



INSTITUTE OF PSYCHIATRY  
AT THE  
MAUDSLEY

**THE ORIGINS OF PATIENTS HELD UNDER THE "LOI DE LA DÉFENSE SOCIAL": A BRIEF REVIEW OF RECENT FINDINGS**

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**PATIENTS HELD UNDER "LA LOI DE DÉFENSE SOCIALE"**

The patients held under this law fall into two large categories based on their primary diagnosis:

1. Personality Disorders – most commonly Antisocial Personality Disorder and a small group who would meet diagnostic criteria for Psychopathy
2. Schizophrenia, bipolar disorder, and major depression

**Antisocial Personality Disorder and Psychopathy: Definitions**

**ANTISOCIAL PERSONALITY DISORDER**

A pattern of antisocial behaviour and disregard for others that emerges in childhood or early adolescence and that remains stable across the life-span.

\*To receive this diagnosis in adulthood, it is essential to receive the diagnosis of Conduct Disorder at the latest by age 15.

**THE SYNDROME OF PSYCHOPATHY**

A stable pattern of antisocial behaviour since childhood

Arrogant and Deceitful Interpersonal Behaviour

- Glibness and superficial charm
- Grandiose sense of self-worth
- Pathological lying
- Conning/manipulative

Defective Affective Experience

- Lack of remorse or guilt
- Shallow affect
- Callous, lack of empathy
- Failure to accept responsibility for own actions

**THE SYNDROME OF PSYCHOPATHY**

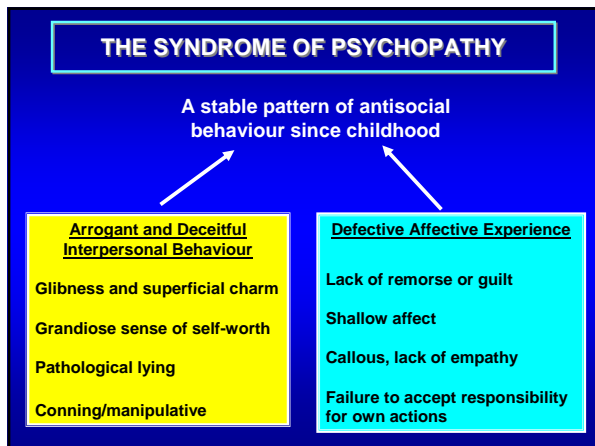
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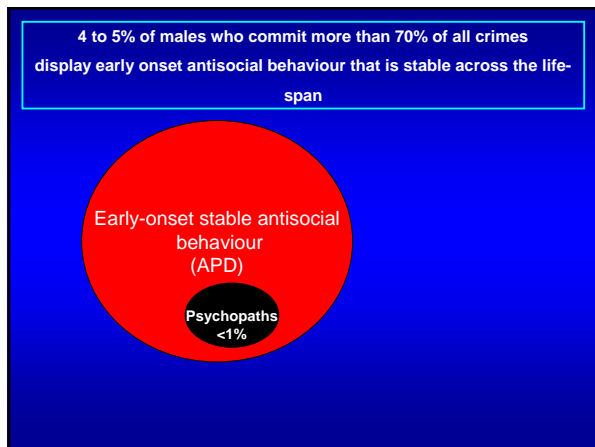
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What is known about the origins of Antisocial Personality Disorder and Psychopathy?



### OFFENDING PATTERNS

- Most of these men – those with APD - commit many non-violent offences and some violent offences.
- Those who meet criteria for psychopathy commit more offences and more violent offences than any other type of offender. They also recidivate more quickly than others after release from prison.

- The distinction between the stable antisocials (APD) and psychopathy may be evident in early childhood.

