The Alberta Cohorts of Gambling Behaviors
An Update

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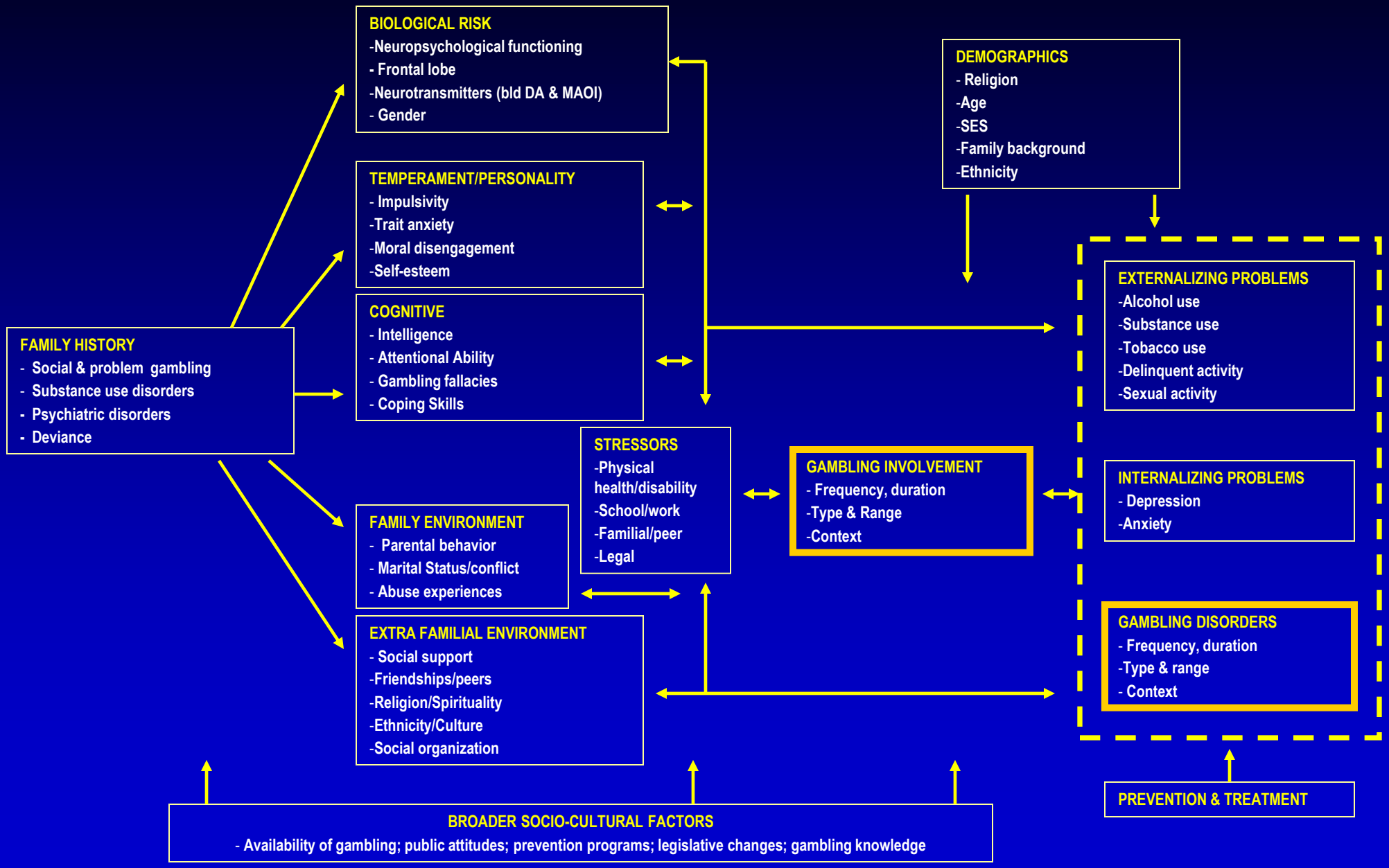
Objectives

1. Experience with recruitment & retention of five cohorts

2. Patterns of continuity & discontinuity in gambling behaviors as well as patterns of recovery from problems?

3. Biopsychosocial variables (risks & resilience) predicting the spectrum of gambling behaviors from responsible to problematic?

