Years</th>
<th>6 Years</th>
<th>9 Years</th>
<th>11 Years</th>
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<tbody>
<tr>
<td>1,398</td>
<td>1,224</td>
<td>1,144</td>
<td>1,048</td>
<td>1,015</td>
<td>1,017</td>
<td>950</td>
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</table>
PIF Family Fun Day 2011

Saturday 5th February 2011
AUT Manukau Campus

Special guests:
Tofiga
(from The Laughing Samoans)
Logan Swann
(former rugby player – Warriors)
Participants selected at birth where at least one parent identified as being of a Pacific ethnicity and was a NZ permanent resident.

<table>
<thead>
<tr>
<th></th>
<th>Mother</th>
<th>Child</th>
<th>Father</th>
<th>Teacher</th>
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<tbody>
<tr>
<td>6 weeks</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>*</td>
<td>*</td>
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<tr>
<td>2 years</td>
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<td>4 years</td>
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<td>6 years</td>
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<td>*</td>
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<tr>
<td>9 years</td>
<td>*</td>
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<td>*</td>
<td>*</td>
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<tr>
<td>11 years</td>
<td>*</td>
<td>*</td>
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</tr>
</tbody>
</table>

93% of eligible mothers consented and interviewed at 6 weeks.
Demographics of maternal cohort

- Samoan: 47.2%
- Tongan: 21.0%
- Cook Island: 16.9%
- Niuean: 4.3%
- Other Pacific: 3.4%
- Non-Pacific: 7.2%

Mean age: 27 years
NZ-born: 33%
Married or de facto couples: 81%
Post-school qualifications: 27%
Where does the cohort live?

NZ: 78%
Auckland: 74%
Other NZ: 4%

Australia: 16%

Rest of world: 2%
Where can I get further information?

www.aut-pif.ac.nz
2006 Selected Gambling Data for Mothers and Fathers

- Bimodal gambling distribution
- 36% mothers; 30% fathers gambled
- Smoking and alcohol consumption linked
- Ethnic differences in gambling participation for mothers but not fathers
- Tongan mothers lower participation but those who gambled 2.4x odds of being at risk/problem gambler
- Cultural orientation related to gambling
4% of mothers and 10% of fathers reported problems because of someone else’s gambling

Gambling and problem gambling associated with psychological distress

Gambling associated with being perpetrator and victim of verbal aggression (fathers)

At risk/problem gambling associated with physical violence (fathers)

For mothers, risk/problem gamblers less likely to perpetrate violence
2009 Selected Gambling Findings for Mothers and Changes 2006-2009
Results

- N=1,001 Year 6, N=957 Year 9
- Gambling prevalence ↑
  - 36% Year 6
  - 50% Year 9
- 199 non-gamblers Year 6 = gamblers Year 9
- 90 gamblers Year 6 = non-gamblers Year 9
Mothers - Distribution of PGSI scores in Years 6 and 9
Mothers - Gambling classification in Years 6 and 9

<table>
<thead>
<tr>
<th>Year 6 (N)</th>
<th>Non-gambler</th>
<th>Non-problem gambler</th>
<th>Low risk gambler</th>
<th>Moderate risk gambler</th>
<th>Problem gambler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-gambler</td>
<td>312</td>
<td>154</td>
<td>9</td>
<td>9</td>
<td>1</td>
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<tr>
<td>Non-problem gambler</td>
<td>61</td>
<td>118</td>
<td>6</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Low risk gambler</td>
<td>11</td>
<td>14</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Moderate risk gambler</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Problem gambler</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

N=711, missing data either due to participant not being seen at both time points or by PGSI questions being unanswered
Results: Potential Risk Factors

- Prior gambling associated with continued gambling (OR 4.4)
- Worsening financial situation associated with gambling (OR 2)
- Mild deprivation level and smoking also associated with higher odds for gambling
- At least one life event associated with higher expenditure (≥ $40/month)
Results: Potential Protective Factors

- Change in marital status from partnered to separated associated with lower odds for gambling (OR 0.65)
2009 Gambling Data Children
Children aged 9 years in 2009 (N = 996: 506 boys, 490 girls)