### CHILDREN WITH EARLY ONSET CONDUCT DISORDER

<u>Without CALLOUS AND UNEMOTIONAL TRAITS</u>	<u>With CALLOUS AND UNEMOTIONAL TRAITS</u>
	<ul style="list-style-type: none"> <li>▪ more conduct problems</li> <li>▪ conduct problems are more severe</li> <li>▪ more delinquency</li> <li>▪ more aggressive behaviour</li> <li>▪ violent sex offences</li> </ul>

### CHILDREN WITH EARLY ONSET CONDUCT DISORDER

<p><u>Without CALLOUS AND UNEMOTIONAL TRAITS</u></p> <p><b>REACTIVE AGGRESSION</b> triggered by threat or frustration and leads to anger</p>	<p><u>With CALLOUS AND UNEMOTIONAL TRAITS</u></p> <p><b>INSTRUMENTAL AGGRESSIONS</b> no emotions, goal oriented + <b>REACTIVE AGGRESSION</b></p>
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### CHILDREN WITH EARLY ONSET CONDUCT DISORDER

<p><u>Without CALLOUS AND UNEMOTIONAL TRAITS</u></p> <p>↑ Impulsive</p> <p>↑ Emotionally labile</p>	<p><u>With CALLOUS AND UNEMOTIONAL TRAITS</u></p> <p>↑ thrill seeking – fearless</p> <p>↓ stress reactivity – cortisol</p> <p>↓ less distress in response to threat</p> <p>↓ less distress to volatile situations</p> <p>↓ recognition of fear in others</p>
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### CHILDREN WITH EARLY ONSET CONDUCT DISORDER

<p><u>Without CALLOUS AND UNEMOTIONAL TRAITS</u></p>	<p><u>With CALLOUS AND UNEMOTIONAL TRAITS</u></p> <ul style="list-style-type: none"> <li>▪ Expect rewards for aggressive behaviour (focus on the positive consequences)</li> <li>▪ Do not expect punishment for aggressive behaviour</li> <li>▪ Once engaged in a rewarded behaviour cannot change</li> </ul>
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### CHILDREN WITH EARLY ONSET CONDUCT DISORDER

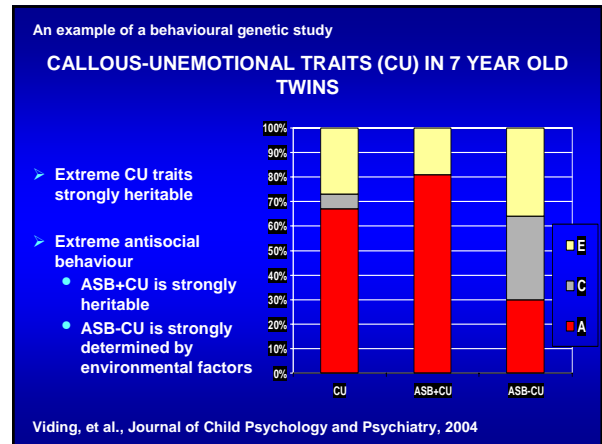
<p><u>Without CALLOUS AND UNEMOTIONAL TRAITS</u></p> <ul style="list-style-type: none"> <li>▪ Parent training and teacher training programmes are effective with young children</li> </ul>	<p><u>With CALLOUS AND UNEMOTIONAL TRAITS</u></p> <ul style="list-style-type: none"> <li>▪ Fail to respond to behavioural interventions – learn from positive reinforcement but not from negative reinforcement</li> </ul>
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4 to 5% of males who commit more than 70% of all violent crimes display early onset antisocial behaviour that is stable across the life-span

- Emotionally labile
- Aggressive behaviour is emotionally charged
- Low verbal skills

### THE DEVELOPMENT OF PERSISTENT VIOLENT BEHAVIOUR

AETIOLOGY	
Stable Antisocial Behaviour	Psychopathy
<b>Genes</b>	
<ul style="list-style-type: none"> <li>▪ A meta-analysis indicated that genes confer a vulnerability for a stable pattern of antisocial behaviour across the life-span (genetic contribution estimated to be approximately 41%.)</li> <li>▪ The genetic vulnerability is also for substance abuse</li> <li>▪ Assortative mating</li> </ul>	<ul style="list-style-type: none"> <li>▪ Four twin studies suggest a substantial genetic contribution to callous-unemotional traits</li> </ul>

