

# The pathways of gamblers in Québec from 2009 to 2011: have they changed and why ?



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ALBERTA GAMBLING RESEARCH INSTITUTE'S 11<sup>TH</sup> ANNUAL  
CONFERENCE  
BANFF CENTRE, BANFF, ALBERTA  
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# Outline



- Study objectives
- Methodology
- Results
- Discussion and conclusions

# Study objectives



- Identify trajectories of change in gambling patterns and problems among a cohort of gamblers;
- Model change over time based on demographics, life events as well as use of services and treatment resources.

# Findings from longitudinal studies



Trajectories are variable and potentially multidirectional

# Findings from longitudinal studies



- Mostly decrease ↓ in severity of gambling problems;
- Increase ↑ in severity of gambling problems is less frequent
- Stability → is mostly observed at both extremes of the scale ?

(Abbott, 2004; Shaffer, 2002; Slutske, 2003, 2006; Wiebe, 2003, 2009; Winters, 2005)

# Findings from longitudinal studies



- Few longitudinal studies on gambling;
- Little is known about change and stability in gambling over time;
- Little is known about factors associated with change and stability over time.

# Portrait of gambling in Québec project: ENHJEU-QUÉBEC



## CROSS-SECTIONAL SURVEYS

Population survey 2009  
(N=11 888)

Population survey 2012  
(N=11 600)

### LONGITUDINAL COMPONENT

FOLLOW-UP 2009

FOLLOW-UP 2010

FOLLOW-UP 2011

n = 179

n = 184

n = 137



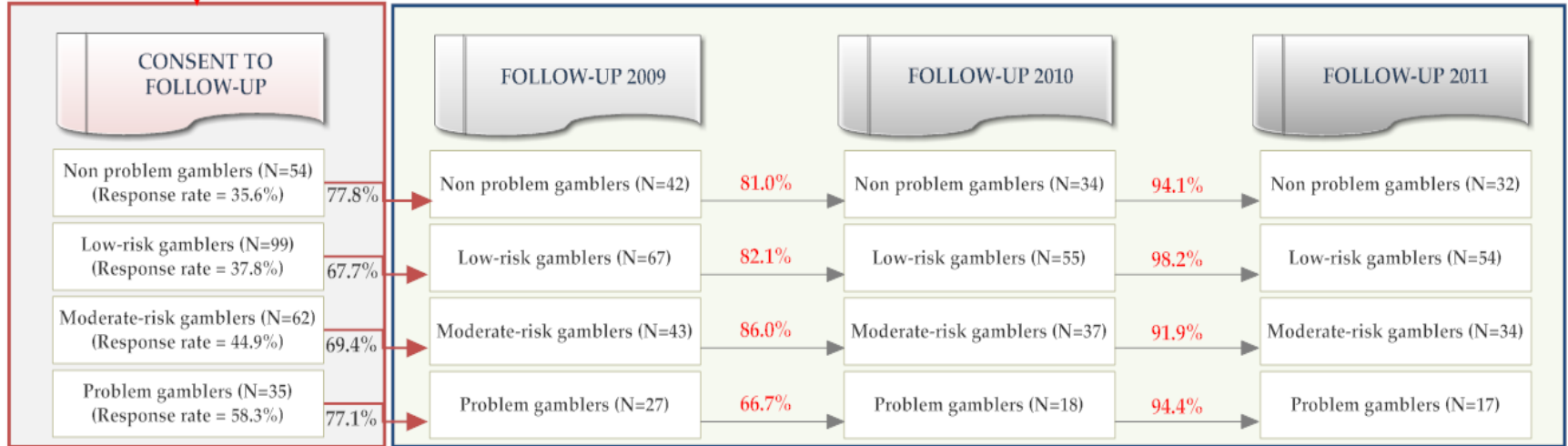
# METHOD - design



## CROSS-SECTIONAL SURVEYS

Population survey 2009  
(N=11 888)

Population survey 2012  
(N=11 600)





# Method - Measures



Measures	Survey 2009	Follow-up 2009	Follow-up 2010	Follow-up 2011
Gambling patterns	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PGSI (Ferris & Wynne, 2001)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alcohol (AUDIT) (Babor et al., 2001)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cannabis use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Use of services for gambling problems				
Health professionals		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Helpline		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Websites		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment centres		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Life events (Holmes & Rahe, 1967)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Demographics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

# Statistical analyses



- Descriptive analyses
  - Proportions and chi square tests of distributions
  - Sequence index plot

# Statistical analyses



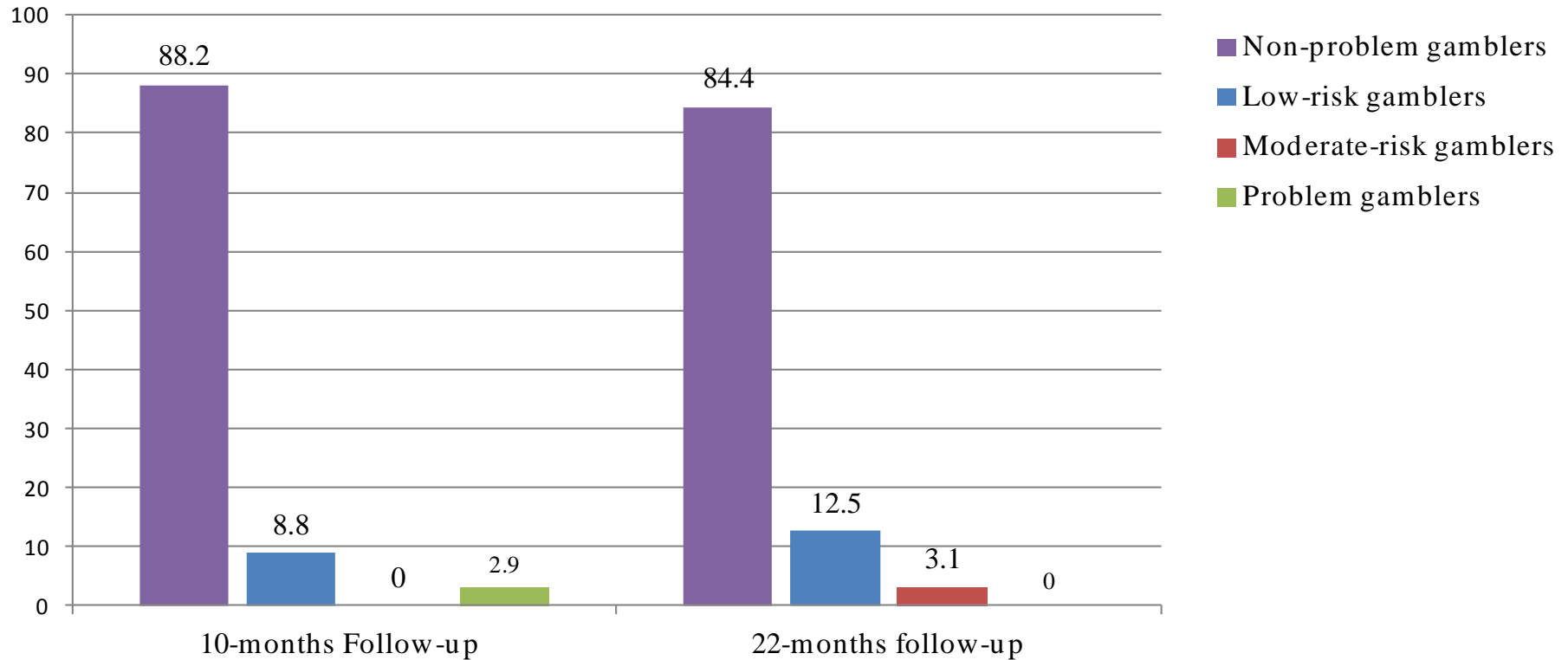
- Modelling of change
  - General linear growth models – hierarchical
    - ✦ General developmental trajectories of individual change
  - Linear mixed growth models of change with predictors
    - ✦ Use of censored normal distributions
    - ✦ Identification of groups of trajectories
    - ✦ Testing predictors of group membership

