

Concurrence of smoking and other
addictive behaviours:
is the whole greater than the sum of its parts?

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The issue of cooccurrence

- Tobacco use often **associated** with
 - Alcohol use/dependence
 - Illicit drug use/dependence
 - Gambling activities and problem gambling
- Recurrently observed association
 - Epidemiological studies
 - Clinical populations
- Trajectories studies
 - Alcohol and tobacco: entry points
 - Use of one substance increases risk to initiate another one

The relevance of cooccurrence

- Risk of **initiation** among youth:
 - Alcohol and cigarettes : risk is 2 times more elevated
 - The use of additional substance increases risk of initiating new substance


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- **Risk** for diseases:
 - Additional risk for disease incidence due to co-occurrence
 - Types of cancer (mouth and throat)
 - Smokers 7 times more likely
 - Drinkers 6 times more likely
 - Smokers and drinkers **38 times** more likely

The relevance of cooccurrence

- Risk of **initiation** among youth:
 - Alcohol and cigarettes : risk is 2 times more elevated
 - The use of additional substance increases risk of initiating new substance
- **Risk** for diseases:
 - Risk associated with tobacco use
 - Risk associated with other substance use
 - Additional risk for disease incidence due to co-occurrence
 - Types of cancer (mouth and throat)
 - Smokers 7 times more likely
 - Drinkers 6 times more likely
 - Smokers and drinkers 38 times more likely
- **Obstacles** for treatment
 - Cessation
 - 49% non-alcoholic persons succeed in stopping smoking
 - 7% of alcoholic persons
 - Motivation to stop smoking
 - Risk for relapse

The issue of co-occurrence: alternative hypotheses

- One precedes the other 
- Common underlying factors (loss of control, tolerance, withdrawal)

The issue of co-occurrence: alternative hypotheses

- One precedes the other
- Common underlying factors
- Unitary underlying mechanisms:
 - neurobiological mechanisms – cross-tolerance
 - Genetic factors
 - Psycho-social factors
 - Individual
 - Environmental



OBJECTIVES

- Determine a typology of substance users among youth
- Examine the influence of individual and milieu characteristics
 - Demographic characteristics
 - Family characteristics

THE STUDY

Ontario Students Drug Use Survey (OSDUS) 1999 - 2003

SAMPLES : **N = 1 495 (1999)** **N = 2 403 (2003)** **N_{total} = 3251**

Stratified samples (Schools, classes, respondents)
Response rate = 77%

Canadian Community Health Survey (CCHS, cycle 2.1) 2003

▪ **SAMPLE :** **N = 134 072 RESPONDENTS 12 YEARS AND UP**

Stratified sample (provinces, households, respondents)
Combined response rate = 80.7%

MEASURES

SUBSTANCE-RELATED RISKY BEHAVIOURS

SUBSTANCE USE

- «**Episodic heavy drinking**»
 - OSDUS (consumption 5+ / occasion at least once / LAST FOUR WEEKS)
 - ESCC (consumption 5+ / occasion at least once a month / LAST 12 MONTHS)
- **Cannabis use** (12 MONTHS)
- **Daily smoking** (12 MONTHS)

PROBLEM GAMBLING

- **South Oaks Gambling Scale – Revised for Adolescents (SOGS-RA)**
 - Non-problem gamblers / at-risk gamblers (score between 0 à 3)
 - Problem gamblers (score \geq 4)

MEASURES

INDIVIDUAL PREDICTORS

▪ DEMOGRAPHIC VARIABLES

▪ Gender

▪ Age

Continuous

▪ Family structure

Bi-parental / Single-parent

▪ Parents' level of education

Highest level of education of one of the parents
(primary to university degree completed)