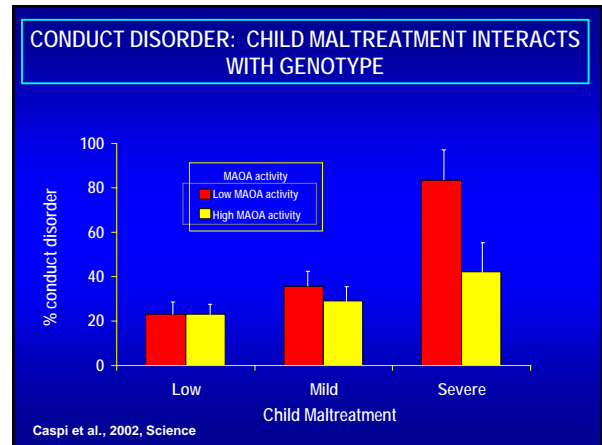


An example of a molecular genetic study

### Research had shown that

- Research with animals had shown that the low activity allele of the MAOA gene was associated with persistent aggressive behaviour.
- In one multiple generation family, the men who showed persistent aggressive behaviour carried the low activity allele of the MAOA gene.
- Some, not all, individuals who experience physical abuse in childhood, become persistent violent offenders

Caspi et al., 2002, Science



### INDIVIDUALS WITH DIFFERENT GENES REACT TO THEIR ENVIRONMENTS IN DISTINCT WAYS

Among males

- Maltreatment + low MAOA genotype → 3 fold increase in the risk for conduct disorder in adolescence
- Maltreatment + high MAOA genotype → 10 fold increase in the risk for violent criminality in adulthood

Caspi, McClay, Moffitt, Mill, Martin, Craig, Taylor, & Poulton, 2002

### GENES ARE NOT DETERMINISTIC!

- Genes confer vulnerabilities that are strengthened or weakened by environmental events
- Genes confer vulnerability by modifying reactivity to environmental events
- Specific genes interact with specific environmental factors

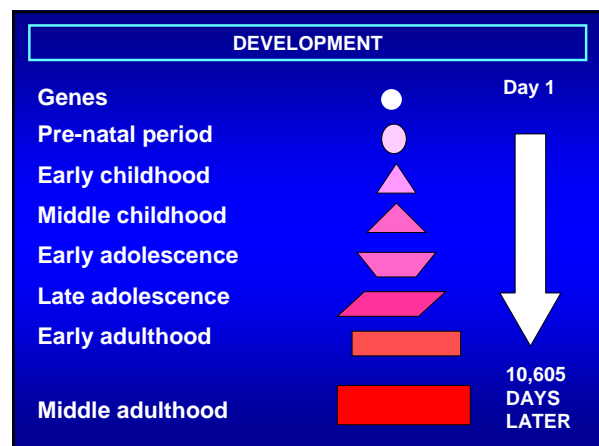
Pre and peri-natal Factors	
Stable Antisocial Behaviour	Psychopathy
<b>Environment</b>	
•Malnutrition	•No studies
•Obstetrical complications	
•Cord blood of offspring of parents with APD indicate low levels of serotonin metabolites	
•Maternal smoking	
•Maternal anxiety levels calibrate the neuro-endocrinological system of the foetus	
<b>The Foetus</b>	
• Depending on genes, the foetus reacts differently to the environmental factors	

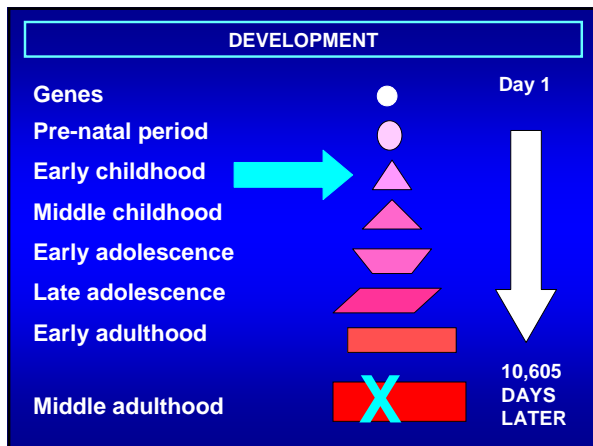
Early Childhood Factors	
Stable Antisocial Behaviour	Psychopathy
<b>Environment</b>	
•Parenting practices •Physical abuse •Emotional rejection •Exclusion from important socializing experiences	•Parenting practices •Physical abuse •Emotional rejection •Exclusion from important socializing experiences
<b>The Child (genes + prenatal factors + experience)</b>	
•Persistent disobedience	•Persistent disobedience
•Difficult temperament (by age 2)	• ?
•Lack of control (by age 2)	• ?
•Motor problems by age 3	• ?
•Verbal deficits by age 3	• ?
	•Fearlessness by age 2, callous, unemotional
•? Low skin conductance, heart rate, cortisol	•Low skin conductance, heart rate, cortisol