Biopsychosocial Model for Gambling



Age Groups – accelerated longitudinal design

Baseline

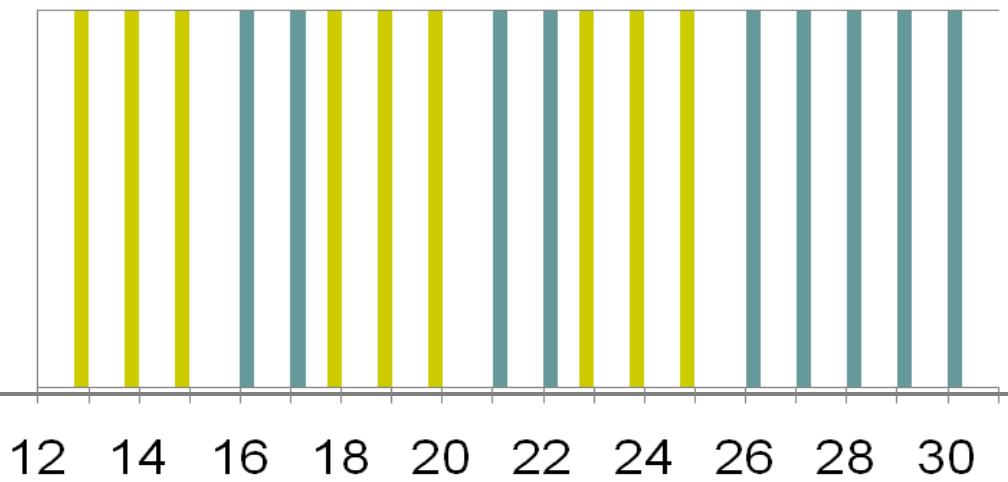
- 13 to 15
- 18 to 20
- 23 to 25
- 43 to 45
- 63 to 65

Time 4

- 18 to 20
- 23 to 25
- 28 to 30
- 48 to 50
- 68 to 70

Criteria

- Initiation age 18
- High risk
- Family & job responsibilities
- Mid adulthood & parental values
- Peri-retirement



LLLP (Leisure, Lifestyle, Lifecycle)

Sampling N = 1808

Urban-Rural?

Cities > 1 million

50-100,000

Recruitment & Retention

In Alberta, 82% of adults gambled in previous year!

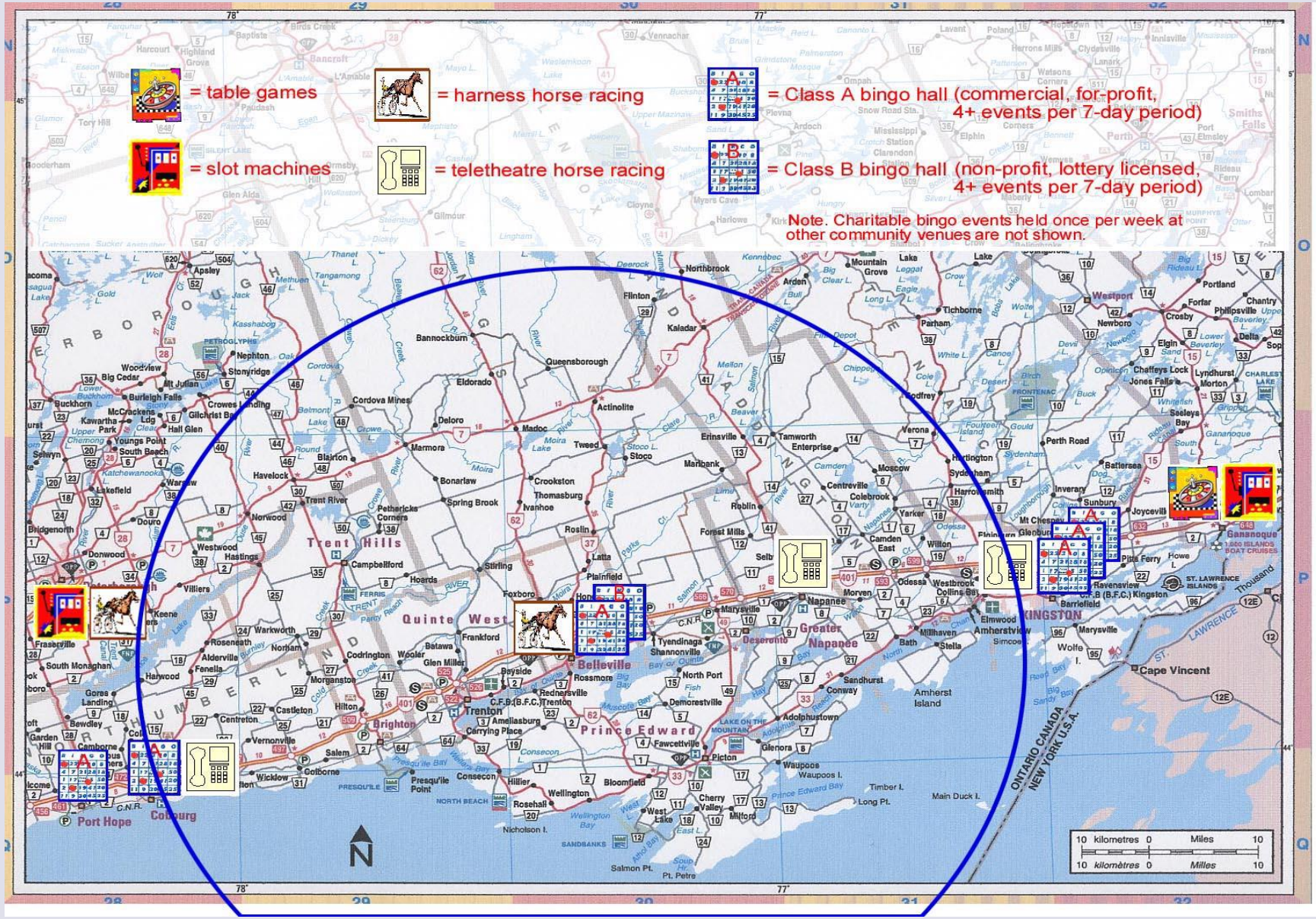
Low prevalence of problem gambling requires oversampling of "at-risk" (>70th percentile gambling expenditure/frequency)