▪ Self-esteem

Rosenberg scale

MEASURES

FAMILY CHARACTERISTICS

PARENTAL PRACTICES

▪ PERCEPTION OF THE QUALITY OF RELATIONSHIP WITH PARENTS

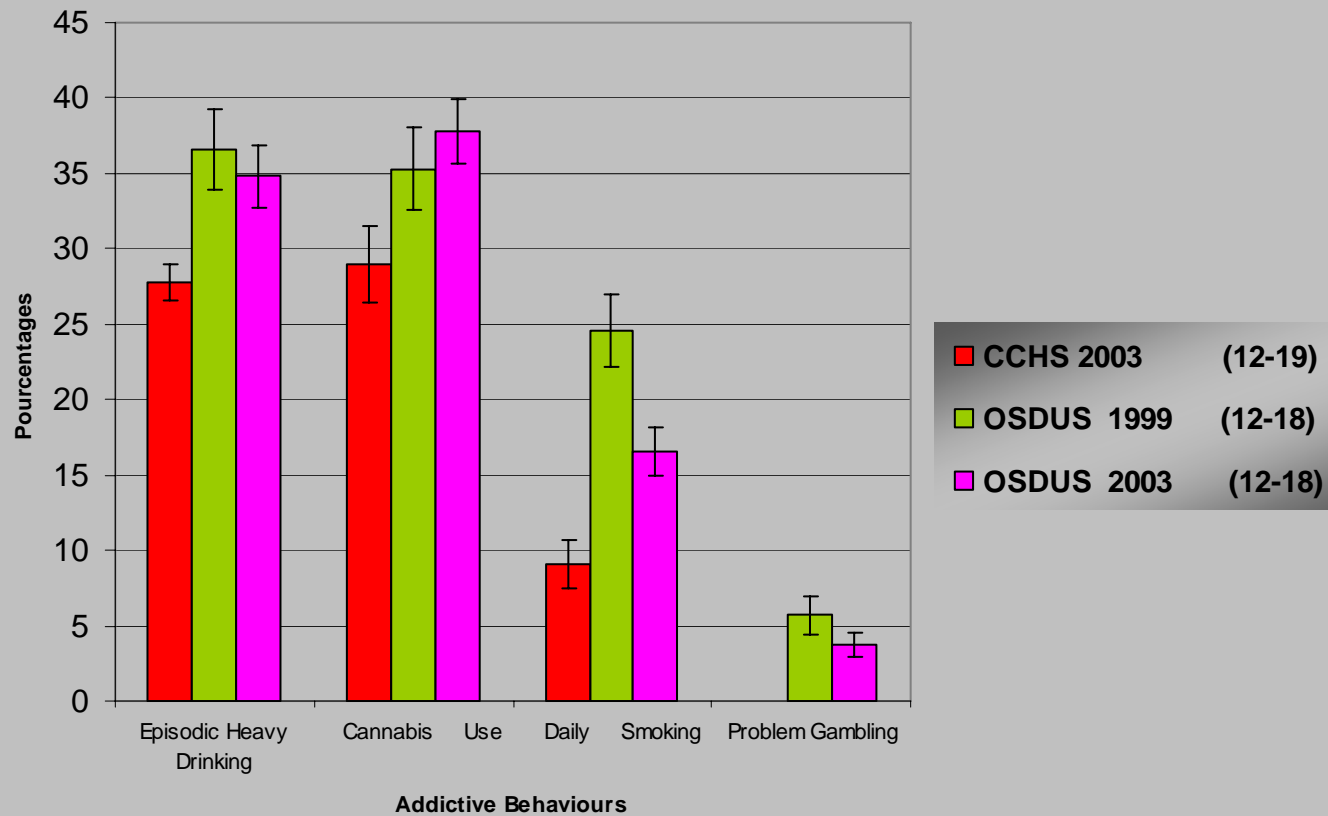
- Quality of relation
- Importance of relation
- Feeling of proximity with mother
- Feeling of proximity with father