Middle Childhood	
Stable Antisocial Behaviour	Psychopathy
<b>Environment</b>	
•Parenting practices •Physical abuse •Emotional rejection •Exclusion from important socializing experiences	•Parenting practices •Physical abuse •Emotional rejection •Exclusion from important socializing experiences
<b>The Child (genes + prenatal factors + experience)</b>	
•Persistent disobedience	• Persistent disobedience + aggressive behaviour
•Poor academic performance	• ?
•Lack of prosocial skills	• ?
•Lack of intimate relationships	• ?
•Begins to use alcohol and drugs than other children	•Begins to use alcohol and drugs than other children

Early Adolescence	
Stable Antisocial Behaviour	Psychopathy
<b>Environment</b>	
• Punishing	• Punishing
<b>The Adolescent (genes + prenatal factors + experience)</b>	
•Association with antisocial peers	•Association with antisocial peers
•Illicit drug use	•Illicit drug use
•Delinquency	•Delinquency - violence
•Brain – pruning	•Brain – pruning

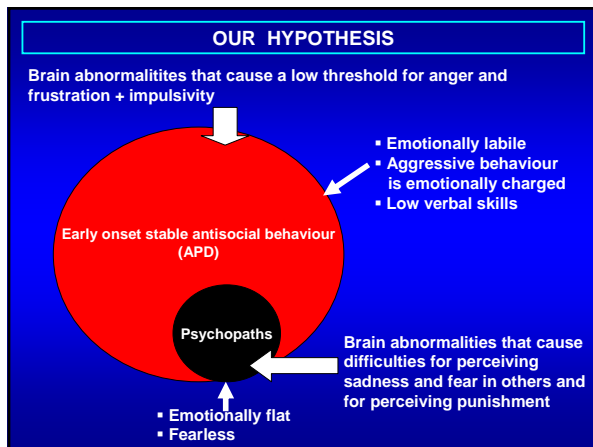
Late Adolescence	
Stable Antisocial Behaviour	Psychopathy
<b>Environment</b>	
• Punishing	• Punishing
<b>The Adolescent (genes + prenatal factors + experience)</b>	
•Association with antisocial peers	•Association with antisocial peers
•Illicit drug use	•Illicit drug use
•Criminality	•Criminality - Violence
•Brain – development of the frontal lobes	•Brain – development of the frontal lobes





**ADULT OFFENDERS PRESENT**

Original abnormality  
+  
Abnormalities that are compensating mechanisms  
+  
Damage due to reckless behaviour, abuse, fighting, alcohol and illicit drugs



**DIFFERENT NEUROBIOLOGICAL MECHANISMS UNDERLIE PERSISTENT VIOLENT OFFENDING**

EARLY-ONSET ANTISOCIAL	PSYCHOPATHS
❖ Aggressive behaviour is a reaction to frustration	❖ Aggressive behaviour to achieve a goal
❖ Irritable	❖ Not constrained by distress of others – callous
❖ Emotionally labile	❖ Failure to anticipate punishment and loss of reward - fearless
❖ Impulsive	
❖ Low verbal skills	

**IMPLICATIONS FOR TREATMENT OF ADULTS**

- ❖ It does not matter how or why it happened
- ❖ The adult male with a history of persistent violent offending is characterized by brain abnormalities – the original abnormalities + compensatory abnormalities + damage
- ❖ To successfully treat the individual, it is necessary to understand and take account of these abnormalities

**WHAT IS THE RELEVANCE FOR TREATMENT?**

## PROBLEM SOLVING

- Identify the problem
- Generate many possible responses
  - Response 1
  - Response 2
  - Response 3
  - Response 4
  - Response 5
- Assess the likely consequences of each response
  - Response 1 – High reward + High punishment
  - Response 2 – High reward + Medium punishment
  - Response 3 – High reward + Low punishment
  - Response 4 – Medium reward + medium punishment
  - Response 5 - Low reward + low punishment
- Choose the response with the most advantageous consequence

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## WHAT IS THE RELEVANCE FOR TREATMENT?