- Time 1 – n= 1808 (tel & face-to-face) Feb-Oct 06
- Time 2 – n = 1495 83% (online) Nov 07- Jun 08
- Time 3 – n = 1316 74% (online) July 09-Mar 10
- Time 4 – n = 1343 75.1% (online) Feb –Oct 11

  (313 adolescents, 1030 adults)
- Blood & Saliva – n = 679

- Gen population bootstrap weights for age, sex, geography & high frequency; Deceased=20

Quinte study: 70 km radius around Belleville, Ont
Pop 50,000 (N=4121; Retention R 90.4% over 5 years)



PROBLEM GAMBLING CONTINUITY / DISCONTINUITY OVER 5 YEARS

*Is untreated addiction always “progressive and fatal” (progression theory)?
*Are more severe gamblers less likely to improve than less severe ones (selective stability)?

DEVELOPING AN ETIOLOGICAL MODEL

1. **Coordination of the QLS & LLLP analyses**
   - **2 separate analyses, but using same analytic approach**
   - **Single etiological model that works for both data**

2. **Dependent variables, i.e. Problem Gambling**
   - **LLLP CPGI* 5+ (N=43)**
   - **QLS PPGM** (N=134) Total N=177**

3. **Reducing # of IVs (from ~100) by identifying IVs predictors of PG in the subsequent year *in both data sets***

**** Canadian Problem Gambling Index – False -ve***

***** Problem & Pathological Gambling Measure – False +/-ve (W & V)***

Variables Best Predicting Future Problem Gambling

(134 PPGM PGs in QLS & 43 CPGI 5+ PGs in LLLP)

MENTAL HEALTH PROBLEMS IN PAST YEAR	QLS	LLLP
Any Mental Health Problem	↑	NA
Major Depression	↑	↑
Manic Episode	↑	
Generalized Anxiety		↑
Panic Attacks	↑	↑
Obsessive Compulsive Disorder		↑
Bulimia		
Schizophrenia and/or Delusional Disorder	↑	
Borderline Features (PAI)	NA	
Paranoia (PAI)	NA	↑
ADHD	NA	↑

