

Other Psychotic Disorders

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Psychosis

- **“A break with reality”**
 - Hallucinations
 - Delusions
 - Disorganized speech and thinking

Psychosis

- “Negative Symptoms”
 - blunted affect
 - decreased motivation and self care

Hallucinations

- **False sensory experiences (5+1)**
 - auditory
 - visual
 - somatic
 - olfactory
 - gustatory
 - +1: coenaesthopathy

Delusions

- Fixed false belief, e.g.
 - persecutory
 - grandiosity
 - jealousy
 - somatic
 - bizarre

TABLE 1. Types of Delusions Reported by 1,136 Acutely Hospitalized Psychiatric Patients^a

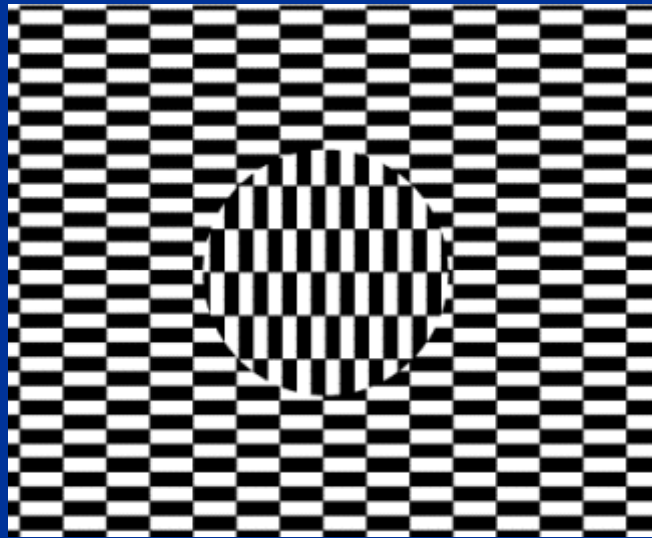
Type of Delusion	N	Percent of Delusional Patients (N=328)	Percent of Delusional Patients for Whom Delusion Was Most Important (N=317)
None	808		
Persecutory	257	78.4	51.1
Body/mind control	195	59.5	26.5
Grandiose	141	43.0	23.0
Thought broadcasting	115	35.1	6.0
Religious	93	28.4	18.0
Guilt	32	9.8	2.2
Somatic	30	9.1	1.9
Influence on others	4	1.2	0.9
Jealousy	2	0.6	0.3
Other ^b	87	26.5	8.8

^a Percentages total more than 100% because subjects could be rated as having multiple delusions, and each delusion could be rated as being of more than one type.

^b Includes delusion of hearing other people's thoughts and delusions of reference.

Illusions

- Misinterpretation of stimulus



Ouchi Illusion

Prevalence of Psychotic Disorder and Community Level of Psychotic Symptoms

An Urban-Rural Comparison

Jim van Os, MD, PhD, MRCPsych; Manon Hanssen, MA; Rob V. Bijl, MA, PhD; Wilma Vollebergh, MA,



Jim van Os, Maastricht

Background: Urban and rural populations have different rates of psychotic illness. If psychosis exists as a continuous phenotype in nature, urban-rural population differences in the rate of psychotic disorder should be accompanied by similar differences in the rate of abnormal mental states characterized by psychotic or psychosislike symptoms.

Methods: A random sample of 7076 individuals aged 18 to 64 years were interviewed by trained lay interviewers with the Composite International Diagnostic Interview. Approximately half of those with evidence of psychosis according to the Composite International Diagnostic Interview were additionally interviewed by clinicians. We investigated associations between a 5-level urbanicity rating and (1) any *DSM-III-R* diagnosis of psychotic disorder (sample prevalence, 1.5%), (2) any rating of hallucinations and/or delusions (sample prevalence, 4.2%), and (3) any rating of psychotic or psychosislike symptoms (sample prevalence, 17.5%).

Results: Level of urbanicity was associated not only with *DSM-III-R* psychotic disorder (adjusted odds ratio [OR] over 5 levels, 1.47; 95% confidence interval [CI], 1.25-1.72), but also, independently, with any rating of delusion and/or hallucination (adjusted OR, 1.28; 95% CI, 1.17-1.40; clinician-assessed psychotic symptoms only: OR, 1.30; 95% CI, 1.03-1.64) and any rating of psychosislike symptom (adjusted OR, 1.18; 95% CI, 1.13-1.24). Psychotic symptoms were strongly and independently associated with psychotic disorder, regardless of the level of urbanization.

Conclusions: Community level of psychotic and psychosislike symptoms may be inextricably linked to the prevalence of psychotic disorder. The prevalence of abnormal mental states that facilitate development to overt psychotic illness increases progressively with level of urbanization.