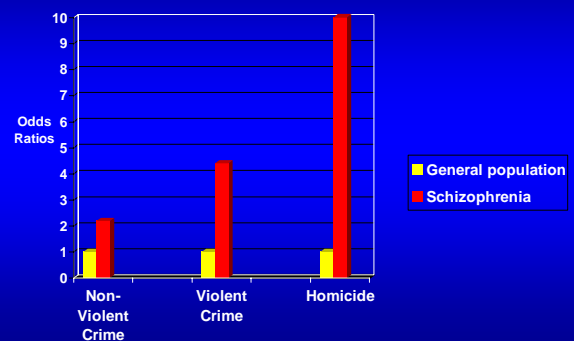
- When attempting to teach problem solving skills to offenders with psychopathy, you may be working against
  - ✓ a basic neuro-cognitive abnormality in the perception and/or anticipation of punishment
  - +
  - ✓ a long history of not taking account of punishment

## CONCLUSIONS

- ❖ Men with early-onset antisocial behaviour and psychopathy are different from conception onwards.
- ❖ They require different interventions to reduce antisocial behaviour, attitudes, and ways of thinking.
- ❖ Depending on the developmental stage, interventions must take account of distinctive neuro-biological characteristics that limit the capacity to learn, i.e. to benefit from Cognitive Behavioural programmes designed to reduce offending.

What is known about the origins of offending among persons with schizophrenia?

## CRIME BY MEN WITH AND WITHOUT SCHIZOPHRENIA

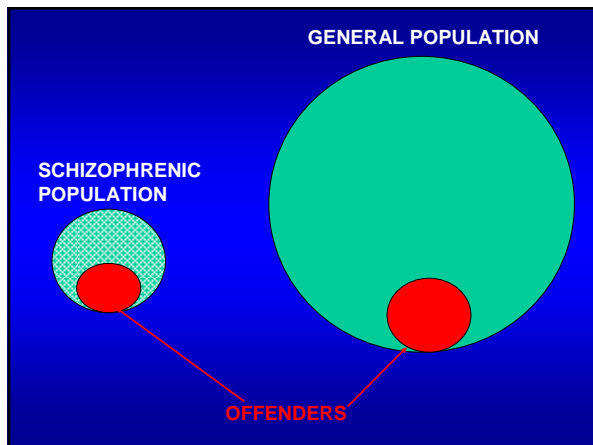


## WHAT DO WE KNOW ABOUT PERSONS WITH SCHIZOPHRENIA WHO COMMIT CRIMINAL OFFENCES?

- They are heterogeneous with respect to aetiology and treatment needs.
- The challenge is to develop a typology that is relevant to both aetiological research and to treatment.

## WHAT DO WE KNOW?

- Sub-groups defined by age at first crime and persistence differ as to aetiological factors and treatment needs



## THE BEGINNINGS OF A TYPOLOGY

- Some offenders with schizophrenia display a pattern of antisocial behaviour that emerges at a young age and remains stable across the life-span
  - ◆ Developmental perspective – interactions of biological, psychological and social factors that operate early in the course of development
- Some offenders with schizophrenia show no antisocial behaviour prior to onset and then a rather stable pattern
  - ◆ Changes that occur with onset – brain, reactions to symptoms, loss of self-esteem, loss of intimate relationships
- Some offenders with schizophrenia show no antisocial behaviour and then engage in severe violence towards others
  - ◆ Proximal factors – contextual

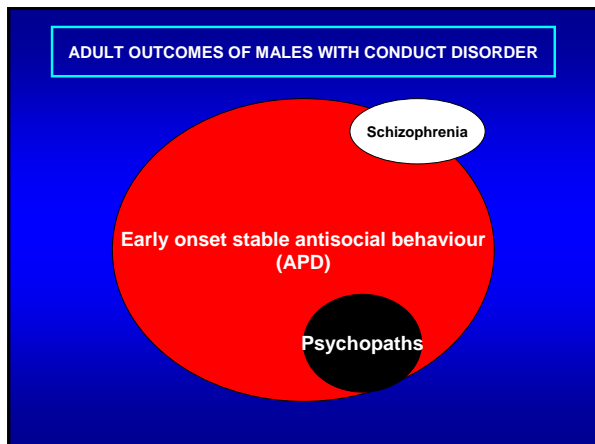
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## EARLY-START OFFENDERS WITH SCHIZOPHRENIA