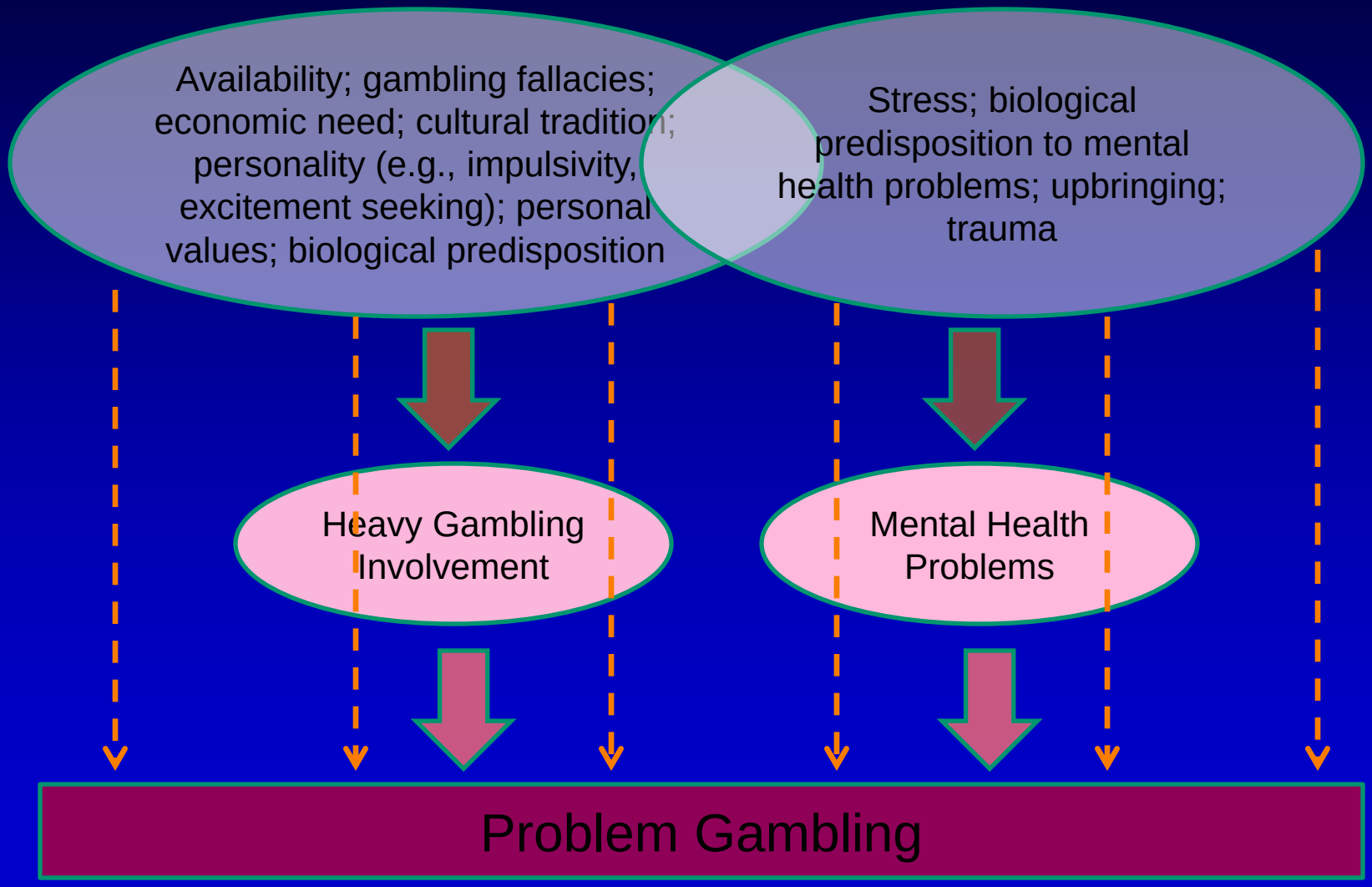
Robust Variables Best Predicting Future Problem Gambling
(Adult N=177: Correlate; Cause & Consequence)

- Having a current mental health problem
  - Particularly mood and anxiety problems
- Family history of gambling
  - Parental/sibling regular gambling and/or problem gambling
  - Gambling with family prior to 19
- Gambling involvement
  - Number of formats engaged in
  - Frequency & expenditure of play
  - Big gambling win (past year and/or prior to 19)
  - Membership in gambling rewards program
- Motivation for gambling: to escape; win money

Other Important Variables

- Lifetime & Past Year History of drug/alcohol addiction
- Ethnocultural background
- Less education
- Lower income
- Age? Sex? Personality: impulsivity, antisocial?
- Cross sectional vs. longitudinal studies
- Adolescent sample? demographic or impulsivity