Arch Gen Psychiatry. 2001;58:663-668

Table 1. Sample Prevalences of Psychotic Disorder and Narrowly and Broadly Defined Psychotic Symptoms in Relation to Urbanicity*

Area Address Density/km ²	No. Interviewed	Psychotic Symptoms					
		Any Psychotic Disorder		Narrow Definition†		Broad Definition†	
		No. (%)	OR (95% CI)	No. (%)	OR (95% CI)	No. (%)	OR (95% CI)
<500	1185	7 (0.59)	1‡	28 (2.36)	1‡	163 (13.76)	1‡
500-999	1610	15 (0.93)	1.58 (0.64-3.89)	45 (2.80)	1.19 (0.74-1.92)	223 (13.85)	1.01 (0.81-1.25)
1000-1499	1541	23 (1.49)	2.55 (1.09-5.96)	69 (4.48)	1.94 (1.24-3.03)	262 (17.00)	1.28 (1.04-1.59)
1500-2499	1497	28 (1.87)	3.21 (1.40-7.37)	82 (5.48)	2.40 (1.55-3.70)	303 (20.24)	1.59 (1.29-1.96)
≥2500	1242	34 (2.74)	4.74 (2.09-10.73)	71 (5.72)	2.51 (1.61-3.91)	286 (23.03)	1.88 (1.52-2.32)
OR linear trend§		1.44 (1.24-1.68), <i>P</i> <.001		1.28 (1.17-1.40), <i>P</i> <.001		1.19 (1.14-1.25), <i>P</i> <.001	
Adjusted OR linear trend		1.47 (1.25-1.72), <i>P</i> <.001		1.28 (1.17-1.40), <i>P</i> <.001		1.18 (1.13-1.24), <i>P</i> <.001	
Adjusted OR with nonoverlapping outcomes¶		NA		1.19 (1.06-1.32), <i>P</i> = .002		1.16 (1.10-1.22), <i>P</i> <.001	

*OR indicates odds ratio; CI, confidence interval; and NA, not applicable.

†For explanation see the "Psychosis Ratings" subsection of the "Subjects and Methods" section.

‡Reference category.

§The summary increase in risk with 1-unit change in address density.

||For explanation see the "Data Analyses" subsection of the "Subjects and Methods" section.

¶Adjusted as above, and excluding individuals with any psychotic disorder from the analysis with narrow psychotic symptoms, and excluding individuals with any psychotic disorder and narrow psychotic symptoms from the analysis with broad psychotic symptoms.

ODDS RATIO

Definition in terms of group-wise odds

http://en.wikipedia.org/wiki/Odds_ratio#Definition_in_terms_of_group-wise_odds

- The odds ratio is the ratio of the odds of an event occurring in one group to the odds of it occurring in another group, or to a sample-based estimate of that ratio. These groups might be men and women, an experimental group and a control group, or any other dichotomous classification