# DESCRIPTIVE ANALYSES

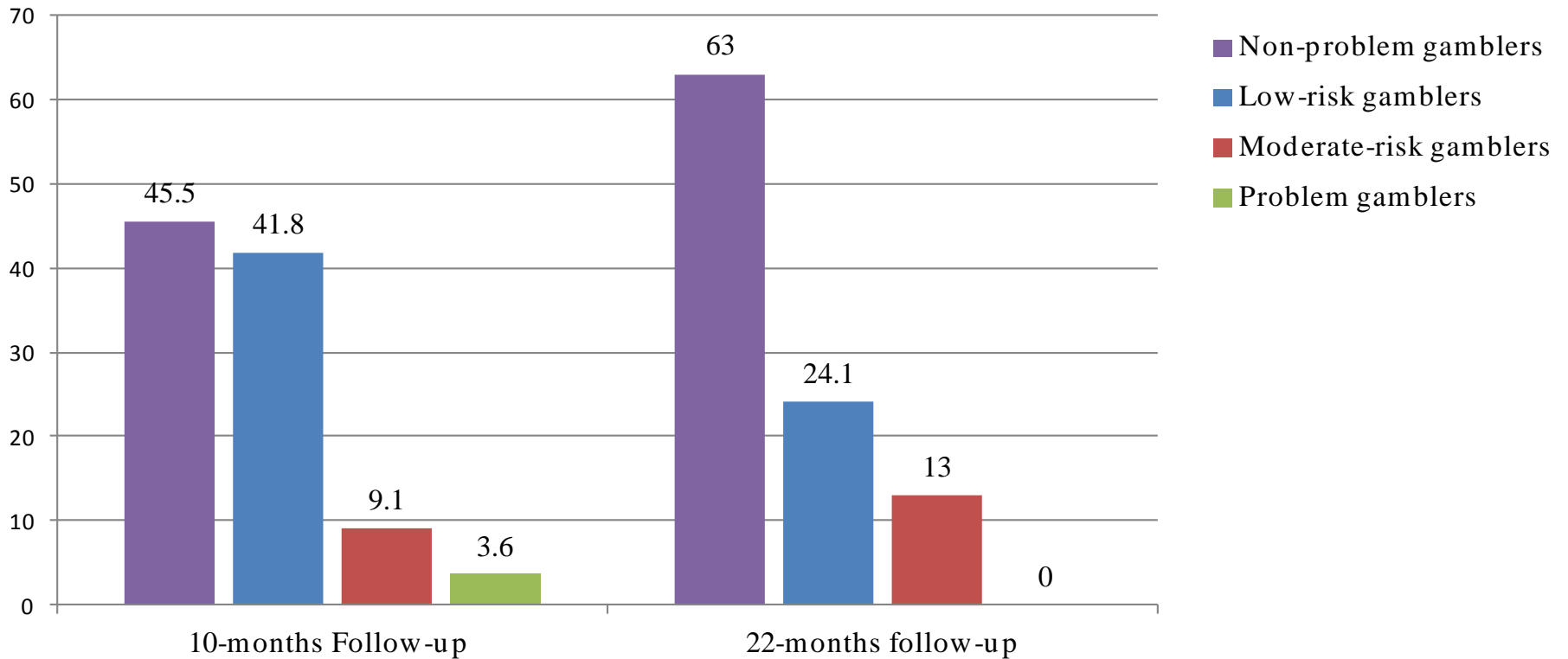


**Overview**

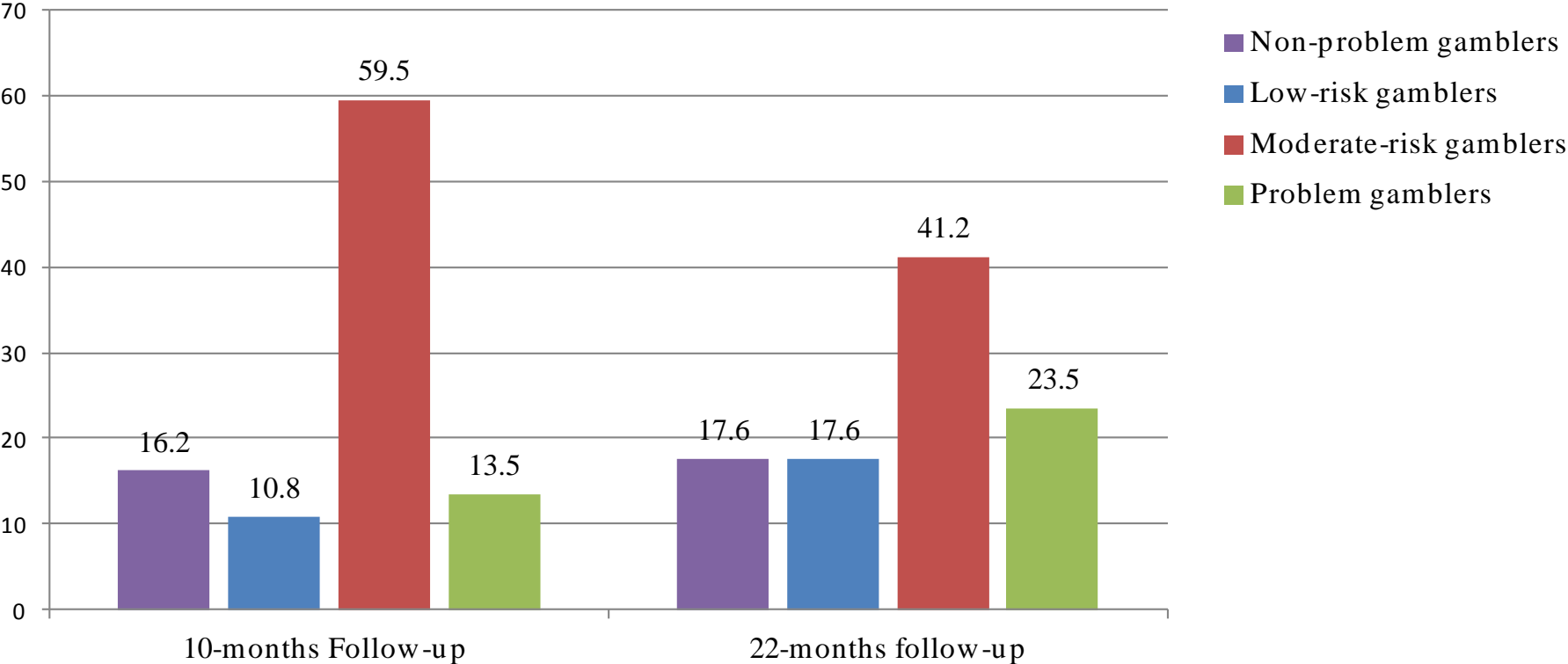
# Status of non-problem gamblers at follow-ups



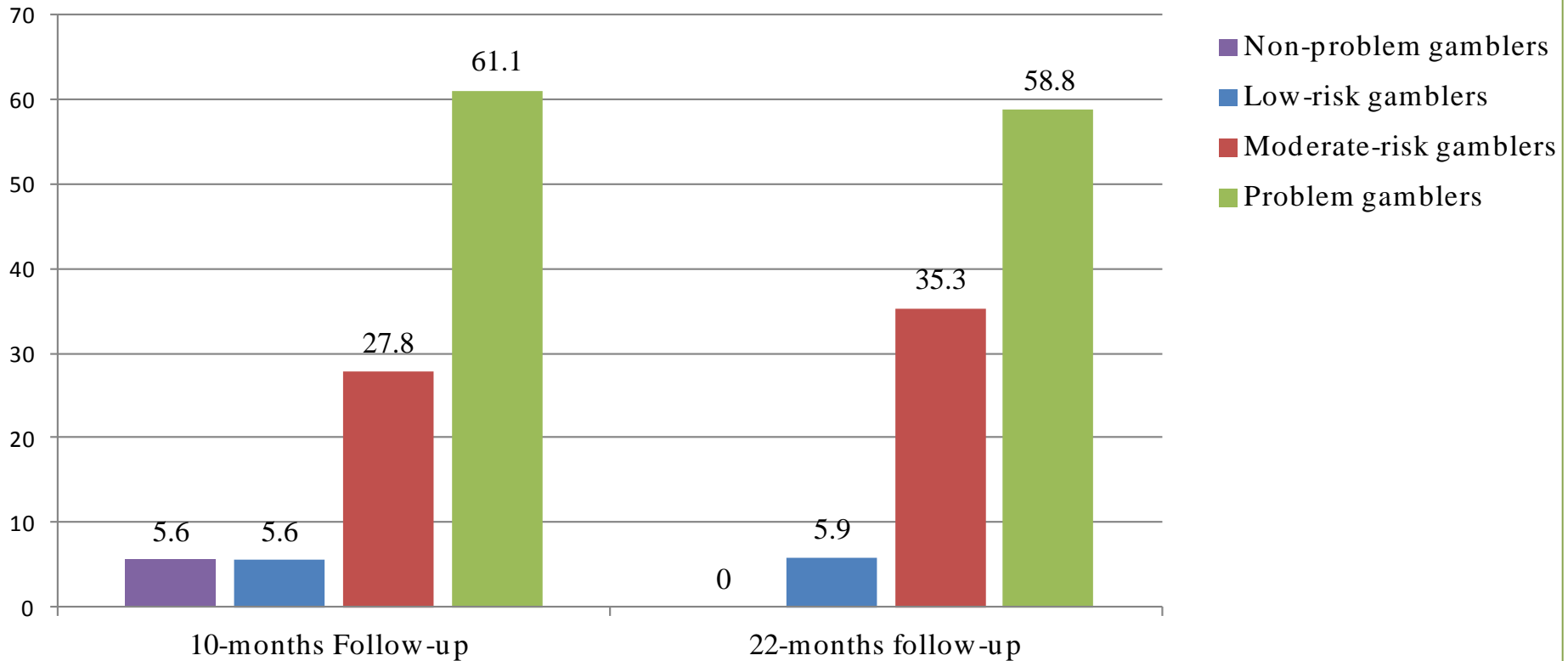
# Status of low-risk gamblers at follow-ups