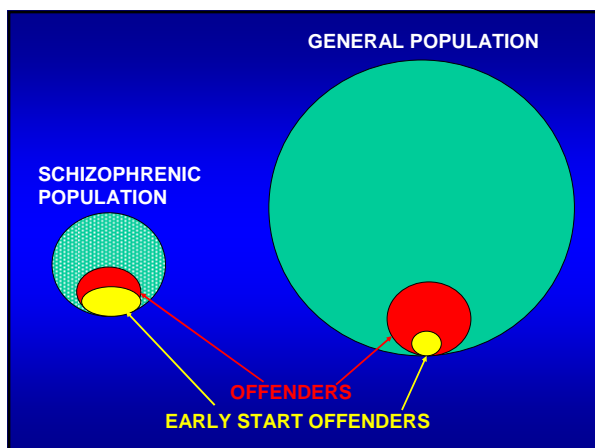
- Persistent antisocial behaviour from a young age that escalates in severity over time



- EARLY-START OFFENDERS WITH SCHIZOPHRENIA**
- Family Characteristics
- Elevated rates of criminality and substance abuse among first degree relatives
- Childhood and adolescence
- Early onset and persistent disobedience (Many meet criteria for Conduct Disorder)
  - Poor academic performance
  - Abusing alcohol and/or drugs before age 18
  - Higher proportion report experiencing abuse during childhood
  - Juvenile delinquency

- EARLY-START OFFENDERS WITH SCHIZOPHRENIA**
- Adulthood
- High rates of Antisocial Personality Disorder
  - One-half to two-thirds with diagnoses of alcohol abuse/dependence and/or drug abuse/dependence
  - Slightly lower scores for psychosocial functioning and few who work
  - First hospitalization for schizophrenia relatively early
  - Nothing notable about the acute episodes of schizophrenia
  - Many non-violent offences and some violent offences
  - Commit more offences than other offenders

- EARLY-START OFFENDERS WITH SCHIZOPHRENIA**
- Are more prevalent within the population of persons with schizophrenia than life-course persistent offenders are within the general population
  - The prevalence of Antisocial Personality Disorder is higher among persons with schizophrenia than in the general population
    - at least 3 times higher among males and 15 times higher among females



- ANTISOCIAL BEHAVIOUR IN CHILDHOOD IS A RISK FACTOR FOR SCHIZOPHRENIA**
- Aggressive behaviour in childhood predicts to thought disorder in young adulthood
  - Aggressive behaviour in early adolescence predicts to cluster A personality disorders in young adulthood
  - The number of Conduct Disorder symptoms present before age 15 functions as a continuum to predict schizophrenia in adulthood

**A study examining patients with schizophrenia with and without Conduct Disorder before age 15**

**PATIENTS**

- 248 men
  - 201 schizophrenia
  - 46 schizo-affective disorder
  - 1 schizophreniform disorder
- 52 (of 248) Conduct Disorder (DSM-III-R)
  - 43 (of 52) Antisocial Personality Disorder (DSM-IV)
- Mean age (in years) 39.8 (SD=11.1)

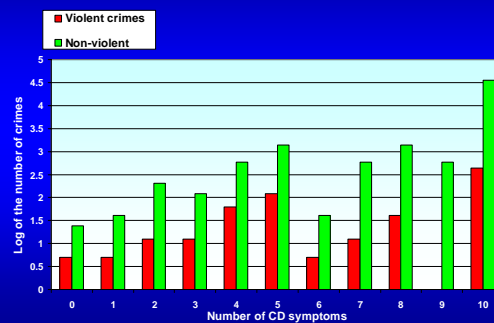
**PREDICTING THE NUMBER OF VIOLENT CRIMES BY CD DIAGNOSIS**

	Risk Ratios (CI)
CD Diagnosis	2.64 (1.63-4.26)
Adjusted for	
Alcohol abuse/dependence	2.41 (1.51-3.84)
Drug abuse/dependence	2.44 (1.35-4.41)
Alcohol+drug abuse/dependence	2.29 (1.31-4.03)