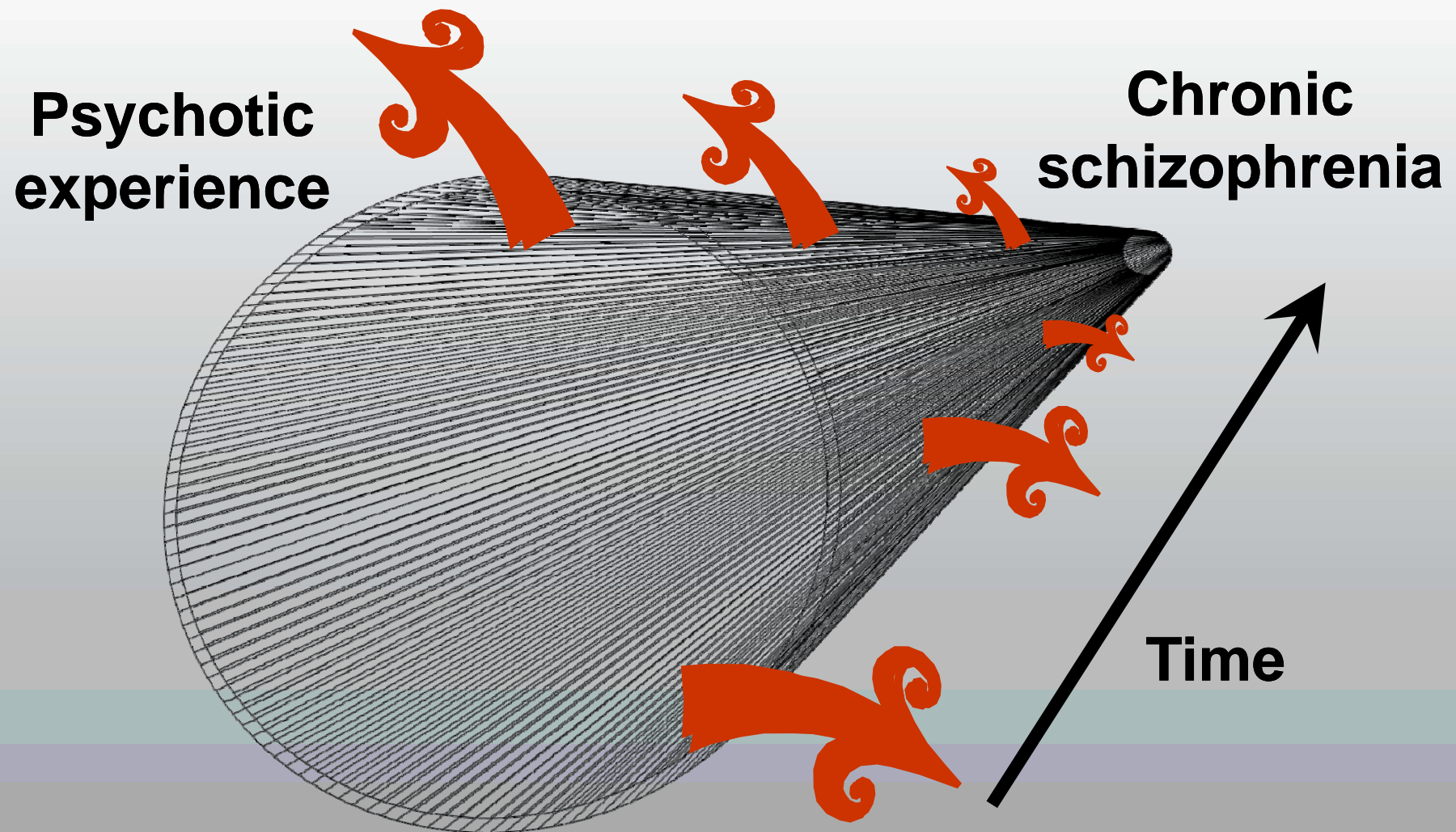
ODDS RATIO: EXAMPLE

http://en.wikipedia.org/wiki/Odds_ratio#Example

- Suppose that in a sample of 100 men, 90 have drunk wine in the previous week,
- while in a sample of 100 women only 20 have drunk wine in the same period.
- The odds of a man drinking wine are 90 to 10, or 9:1,
- while the odds of a woman drinking wine are only 20 to 80, or $1:4 = 0.25:1$.
- The odds ratio is thus $9/0.25$, or 36, showing that men are much more likely to drink wine than women.

For discussion: problem of rare events (e.g. 1 out of 1000 and 2 out of 1000)

Psychosis reduction of plasticity?



Psychosis

- **Symptom versus syndrome**
- **Non specific to any particular disorder**
- **A wide differential**
 - medical / neurological
 - drugs of abuse
 - psychiatric disorders
 - very rare: factitious disorder/ malingering

Operationally Defined Diagnostic Criteria

- * International Classification of Diseases
(ICD-10) instituted by WHO**
 - program of standardization of diagnosis and classification
 - internationally applicable assessment instruments
- * Diagnostic and Statistical Manual of Mental
Disorders (DSM-IV)**
by the American Psychiatric Association

ICD 10: Categories of Psychosis

- Schizophrenia
- Schizotypal Disorder
- Persistent Delusional Disorders
- Acute and Transient Psychotic Disorders
- Induced Delusional Disorder
- Schizoaffective Disorders
- Other Nonorganic Psychotic Disorders

DSM IV: Categories of Psychosis

- Schizophrenia
- Brief Psychotic Disorder
- Schizophreniform Disorder
- Schizoaffective Disorder
- Delusional Disorder
- Shared Psychotic Disorder
- Psychotic Disorder due to a General Medical Condition
- Substance-induced Psychotic Disorder
- Psychotic Disorder Not Otherwise Specified

OTHER MENTAL DISORDERS WHICH PRESENT WITH PSYCHOSIS

- **Mood disorder with psychotic features**
 - Very common with severe mood disorders
- **Dementia with psychotic features**
 - Delusional disorders are quite common
 - Hallucinations also are quite common

Brief psychotic disorder

- Symptoms for at least 1 day, no more than 1 month
- Can have postpartum onset

Schizophreniform disorder

- Symptoms for at least 1 month but less than 6 months

Schizoaffective disorder

- **Uninterrupted period of illness**
- **Major Depressive Episode, a Manic Episode or a Mixed episode with concurrent psychotic symptoms**
- **In the same period, there have been 2 weeks of delusions/hallucinations without mood symptoms**
- **Bipolar type, Depressive type**

Delusional disorder I.

- Well-systematized, encapsulated, non-bizarre delusions lasting for at least 1 month involving situations that occur in real life (non bizarre)
- Well-preserved personality
- Absence of hallucinations
- No mental deterioration
- Middle aged married women,
- Erotomantic, grandiose, jealous, persecutory, somatic

Delusional Disorder II

- **Treatment:**
 - antipsychotics
 - support without collusion
- **Goal:**
 - function in community
 - do not act upon or discuss their delusions publicly

SHARED PSYCHOTIC DISORDER

- **Foile a deux**
 - Person develops delusion based on relationship with psychotic individual
 - Uncommon
 - Treatment:
 - Separation
 - Treat ill individual with medications/counselling

Shared Psychotic Disorder (Folie a Deux)

- Essential feature is a delusion that develops in an individual who is involved in a close relationship with another person (the inducer) who already has a Psychotic Disorder with prominent delusions. The individual comes to share the delusional beliefs of the primary case in whole or in part. Usually the inducer is dominant in the relationship and gradually imposes the delusional system on the more passive and initially healthy second person. If the relationship is disrupted, the delusions generally disappear.
- Uncommon
- Treatment:

Separation

**Treat ill individual with:
medications/counselling**

PSYCHOTIC DISORDERS DUE TO GENERAL MEDICAL CONDITION

- **Medical conditions**

- **Neurological conditions**

- Stroke**

- Epilepsy (temporal lobe)**

- Huntington's/Pick's disease**

- Alzheimer's disease**

- Multi-infarct dementia**

- Leukoencephalopathies**

- **Progressive multifocal leukoencephalopathy**

- Multiple sclerosis (rare)**

- Migraine headaches (rare)**

PSYCHOTIC DISORDERS DUE TO GENERAL MEDICAL CONDITION

- **Medical**

- **Ionic/endocrine imbalances**

- Hyperthyroidism

- Hypercortisolism (Cushing's syndrome/disease)