# Status of moderate-risk gamblers at follow-ups

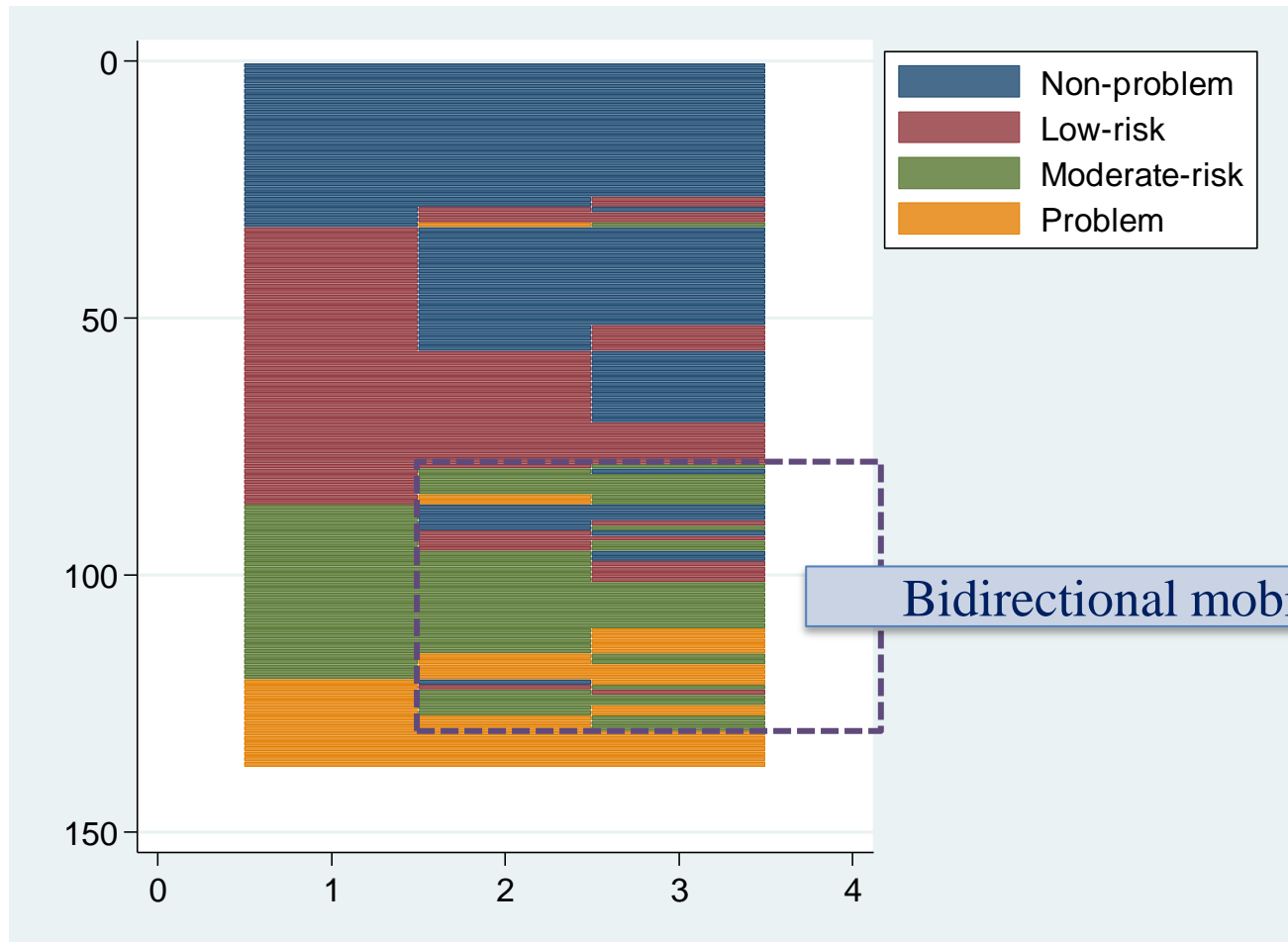


# Status of problem gamblers at follow-ups





# Patterns of change



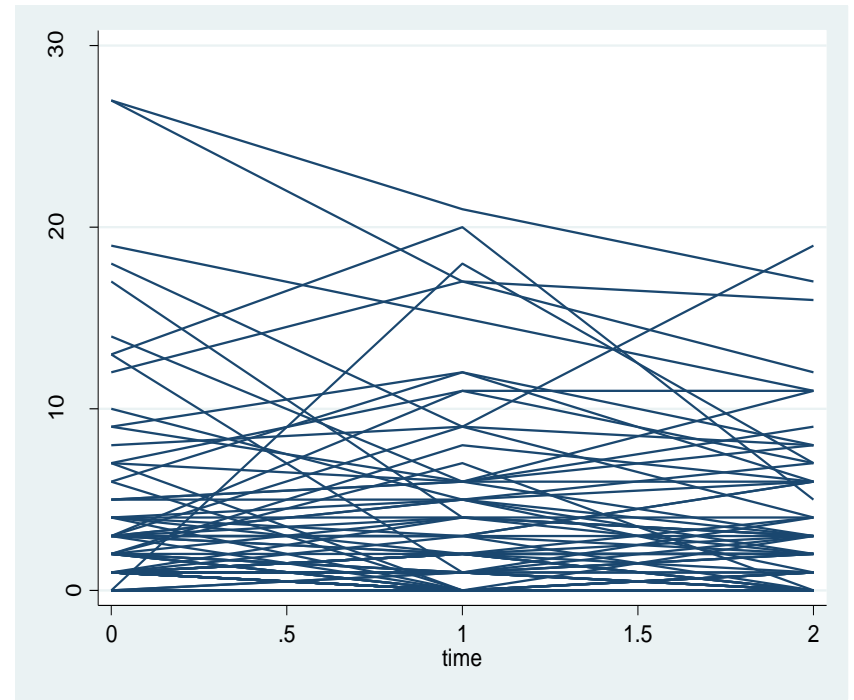
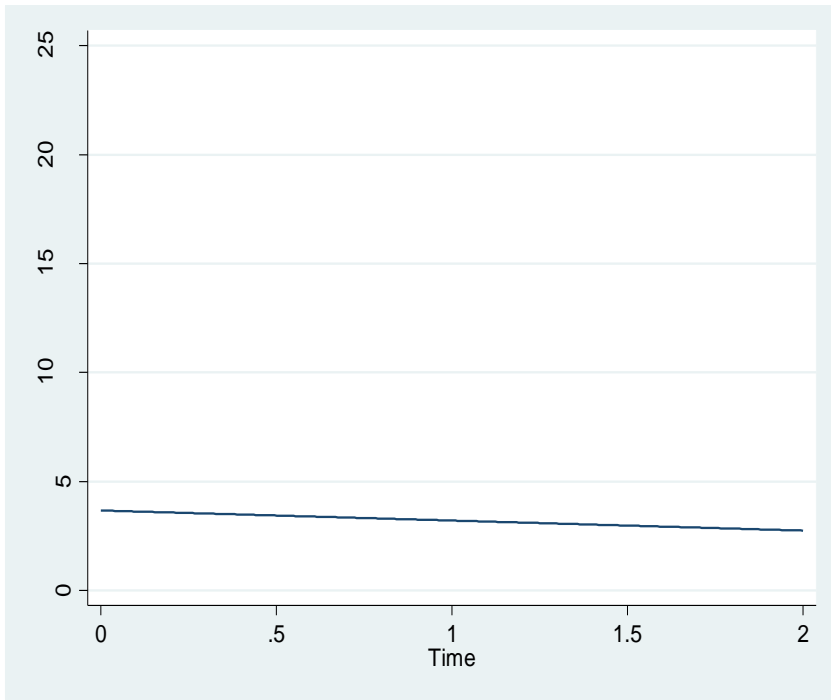