**PREDICTING THE NUMBER OF NON-VIOLENT CRIMES BY CD DIAGNOSIS**

	Risk Ratios (CI)
Diagnosis of CD	3.71 (2.12-6.50)
Adjusted for	
Alcohol abuse/dependence	3.17 (1.76-5.73)
Drug abuse/dependence	3.16 (1.76-5.65)
Alcohol+drug abuse/dependence	2.84 (1.56-5.19)

Number of non-violent and violent crimes as a function of the number of Conduct Disorder symptoms



**PREDICTING THE NUMBER OF AGGRESSIVE INCIDENTS BY CD DIAGNOSIS**

	ODDS RATIO (CI)
CD Diagnosis	2.39 (1.18-4.83)
Adjusted for	
Alcohol abuse/dependence	2.15 (1.06-4.38)
Drug abuse/dependence	1.81 (0.88-3.76)
Self-reported alcohol use	2.62 (1.29-5.41)
Drug use	2.35 (1.15-4.78)
Compliance	2.10 (0.97-4.55)
Obligatory care	2.42 (1.19-4.92)

**WHY IS THE RATE OF CONDUCT DISORDER ELEVATED AMONG PERSONS WHO DEVELOP SCHIZOPHRENIA?**

- **Hypothesis 1**
  - Individuals who develop schizophrenia are more likely than those who do not to be exposed to specific environmental events that interact with specific genes to cause Conduct Disorder
- **Hypothesis 2**
  - Assortative mating between women with schizophrenia and antisocial men
- **Hypothesis 3**
  - There is an overlap of susceptibility genes and gene-to-gene interactions

## RELEVANCE TO TREATMENT

- At first episode of psychosis, an individual with a history of antisocial behaviour, attitudes and ways of thinking requires a distinct package of interventions
  - ✓ medication – ways to ensure compliance
  - ✓ cognitive behavioural interventions to reduce antisocial behaviour, attitudes, and ways of thinking
  - ✓ prevention of substance misuse
  - ✓ social skills training
  - ✓ employment skills training

**INTEGRATED TREATMENTS!**

## THE BEGINNINGS OF A TYPOLOGY

**Some offenders with schizophrenia display a stable pattern of antisocial behaviour evident since childhood.**

Some offenders with schizophrenia show a pattern of antisocial behaviour not before but after the onset of schizophrenia

Some offenders with schizophrenia show no antisocial behaviour prior to engaging in serious violence towards others.

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## COULD DEFICIENT AFFECTIVE EXPERIENCE BE A TRANSIENT STATE THAT SOMETIMES RESULTS FROM THE BRAIN DISORDER OF SCHIZOPHRENIA?

Among men with schizophrenia

- Deficient Affective Experience is associated with violent offending
- Deficient Affective Experience is **not** associated with substance misuse and non-violent offending
- Deficient Affective Experience can occur in the absence of early antisocial behaviour
- Deficient Affective Experience is associated with negative symptoms

## PERSISTENTLY AGGRESSIVE INPATIENTS

➤ Three distinct groups were identified:

- ◆ High positive symptoms
- ◆ Confused
- ◆ Callous and remorseless – Defective Emotional Experience

## WHAT IS THE RELEVANCE FOR TREATMENT?

- Assessment
  - ◆ Deficient Affective Experience alone may elevate risk for violence
  - ◆ Deficient Affective Experience may fluctuate as do the symptoms of psychosis, depression, and anxiety
- Treatment challenge is to help the patient develop sensitivity to the distress of others

## MAYBE CLOZAPINE IS EFFECTIVE, AT LEAST IN PART BECAUSE IT DECREASES DEFICIENT AFFECTIVE EXPERIENCE

- Among inpatients
  - ◆ clozapine has been found to be more effective in reducing positive and negative symptoms among patients with persistent aggressive behaviour
  - ◆ olanzapine and risperidone were more effective in reducing positive and negative symptoms among patients without persistent aggressive behaviour
    - Volavka et al. 2004
- Among patients in the community
  - ◆ clozapine was associated with a reduction in aggressive behaviour
    - Swanson et al. 2004

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## CONCLUSION

- Schizophrenia is associated with an increased risk for non-violent and violent crime
- Offenders with schizophrenia constitute a very heterogeneous population
- Developing a typology relevant to treatment and aetiology will provide a basis
  - ◆ for studies of the effectiveness of specific treatment packages for each type
  - ◆ for investigations of causal mechanisms