- Corticosteroids/anabolic steroid use/abuse

- Hyper/hypocalcemia

- Auto-immune disorders

- Lupus: CNS lupus medical emergency

- **Metabolic disorders**

- Porphyria (MADNESS OF KING GEORGE)

- Iron storage diseases

- Copper storage disease (Wilson)

- **Trauma**

- **Infections**

- **Vitamin deficiency**

HOW TO DETERMINE IF PSYCHOTIC SYMPTOMS ARE DUE TO MEDICAL CONDITION

- Is there a clear sensorium?
- Is individual oriented?
 - Delerium is not delusion and should not be treated as such
- Some hallucinations are relatively rare in 'functional psychoses'
 - Auditory hallucinations frequent
 - Olfactory/visual hallucinations rare
 - Olfactory: uncinate lobe
 - Visual: frequently seen with illicit drugs
- For discussion: delirium tremens

HOW TO DETERMINE IF PSYCHOTIC SYMPTOMS ARE DUE TO MEDICAL CONDITION

- Is there a concurrent medical illness?
- Neurological exam normal?
- Mini-mental status exam normal?
- Laboratory exam normal?
- MRI/CT of head normal?
- Toxicology screen negative?
- Blood alcohol negative?

MINI-MENTAL STATE EXAMINATION (MMSE)

Activity:

Score:

ORIENTATION - one point for each answer

Ask: "What is the: (year)(season)(date)(day)(month)?"

Ask: "Where are we: (state)(county)(town)(hospital)(floor)?"

REGISTRATION - score 1,2,3 points according to how many are repeated Name

three objects: Give the patient one second to say each.

Ask the patient to: repeat all three after you have said them.

Repeat them until the patient learns all three.

ATTENTION AND CALCULATION - one point for each correct subtraction

Ask the patient to: begin from 100 and count backwards by 7.

Stop after 5 answers. (93, 86, 79, 72, 65)

RECALL - one point for each correct answer

Ask the patient to: name the three objects from above.

LANGUAGE

Ask the patient to: identify and name a pencil and a watch. (2 points)

Ask the patient to: repeat the phrase "No ifs, ands, or buts." (1 point)

Ask the patient to: "Take a paper in your right hand, fold it in half, and put it on the floor " (1 point for each task completed properly)

Ask the patient to: read and obey the following: "Close your eyes." (1 point)

Ask the patient to: write a sentence. (1 point)

Ask the patient to: copy a complex diagram of two interlocking pentagons. (1 point)



TOTAL (0-30):

Substance induced psychosis

- Alcohol/barbiturate (and related substances) withdrawal
- Stimulants (Amphetamines)
- Marijuana
- Hallucinogens (LSD)
- Cocaine
- Anticholinergics

Cannabis and Psychosis

Saturday 23 November 2002

BMJ



Cannabis and mental health

More evidence establishes clear link between use of cannabis and psychiatric illness