# LINEAR MIXED GROWTH MODEL



**General model**

# General trends



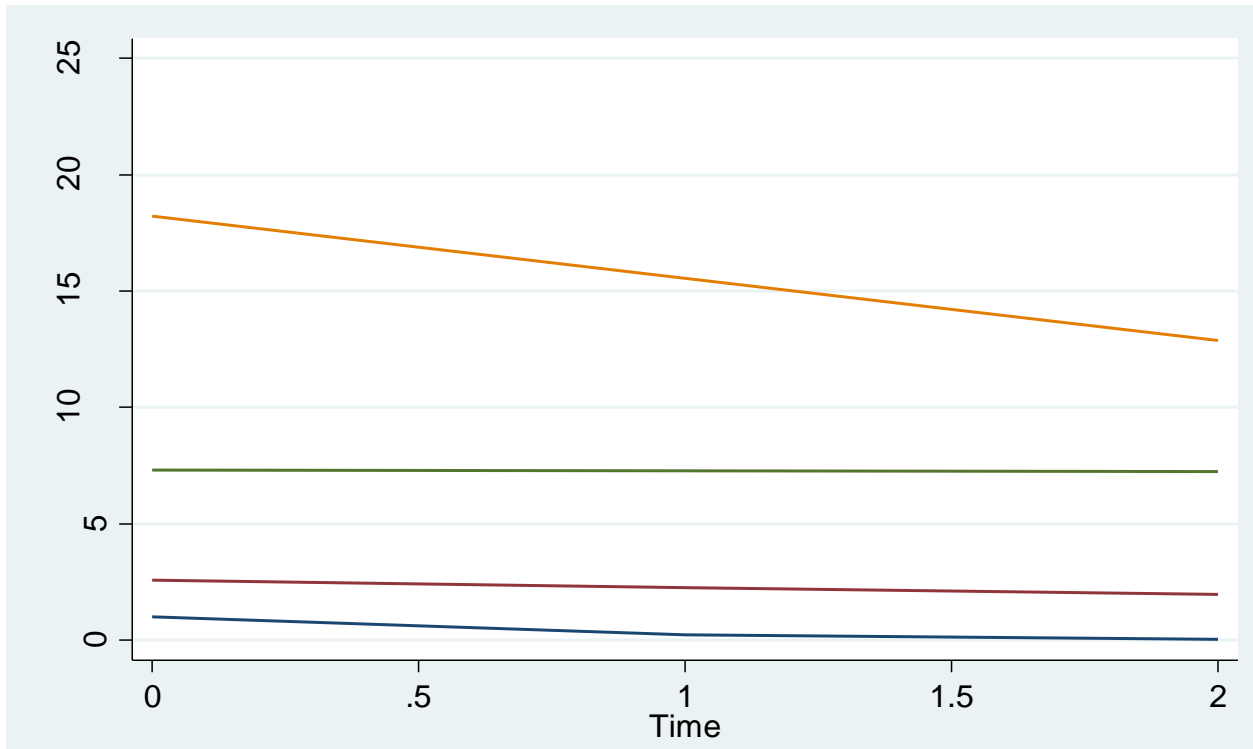
# NON PARAMETRIC LATENT GROWTH MIXED MODELS