▪ PARENTAL SUPERVISION

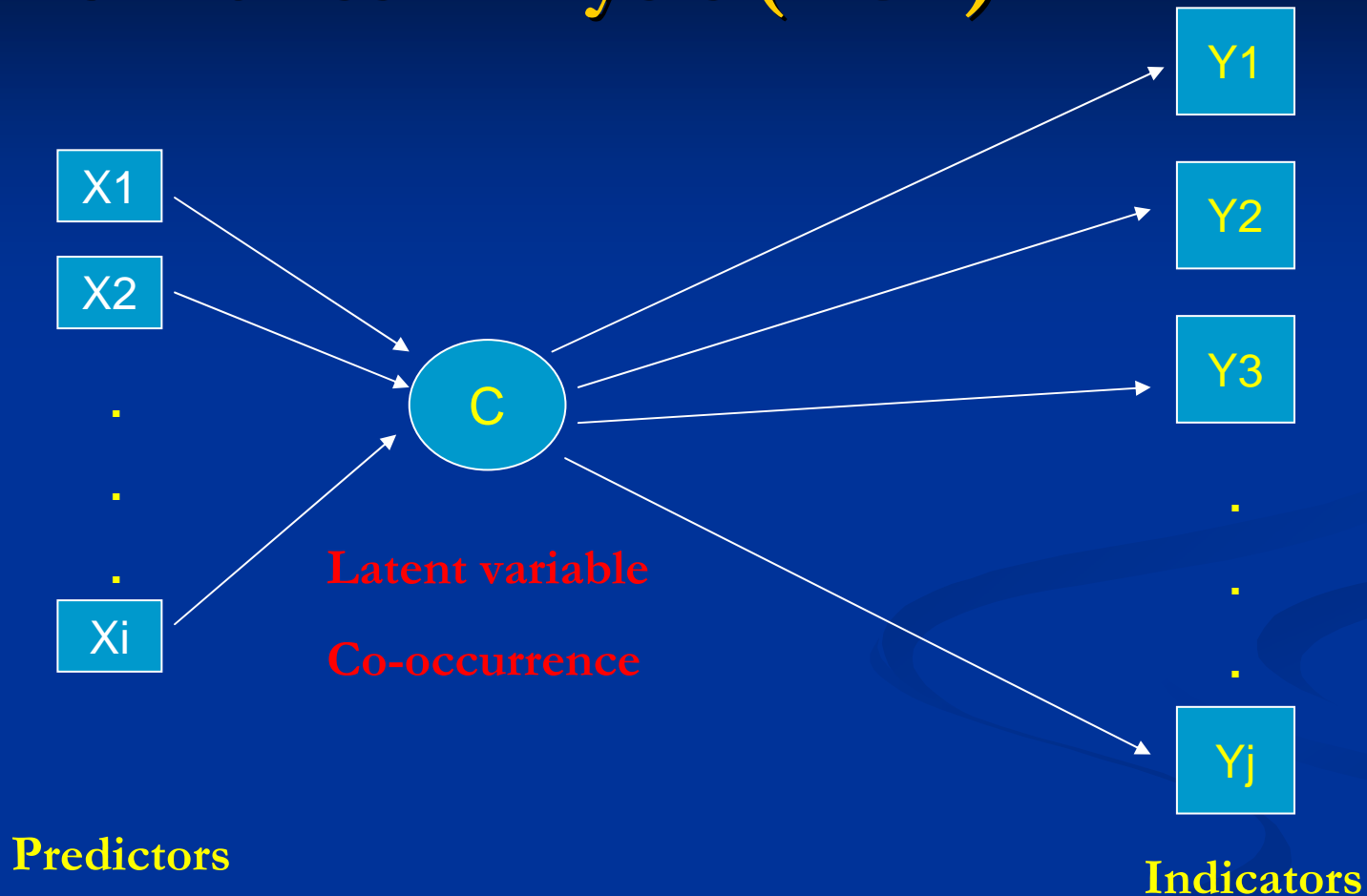
In your free time away from home does your mother or father know where you are?