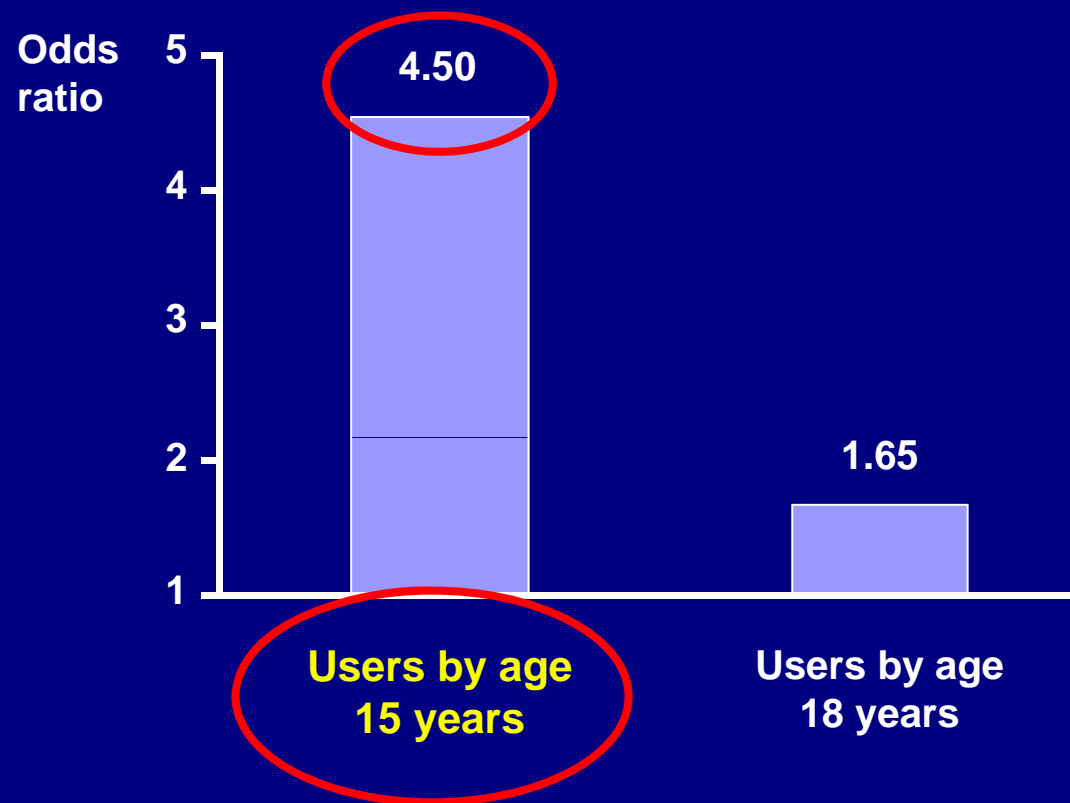
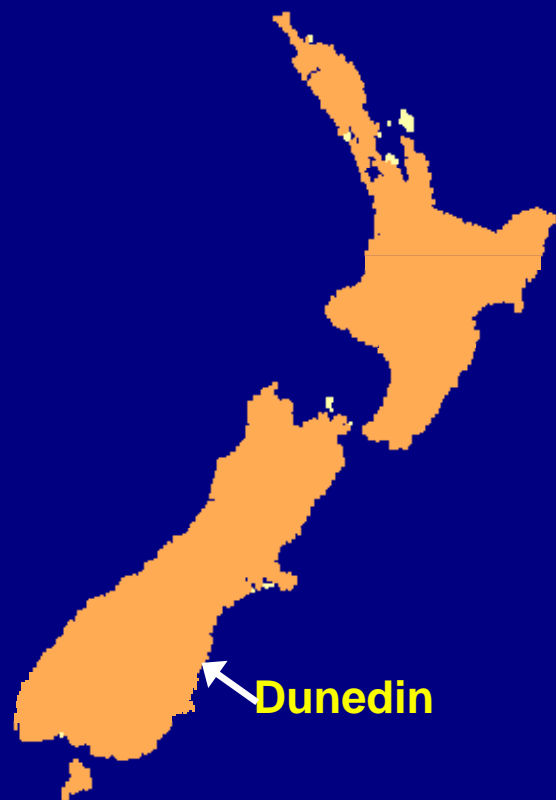
The Dunedin multidisciplinary health and development study

- Children were studied regularly from infancy
- Details of childhood psychotic symptoms were recorded at 11 years of age (before cannabis use started)
- Information on cannabis use was obtained at 15 and 18 years
- Psychiatric symptoms were assessed at 26 years



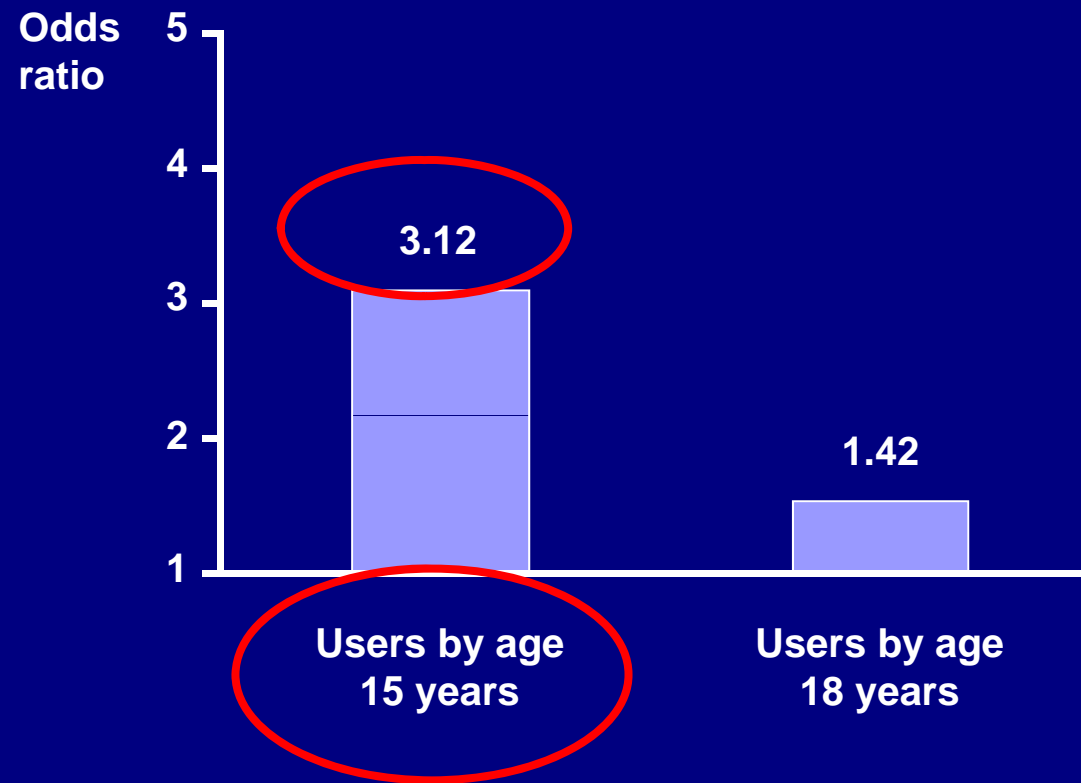
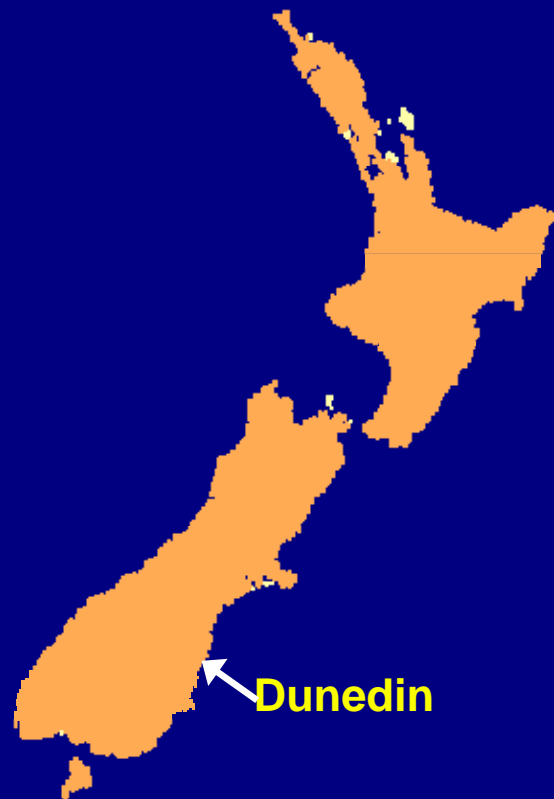
Arseneault et al 2002