**Predictive models**

*General trends*

# General trends



Problem gamblers

Moderate-risk gamblers

Low-risk gamblers

Non-problem gamblers

# NON PARAMETRIC LATENT GROWTH MIXED MODELS



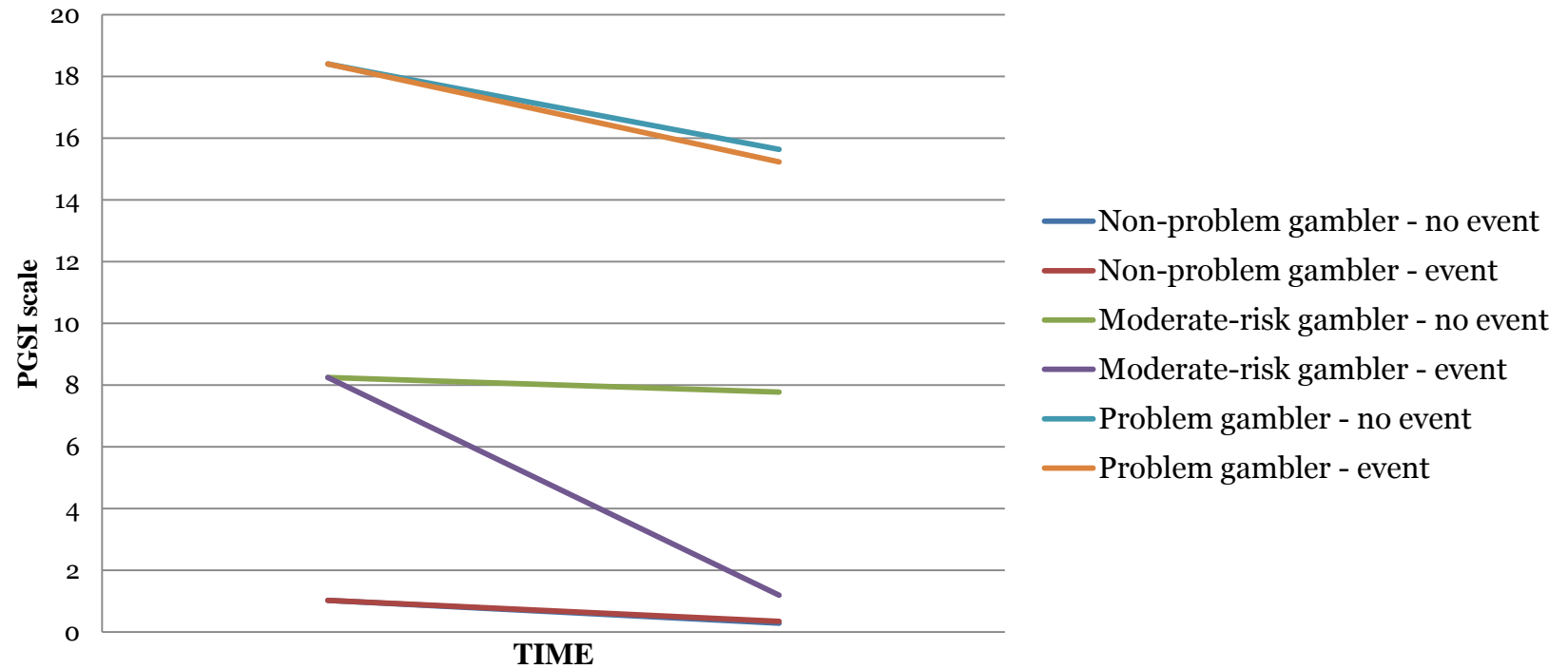
**Predictive models**

*Effect of life events*

# Effect of life events



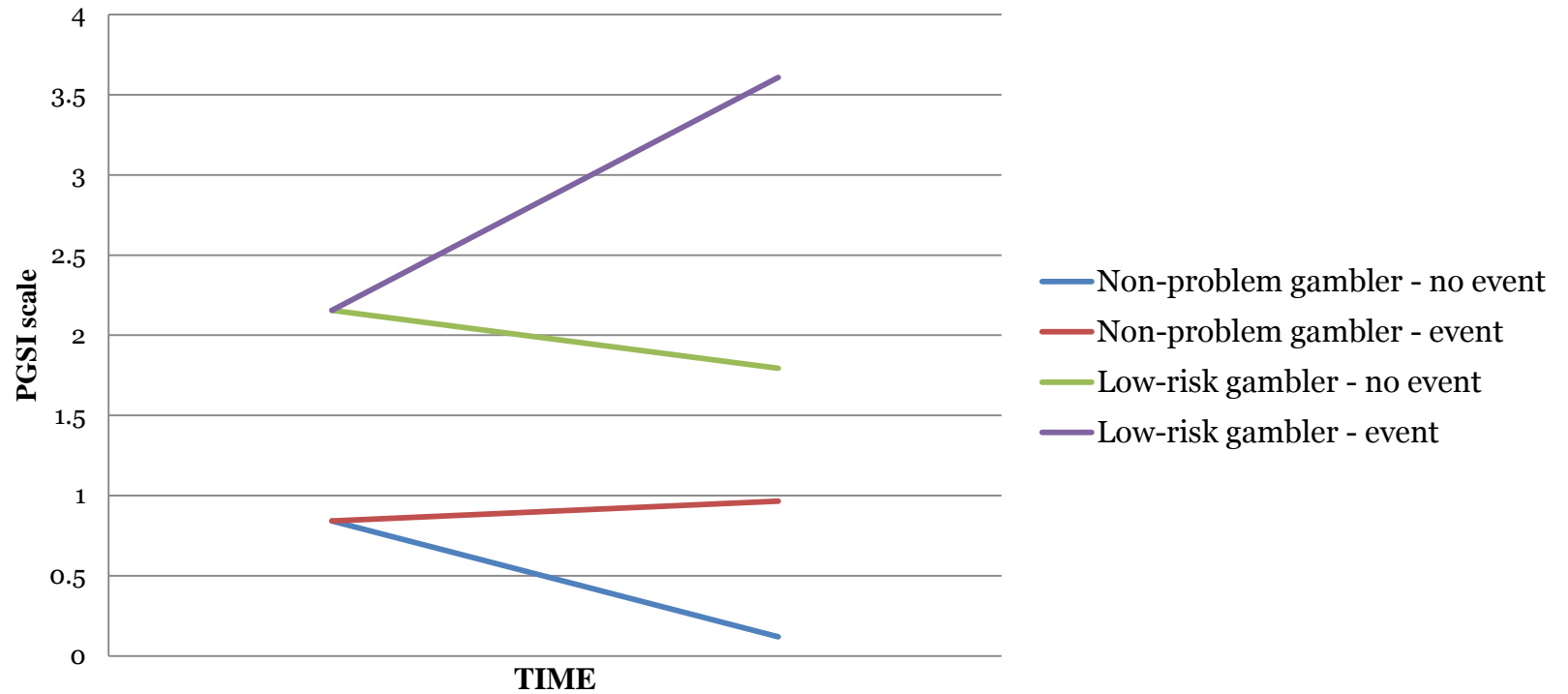
## *Child leaving home*



# Effect of life events



## *Change in frequency of arguments with partner*

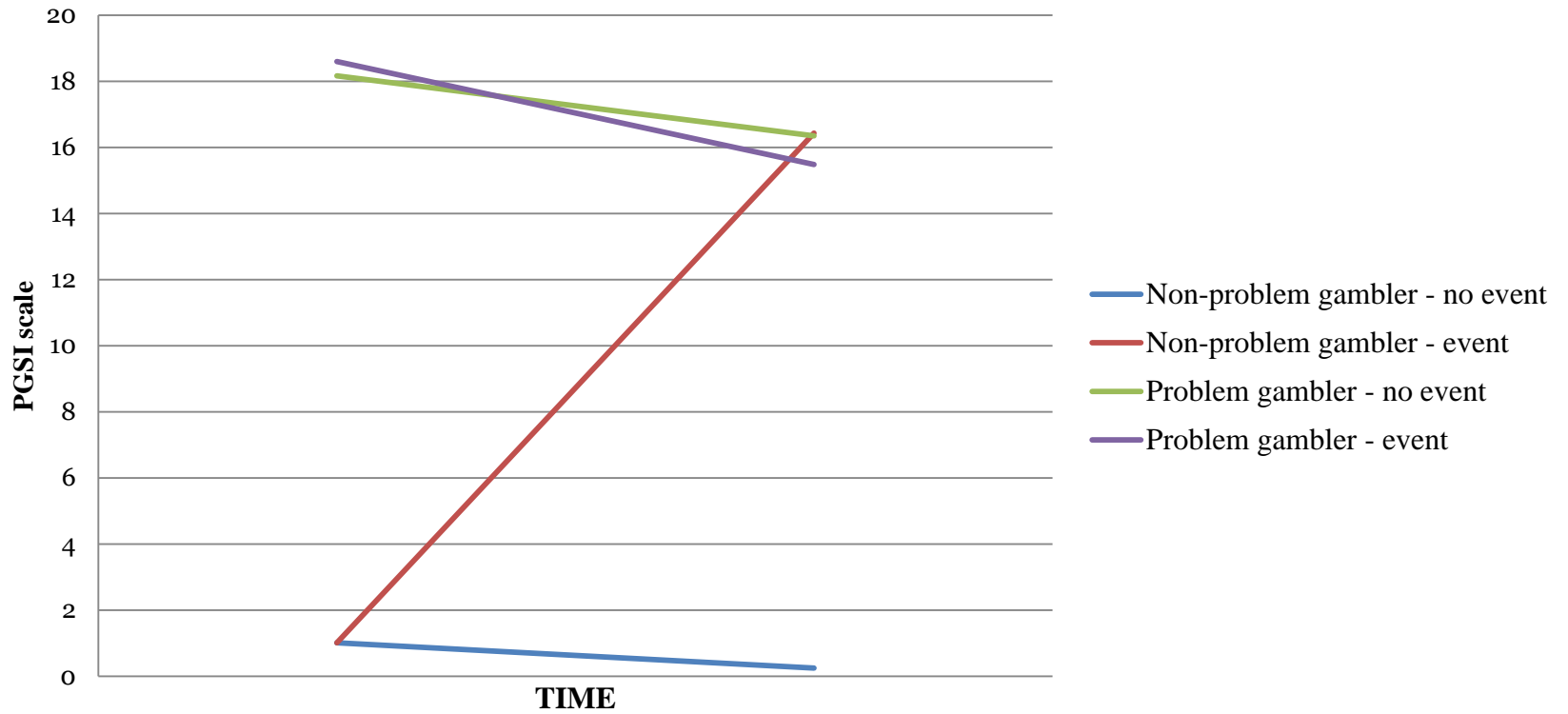