RESULTS

Prevalence of Addictive Behaviours among 12-19 years-old in Canada and Ontario



Latent class analysis (LCA)

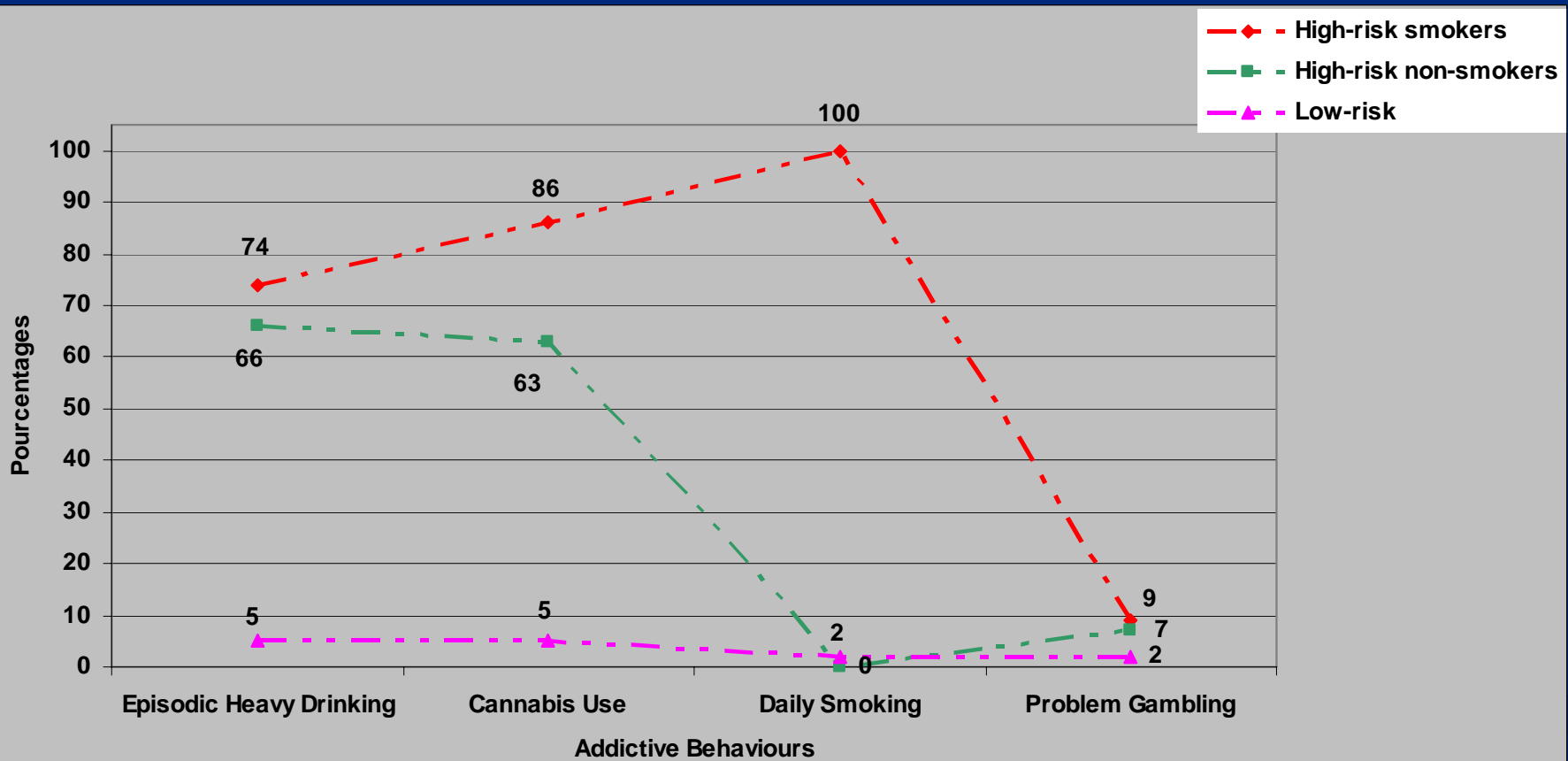


- Profile identification
- Membership prediction

Consumption profiles among youth 12-18

VARIABLES	PROFILES		
	High risk smokers	High risk non-smokers	Low risk
	%	%	%
Episodic Heavy Drinking	74	66	5
Cannabis Use	86	63	5
Daily Smoking	100	0	2
Problem Gambling	9	7	2
Class size	604	930	1709
% of sample	19%	29%	53%