Adolescent cannabis use predicts schizophreniform psychosis at age 26



Arseneault et al 2002

Predicting schizophreniform psychosis at age 26: controlling for psychotic symptoms at age 11



Arseneault et al 2002

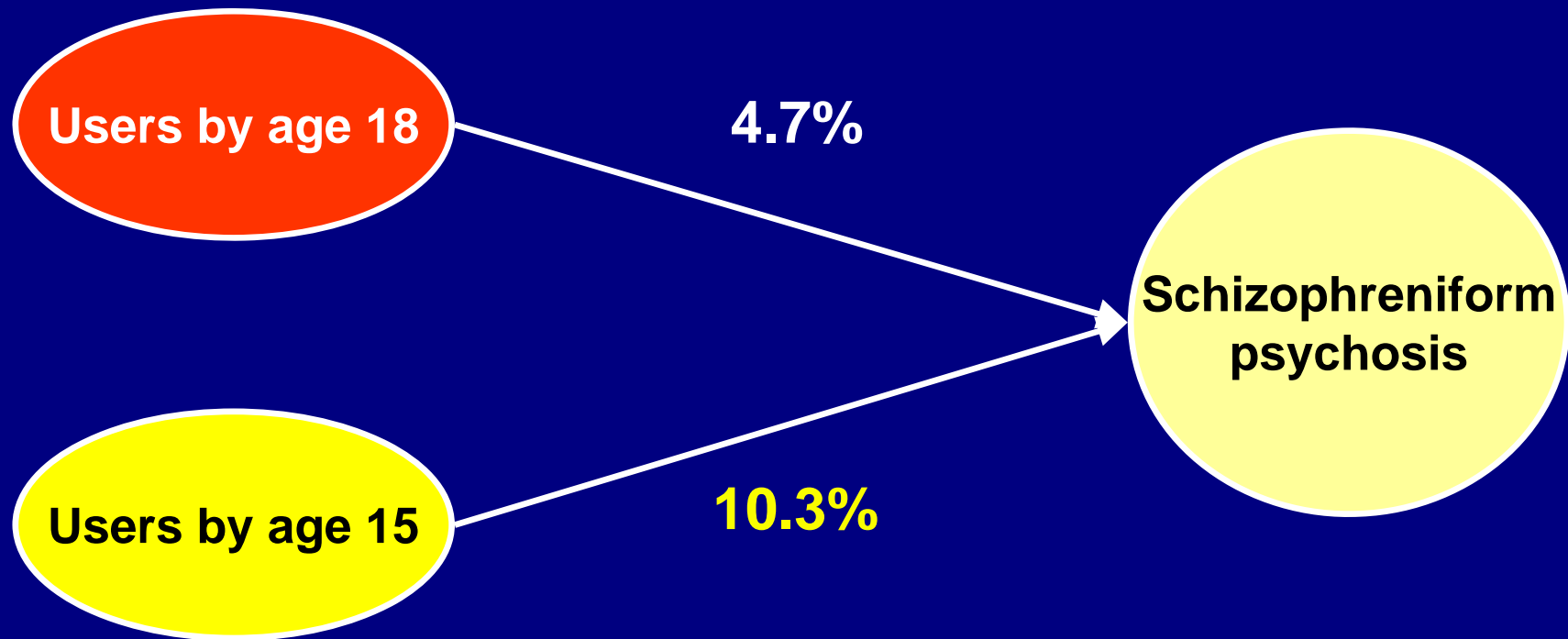
Epidemiological studies examining cannabis use and risk of psychosis

Country	n	Follow up (years)	Odds ratio
Sweden	45,570	15	2.1
Holland	4,045	3	2.8
Israel	9,724	4–15	2.0
NZ (Christchurch)	1,265	3	1.8
NZ (Dunedin)	1,253	15	3.1
Germany	2,436	4	1.7