# Effect of life events



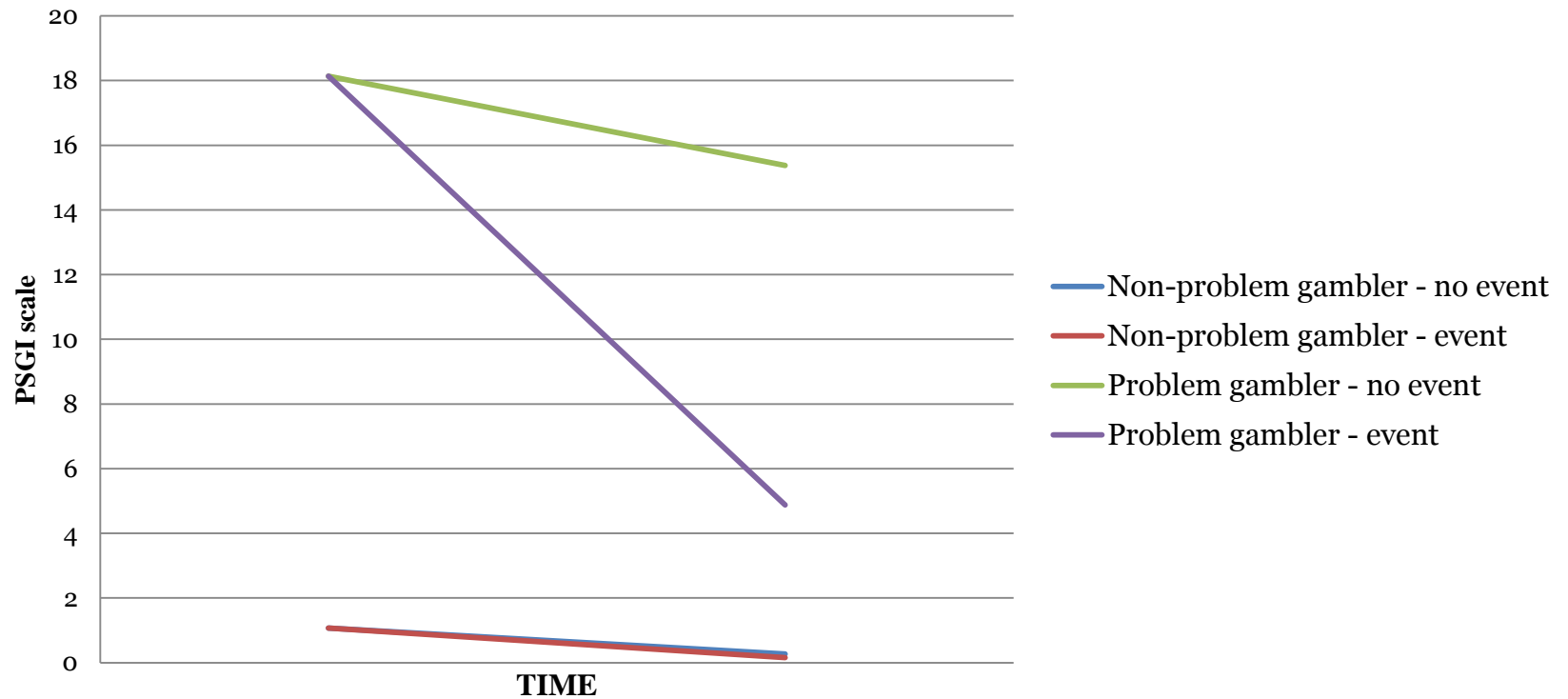
## *Death of spouse*



# Effect of life events



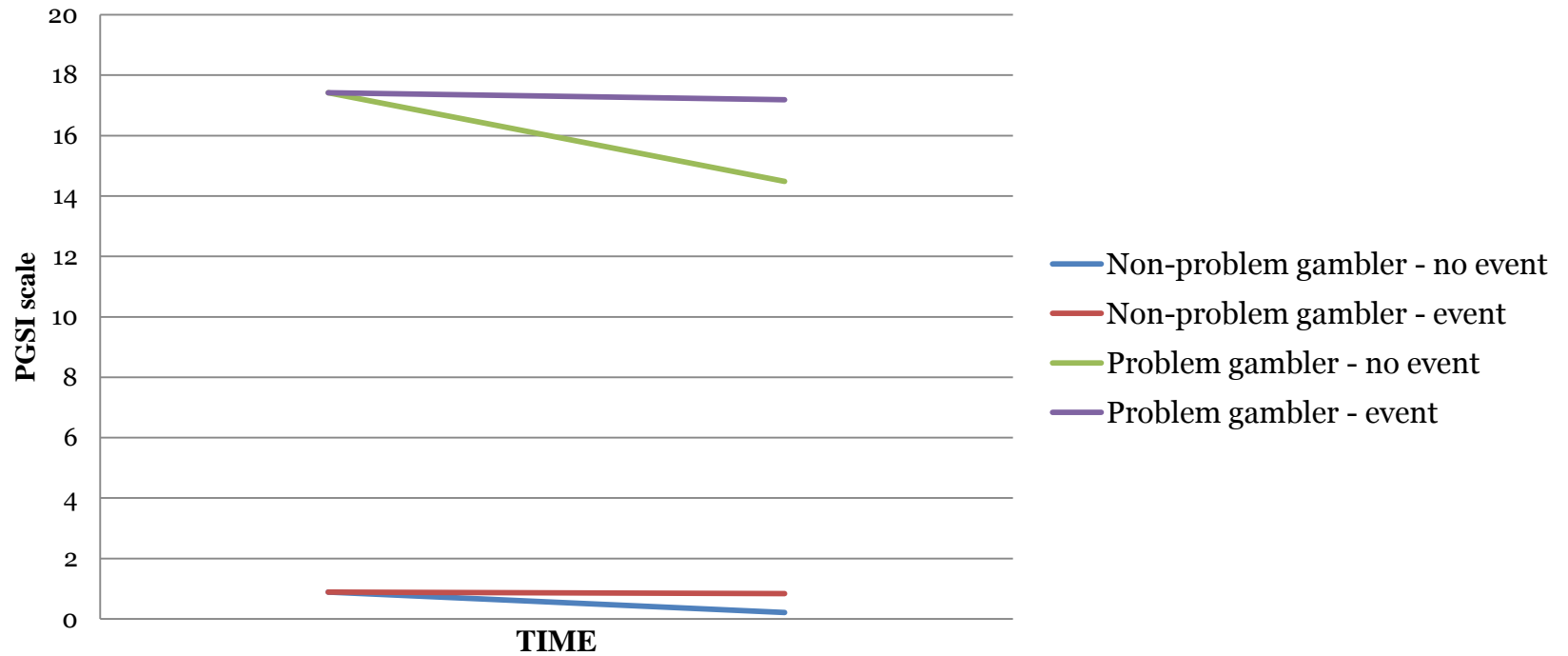
## *Major mortgage*



# Effect of life events



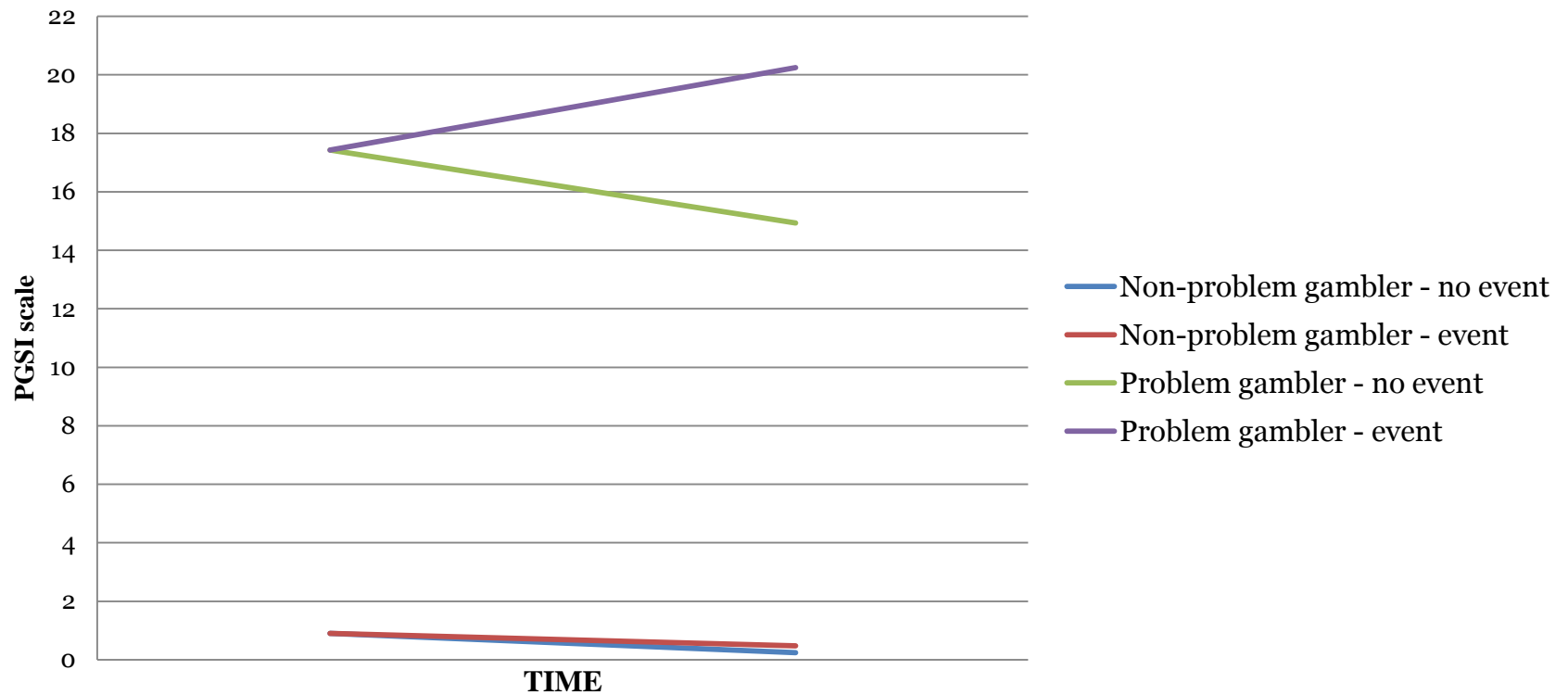
## *Trouble with boss*



# Effect of life events



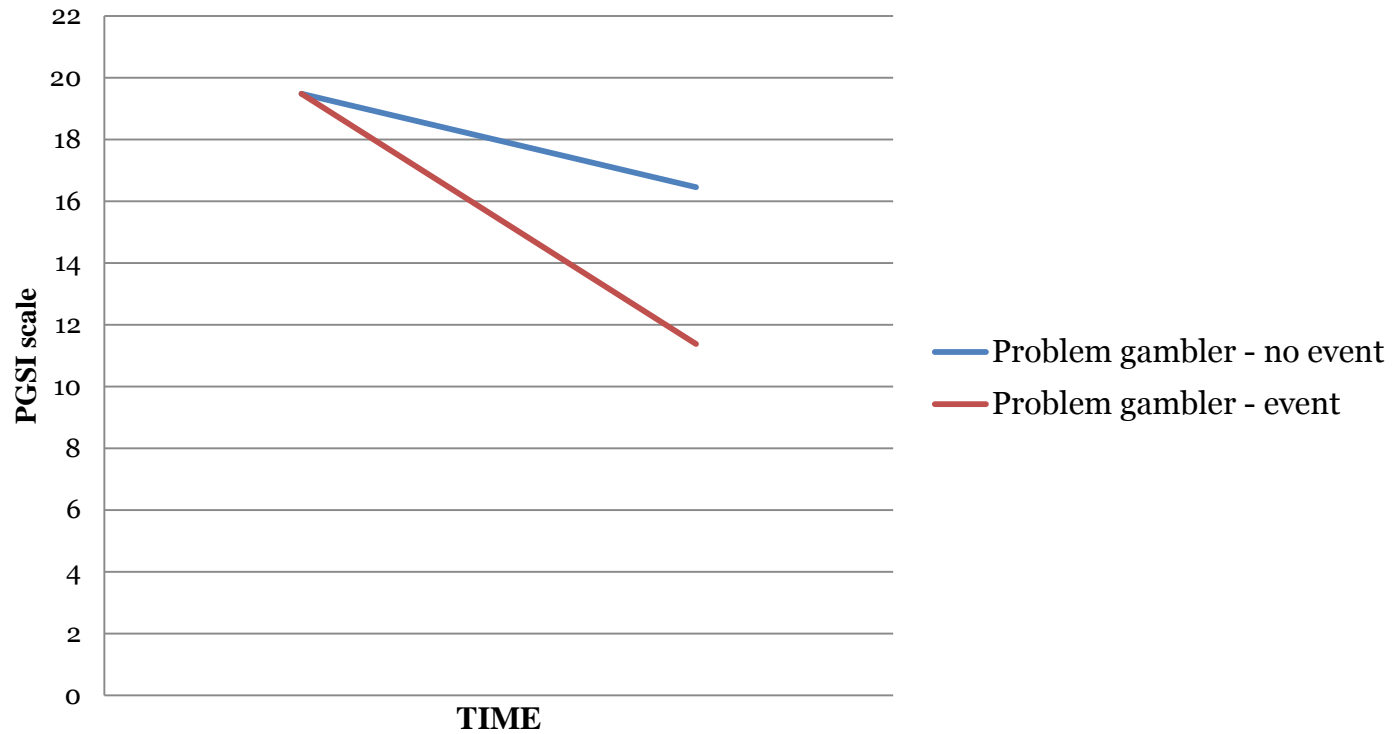
## *Outstanding personal achievement*



# Effect of life events



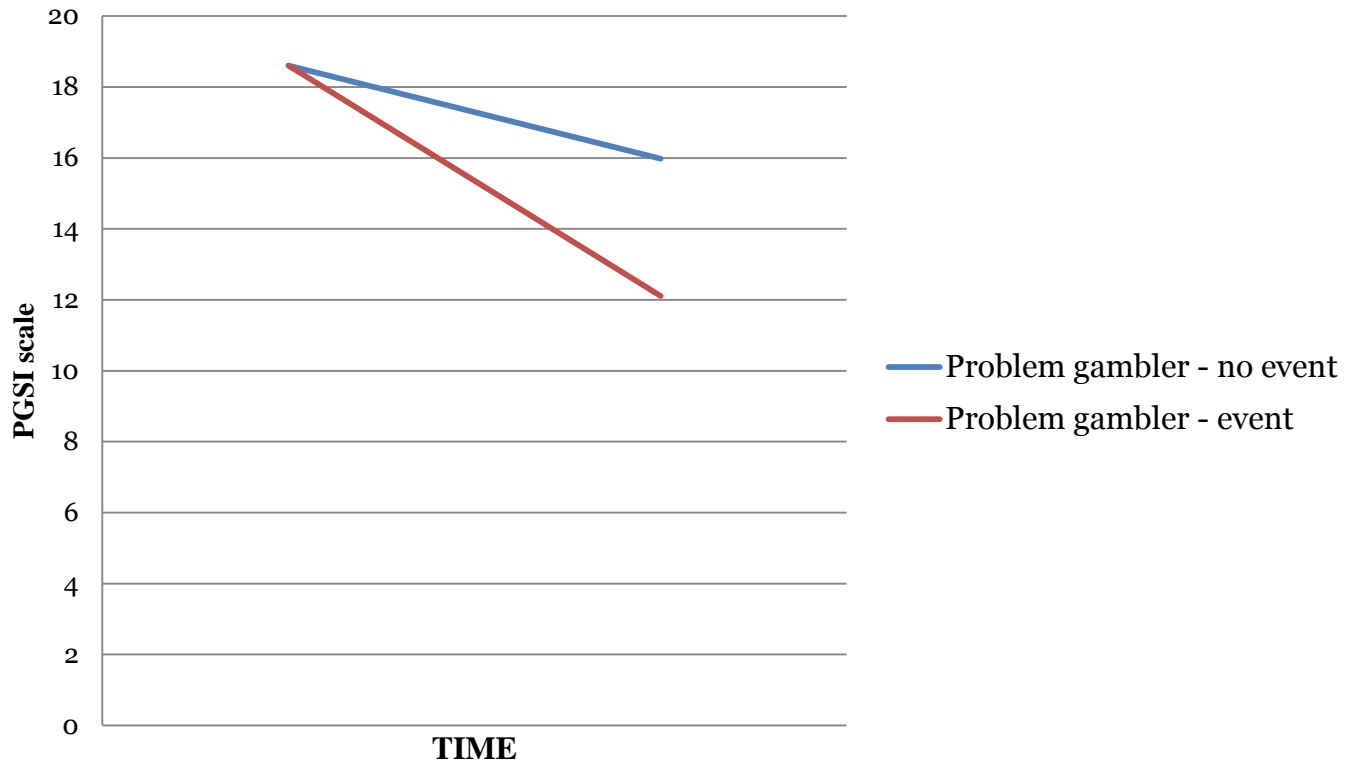