Consumption profiles among youth 12-18



Consumption profiles among youth 12-18

	Profiles			
	High risk smokers		High risk non-smokers	
	OR	95%CI	OR	95%CI
Year 1999	1.23	0.98-1.55	0.63	0.48-0.81
Boys	1.09	0.86-1.37	1.61	1.26-2.07
Age	1.49	1.36-1.63	1.47	1.36-1.61
Bi-parental families	0.53	0.38-0.75	0.48	0.34-0.68
Highest level of education of parents	0.87	0.82-0.93	0.90	0.84-0.96
Parental supervision	0.34	0.28-0.41	0.38	0.32-0.46
Quality of relationship with parents	0.75	0.64-0.88	0.78	0.66-0.92
Self-esteem	0.97	0.95-0.99	1.03	1.01-1.06

MAIN CONCLUSIONS

- Substance use and abuse remain at elevated (i.e. alarming) levels among youth
 - **35.5 %** reported at least **one episode of intoxication** over the last month
 - **37 %** have used **cannabis in the last year**
 - **20 %** are **daily smokers**
 - **4.4 %** are **problem gamblers**
- Addictive behaviours are present concurrently
 - approximately **37%** of youth **REPORTED MORE THAN ONE** addictive behaviour

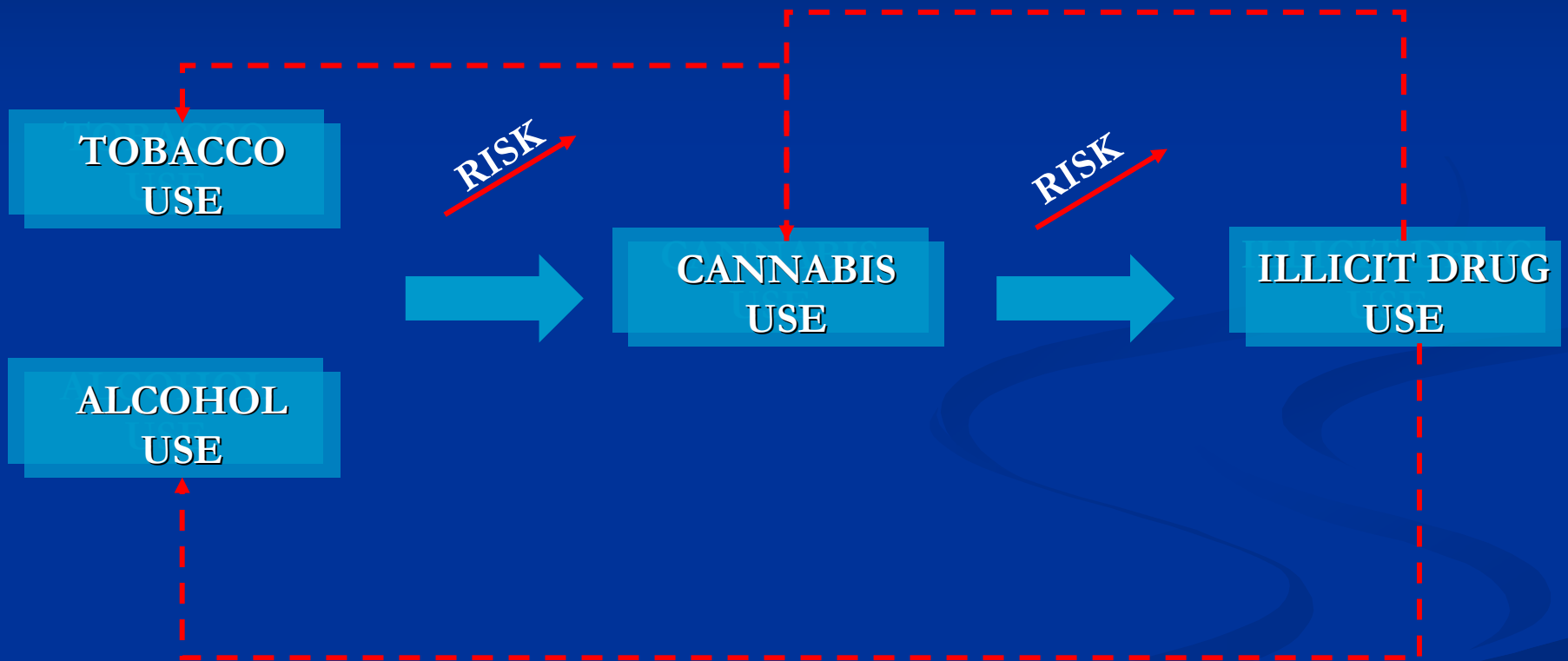
CONCLUDING REMARKS

- **Addictive behaviours and cooccurrence : Major public health concern**
 - **Cooccurrence : a distinct component**
- **Intervention models :**
 - **Integrative - encompassing more than one substance**
 - **Ecological - extended to significant environments
family/schools/community**
- **Healthy schools approach**

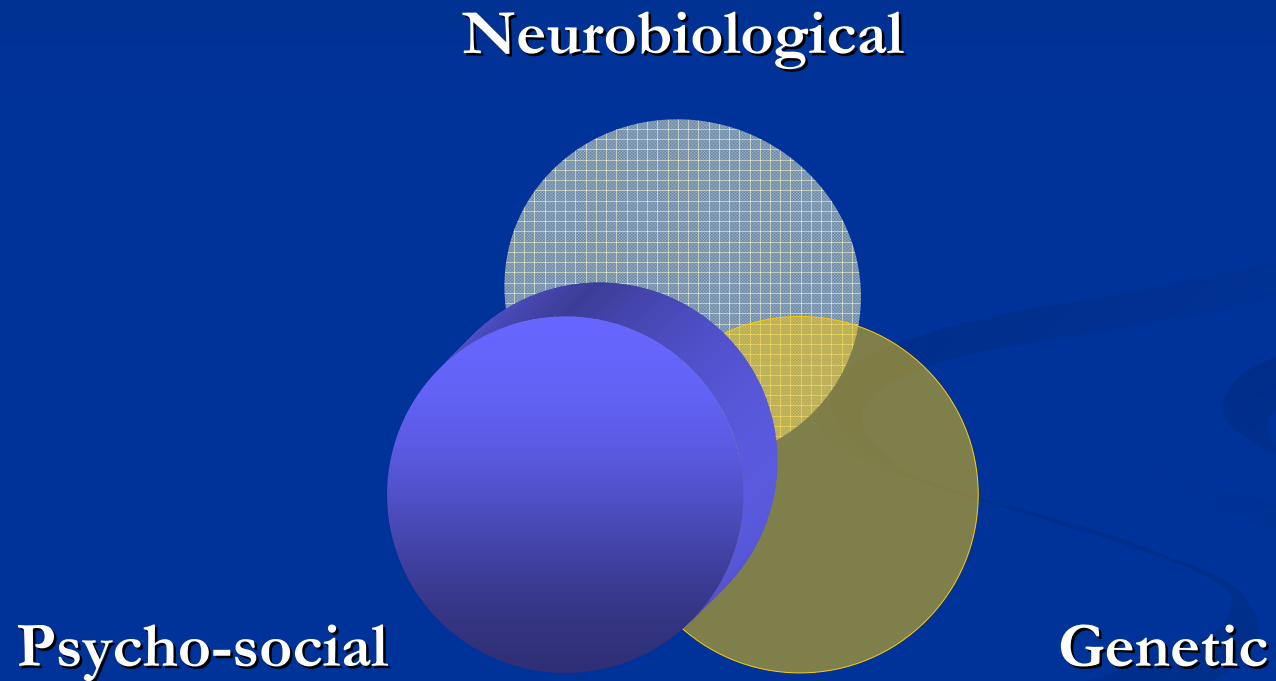
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Co-occurrence : sequential association



Co-occurrence : unitary underlying mechanisms



Multi-level determinants of health-related behaviours

COLLECTIVE LIFESTYLE