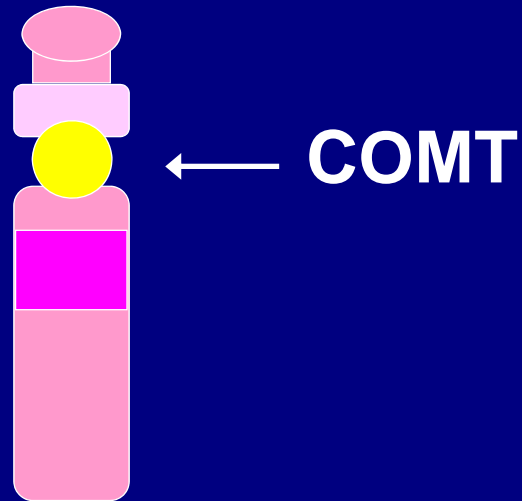
Random effects meta-analysis: 1.9

Andréasson et al 1988; Arseneault et al 2002; van Os et al 2002; Weiser et al 2002; Zammit et al 2002; Fergusson et al 2003; Henquet et al 2005

Only some cannabis users develop psychosis



Might variations in COMT influence susceptibility?



Chromosome 22

- Encodes a key enzyme which metabolises dopamine in the frontal cortex
- Two alleles, Val and Met
- Val allele associated with schizophrenia in some studies

COMT, catechol-O-methyltransferase

Li et al 1996; Egan et al 2001; Owen et al 2004

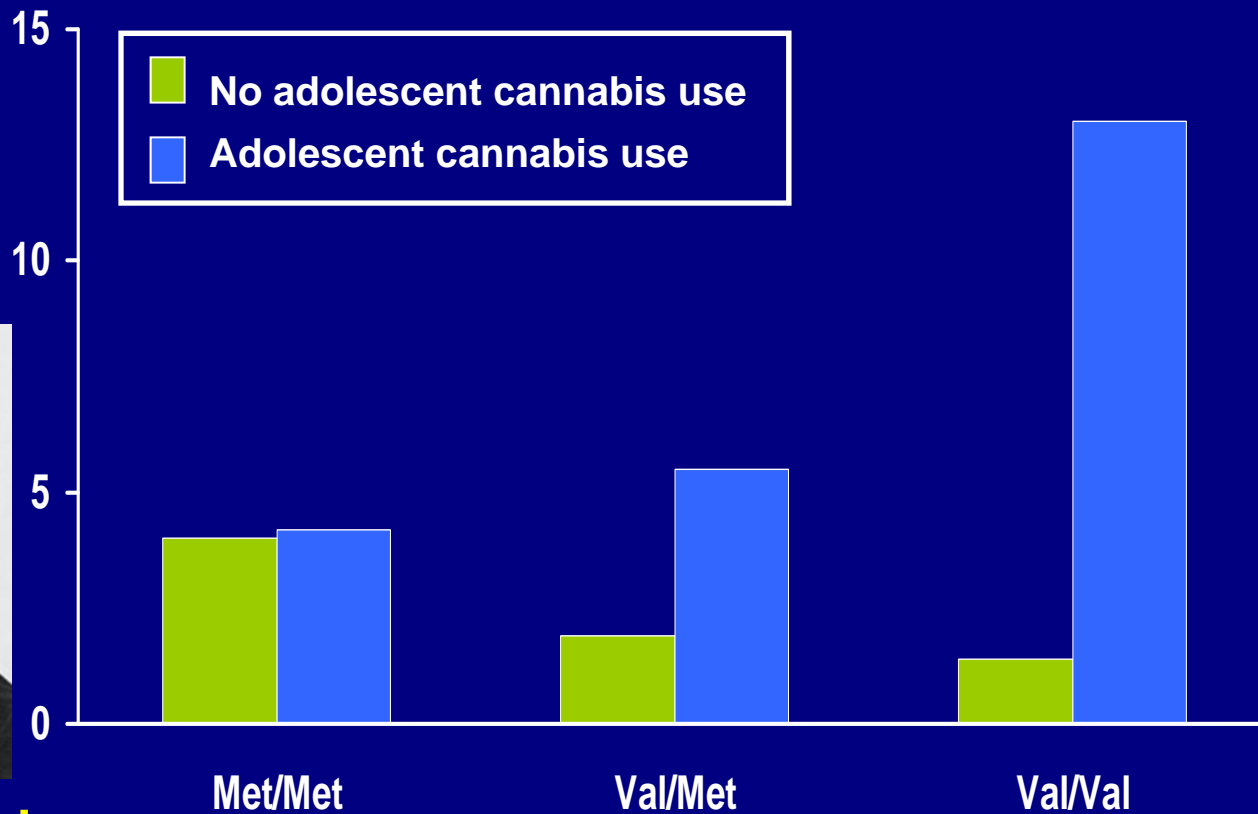
The influence of early-onset cannabis use on adult psychosis is moderated by COMT genotype

Individuals with schizophreniform psychosis at age 26 (%)