## *Minor violation of law*



# Effect of life events



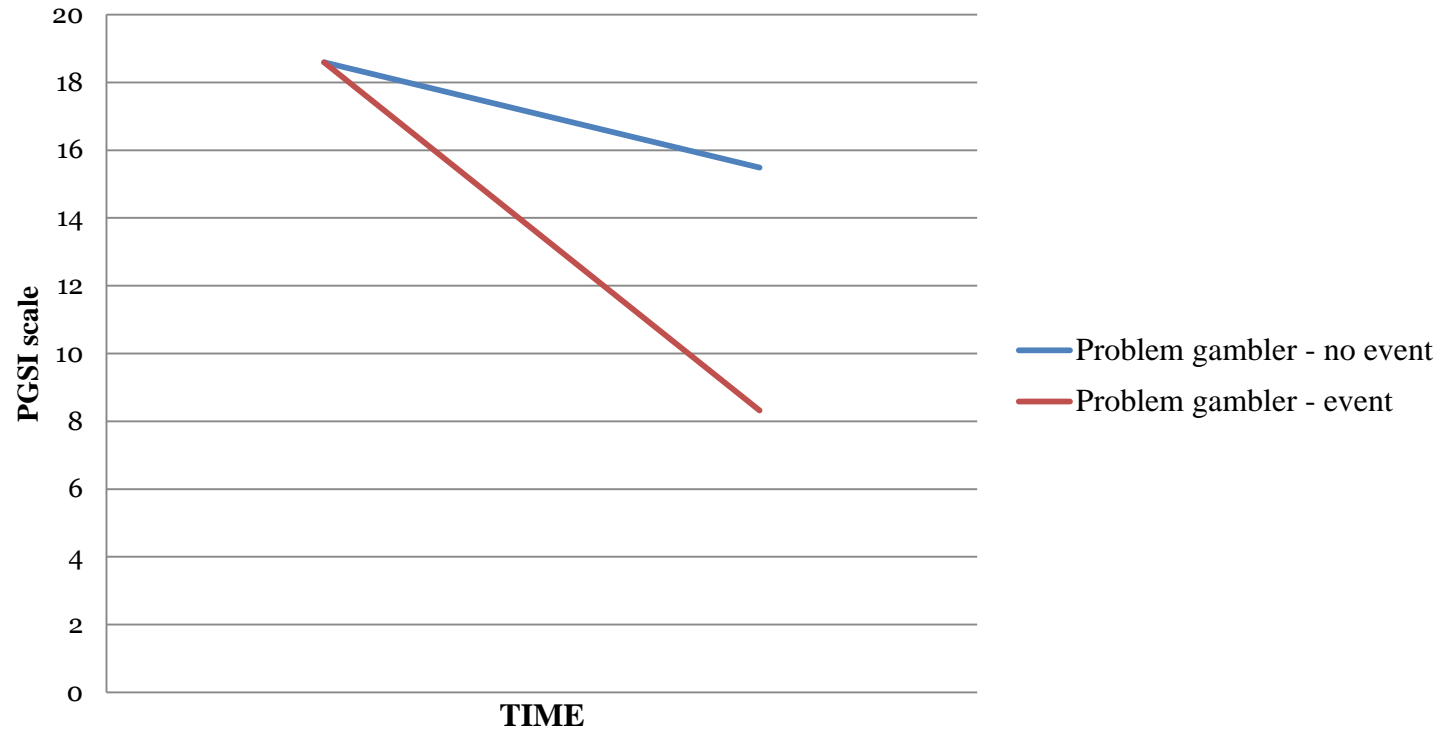
## *Gain a new family member*



# Effect of life events



## *Reconciliation with partner*



## In brief



- Some life events are associated with **INCREASE** in gambling severity over time
- Some life events are associated with **DECREASE** in gambling severity over time
- Some life events **OFFSET** the decrease in gambling severity over time
- The effect of life events is not the same for all the groups of gamblers