- A few gambling questions asked
  - Have you ever bet money?
    - Was this with family/friends/both?
  - Have you played Housie?
    - Was this with family/friends/both?
    - Did you play for money?
  - Have you played cards?
    - Did you play for money?
  - Have you received a scratch ticket as a present?
  - Have you ever bought a Lotto ticket?
Results: Gambling Participation

Percentage of children participated (%)

- Housie/Bingo: 48.6% (n=522)
- Cards: 86.7% (n=834)
- Instant Kiwi/Scratchie: 17.3% (n=146)
- Lotto/Big Wednesday/Keno: 7.0% (n=61)
Results: Bet Money with Whom?

- **Family**: 54.5%
- **Both**: 25.3%
- **Friends**: 20.2%

27% bet money (n=234)
Results: Played Housie for Money

Boys:
- Family: 54%
- Friends: 19%
- Both: 27%

Girls:
- Family: 62%
- Both: 31%
- Friends: 7%
Results: Played Housie not for Money

Boys
- Both: 41%
- Friends: 31%
- Family: 28%

Girls
- Both: 24%
- Friends: 42%
- Family: 34%
Results: Potential Risk Factors for Gambling

- Gang involvement (OR 2.6)
  - Gang: “Any street club that carries a name, wears particular colours etc”
  - Other negative behaviours examined: Bullying, delinquency, substance misuse (NS)
- CBCL: Externalising (OR 1.9),
- Hyperactivity (OR 1.3)
- Paid work every day/almost every day (OR 2.4)
- Spend time with friends after school (OR 1.8)
- Attend after school activities (OR 1.9)
- Parental monitoring (1.5 x greater odds for gambling per unit decrease in parental monitoring)
Results: Potential Protective Factors

- Similarities test score (recognising how two words are alike/similar) – 0.95 x lower odds for gambling per unit increase in score
Conclusion

- Some potential risk and protective factors identified
- Plan to continue longitudinal follow-up of mothers and fathers
- Plan to follow the children to see how gambling behaviours change with time and how they are associated with parental gambling and other familial, social, health and environmental factors
150 National Gambling Helpline clients
- Assessed at 3 months (86%), 6 months (79%) and 12 months (66%)
- 36 month assessments underway

Note: A further 342 Helpline clients (in ‘experimental’ arms of a RCT) are being tracked/assessed concurrently (total N = 492)
Measures

- Socio-demographics (intake only)
- Gambling/problem gambling history, impacts, help-seeking
- Current gambling participation (type, frequency, losses)
- Problem gambling (PGSI)
- Comorbidity and substance use
- Quality of life
- Treatment goal
- Self efficacy
- Motivation and perceived control over gambling
Ascertain whether there are outcome differences between clients who only access the Helpline and those who also access additional counselling/therapy

Identify client characteristics associated with treatment outcome

Also allows examination of the natural history of gambling/problem gambling in a help-seeking sample of people with serious gambling problems
NZ National Gambling Study and Longitudinal Follow-up

Study Team
  PI – Prof Max Abbott
Named Investigators
  Dr Rachel Volberg
  Assoc Prof Alain Vandal
  Assoc Prof Denise Wilson
Survey Statistician
  Alistair Gray

- National Research Bureau
- Reference Group
- Funded by Ministry of Health
Main interests

- The incidence of problem gambling
- Risk and resilience for problem gambling
- Factors associated with ‘natural’ recovery and other transitions
- Relationships between comorbidities
Pilot Survey (2011)

Survey (2012)
- N = 6,251
- 1,000 mesh-blocks randomly selected
- European/other 4,035, Maori 1,164, Pacific 830, Asian 827
- Face-to-face household interviews
- Response rate 64%

Longitudinal Study (2013)
- N = 3,000
- Re-interviews with all problem and at-risk gamblers and random selection of others
Future?

- Further interviews at 24 and 36 months?
- Linkage of data sets – comparative analyses with Victorian and Swedish studies?