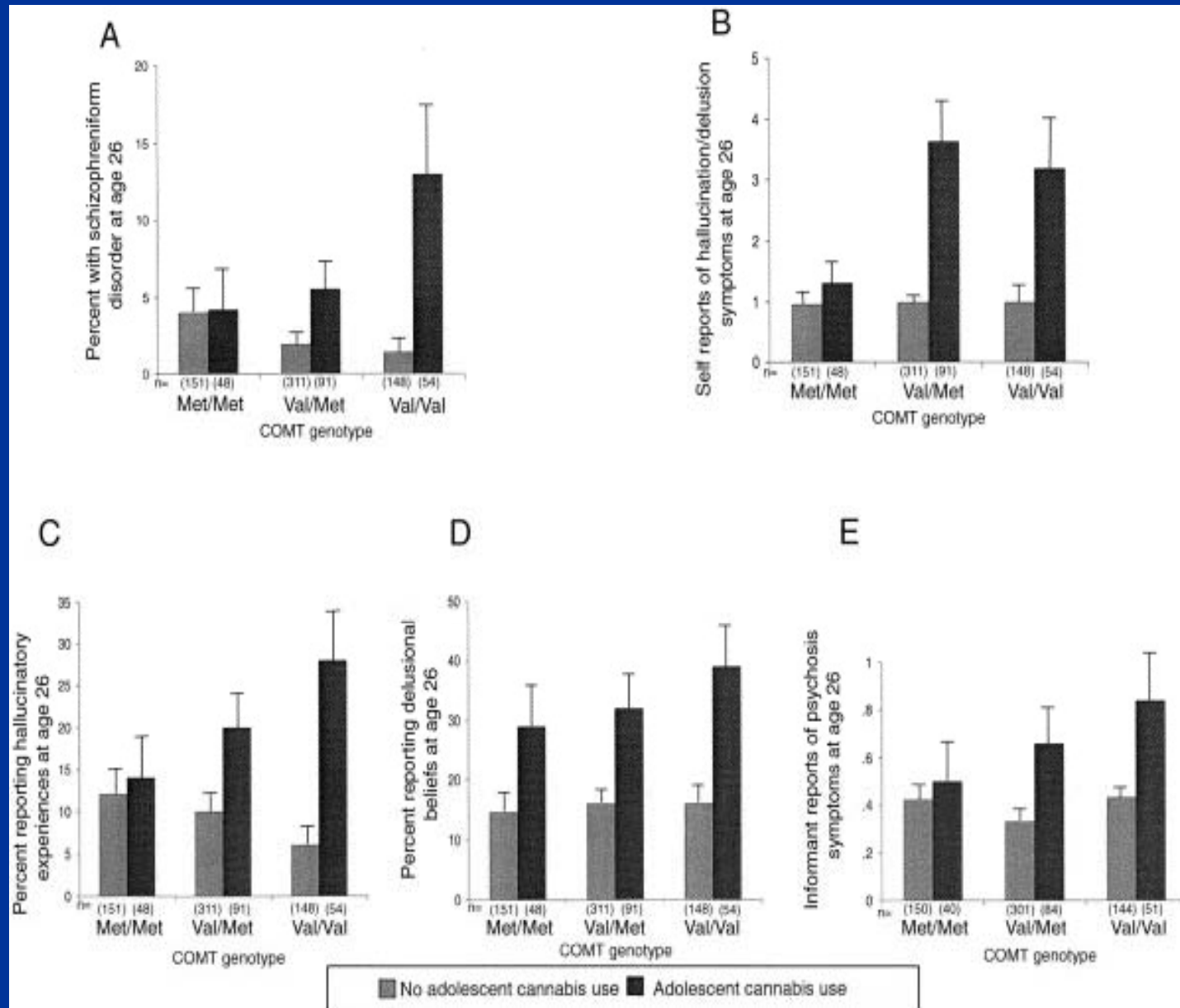
Avshalom Caspi

Inst of Psychiatry, UK



Caspi et al 2005

Cannabis and psychosis



Psychosis in Bipolar Disorder

- ◆ Prevalence
 - 55% of patients had at least one psychotic symptom by clinician evaluation
 - 90% of patients had at least one psychotic symptom by self-report
- ◆ More common in mania than in depression
- ◆ Stabilized bipolar patients with history of psychotic features have relapse rates two to three times those without history of psychosis

Symptom Domains in Mania and Mixed Mania

Manic Mood and Behavior

- ◆ Euphoria
- ◆ Grandiosity
- ◆ Pressured Speech
- ◆ Impulsivity
- ◆ Excessive Libido
- ◆ Recklessness
- ◆ Diminished Need for Sleep

Psychotic Symptoms

- ◆ Delusions
- ◆ Hallucinations
- ◆ Sensory Hyperactivity

Mania

Dysphoric or Negative Mood and Behavior

- ◆ Depression
- ◆ Anxiety
- ◆ Irritability
- ◆ Hostility
- ◆ Violence or Suicide

Cognitive Symptoms

- ◆ Racing Thoughts
- ◆ Distractability
- ◆ Poor Insight
- ◆ Disorganization
- ◆ Inattentiveness
- ◆ Confusion

Laboratory Work-up

- **No standard set of laboratory tests**
- **Tests selected on basis of clinical presentation, mode of onset, and past history**

Some Common Laboratory Tests

- Complete blood count
- Urinalysis
- Endocrine tests
- Liver function tests
- Toxicology
- Electroencephalogram
- Computerized Tomography (CT)
- Magnetic Resonance Imaging (MRI)
- Neuropsychological tests
- Projective tests