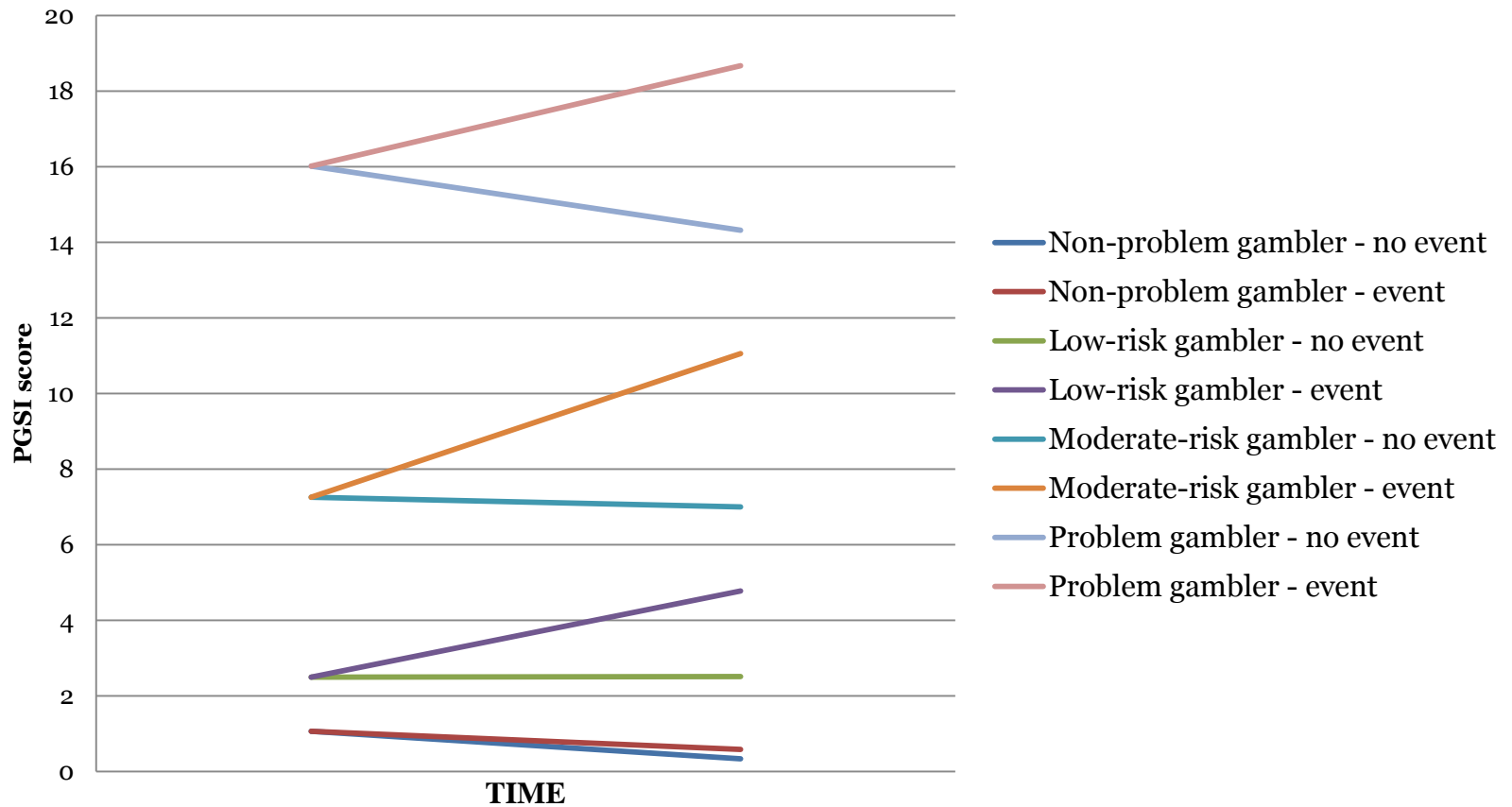
# NON PARAMETRIC LATENT GROWTH MIXED MODELS



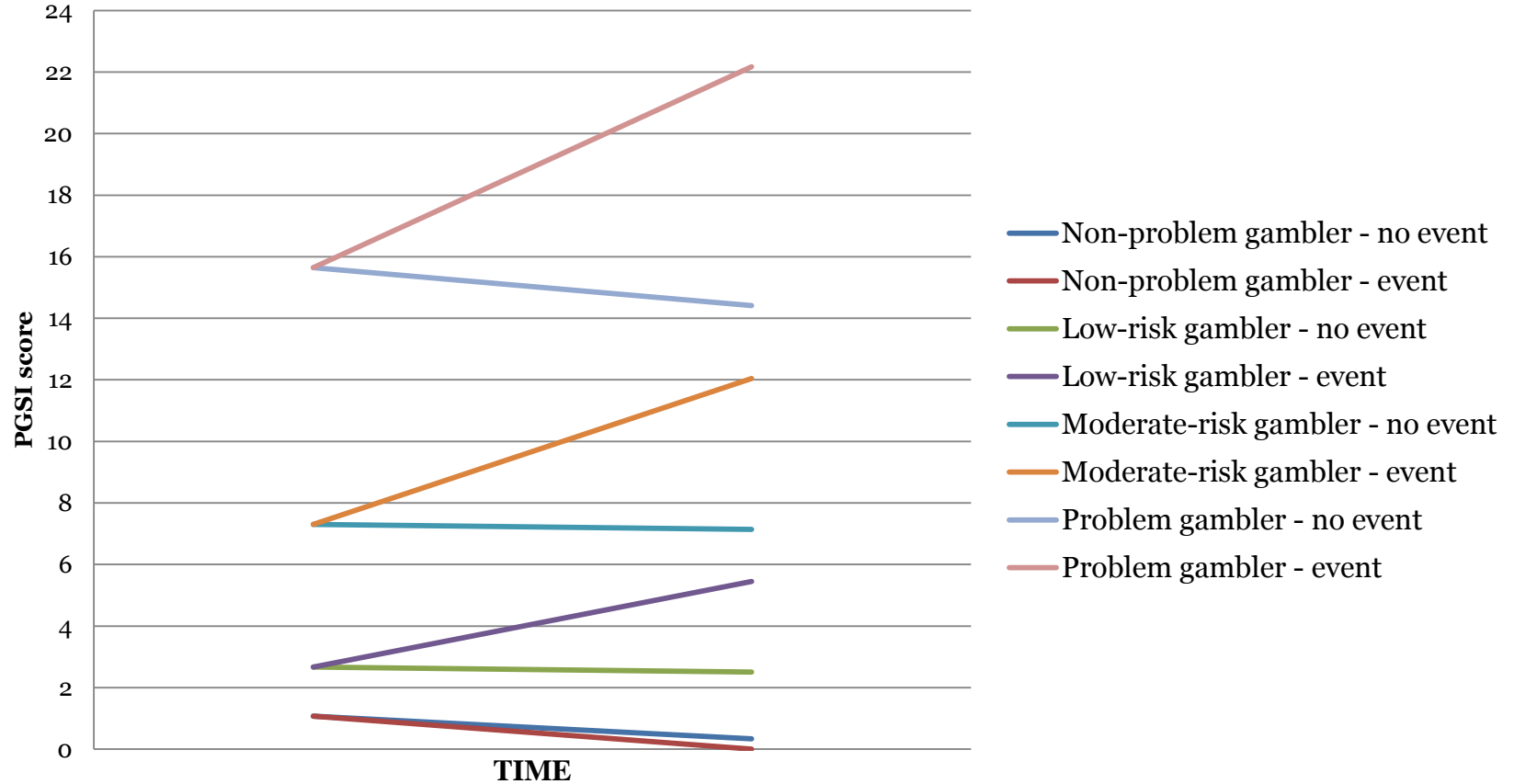
**Predictive models**

*Effect of help-seeking*

# Health professionals and support groups



# Treatment centres





# CONCLUSIONS

# Do gambling problems change over time??



Overall decreasing trends among all gamblers

# Do gambling problems change over time??



**There is a gradient in change...**

**Non-problem gamblers change the least**

Non gamblers and non problem gamblers seem more stable

(Wiebe, 2009; Winters, 2005);

# Do gambling problems change over time??



**There is a gradient in change...**

Moderate-risk gamblers move in both directions

# Do gambling problems change over time??



**There is a gradient in change...**

Problem gamblers showed the most decreasing change



# The bi-directionality of the at-risk



- Those who have become more severe request our attention
- The at risk are heterogeneous with:
  - Former problem gamblers who remain vulnerable
  - Stabilised at-risk that should consider safer practices
  - Recent onset that may move to less or more severe status

# Thinking prevention



- One size does not fit all:
  - The level of vulnerability varies across the groups and intervention may want to take that into account
- How can interventions increase remission without treatment?
- How can interventions help maintain remission?

# Conclusion



Stressful events and positive events  
are associated with change.

They may be turning points.

Social origins 'triggers' of gambling problems

# Acknowledgment



- Dr Catherine Paradis
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