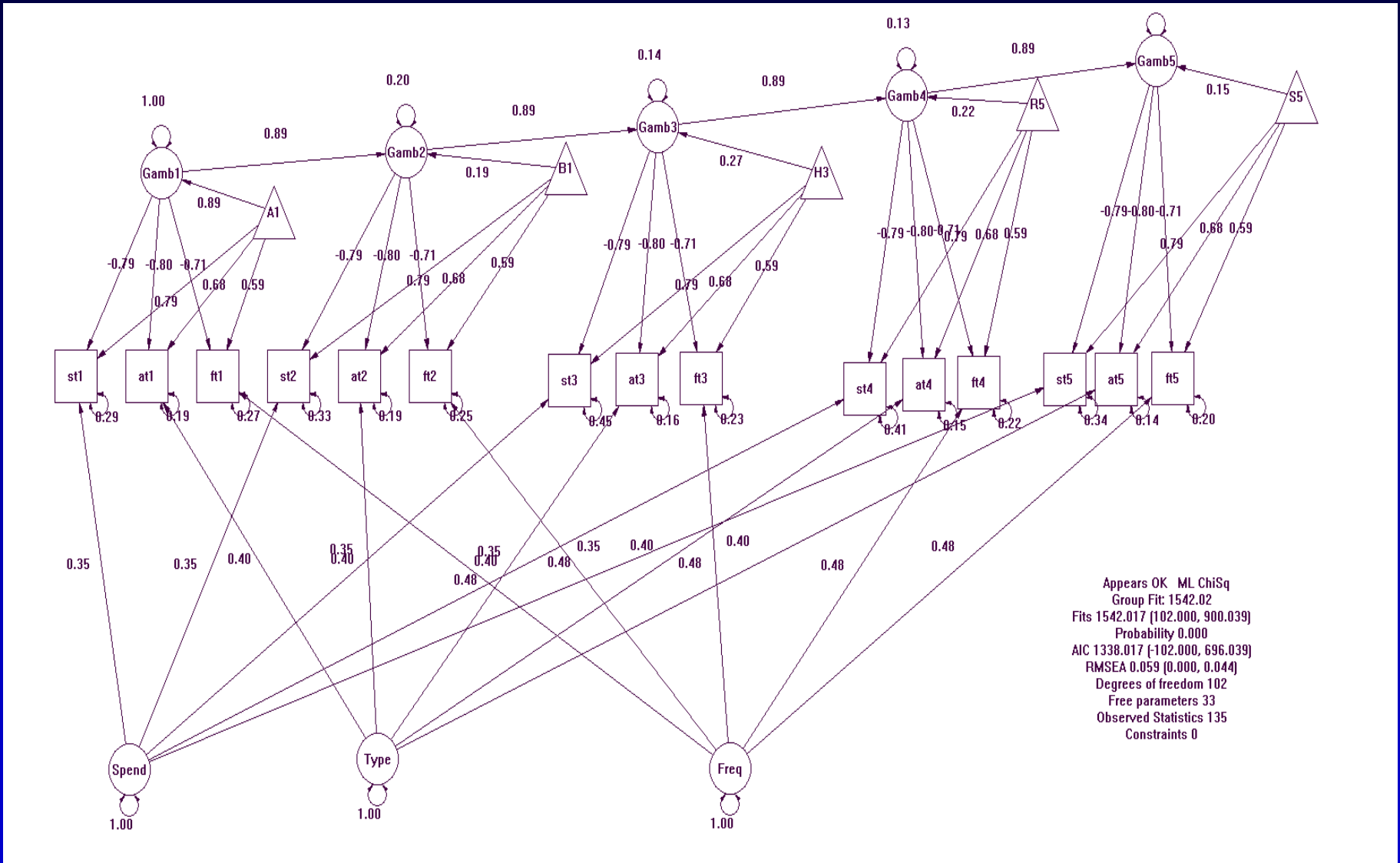
Relevance To Model Development



Descriptive vs. Structural Analyses

- Longitudinal structural equation models postulate causal relationships among & between measured "manifest" variables (squares) & unmeasured "latent" variables (circles).
- Causation is depicted by directional arrows between squares & or circles.
- Links estimate the strength of the influence across the entire sample.
- The model is a hypothetical structure (a theory) with caveats.
- Debate? Categories (focus on PG) - factor/descriptive
  Vs. Dimensions (sample PG, non PG) - structural

Structural Models of Gambling & Problem Gambling



Descriptive vs. Structural Analyses

Insights:

- In the total sample, **level of gambling behaviors** was relatively stable across the waves, but other variables like Mental Health affected the **propensity to become Problem Gambler**.

- No particular concurrent "Mental Disorder" was differentially associated with problem gambling. The association is with the **cumulation of one or more disorders "Mental Distress"**.