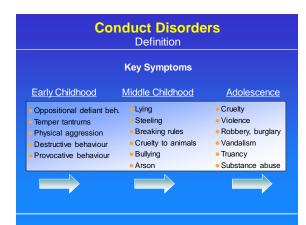
The Challenges of Disruptive Behaviour Disorders for Child and Adolescent Psychiatry

Key Lecture Swedish Child Neuropsychiatric Association. Stockholm 16.3.2015

Hans-Christoph Steinhausen
Professor at Aalborg, Aarhus, Basel,
and Zurich Universities

Disruptive Behaviour Disorders Outline

- Classification
- ODD
 - Definition
 - Epidemiology
 - Genetics
- Conduct Disorders
 - Definition
 - Aetiology
 - Assessment
 - Intervention
 - Course and Outcome



Conduct Disorders

Classification

- DSM 5 categories
- Disruptive, Impulse-Control, and Conduct Disorders
 - Oppositional Defiant Disorder (ODD)
 - Intermittent Explosive Disorder (IED)
 - Conduct Disorder (CD)
 - Antisocial Personality Disorder (APD)
 - Pyromania
 - Kleptomania
 - Other Specified Disruptive, Impulse-Control, and CD
 - Unspecified Disruptive, Impulse-Control, and CD

Conduct Disorders

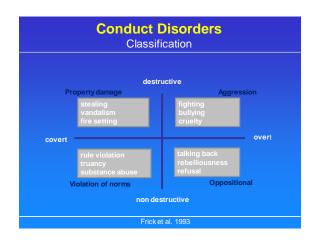
Classification

- ICD-10 classification
- Conduct disorders
 - Conduct disorder confined to the family context
 - Unsocialized conduct disorder
 - Socialized conduct disorder
 - Oppositional-defiant type of conduct disorder
 - Depressive conduct disorder
 - Other mixed disorders of conduct and emotions
 - Hyperkinetic conduct disorder

Conduct Disorders

Classification

- Early and adolescent onset type
 - Early onset type starts with defiant and aggressive behaviour around 3 years of age with many but not all children progressing to later more severe antisocial difficulties.
 - Adolescent onset type is commoner by about 3 to 1. Behaviour is less aggressive, violent, delinquent, and impulsive. Fewer cognitive deficits, from less dysfunctional family backgrounds.
 - More likely to stop offending in early adulthood.
 - Small group of adolescents (less than 10% of the total) who commence peristent antisocial activity in adulthood.
 - More a difference in degree (severity) than in kind?



Reactive Aggression (hot) (RADI = Reactive, Affective, Defensive or Impulsive) • high physiological arousal • experienced physical abuse Proactive Aggression (cold) (PIP = Planned, Instrumental or Proactive) • low physiological arousal • aggressive role models

Conduct Disorders

Classification

- Callous unemotional traits (specifier) in DSM 5
 - Lack of remorse or guilt: does not feel bad or guilty when he/she does something wrong except if expressing remorse when caught and/or facing punishment
 - Callous-lack of empathy: disregards and is unconcerned about the feelings of others

con

Conduct Disorders

Classification

- Callous unemotional traits (specifier) in DSM 5 -cont.
 - Unconcerned about performance: does not show concern about poor/problematic performance at school, work, or other activities
 - Shallow or deficient affect: does not express feelings or show shallow or superficial or when they are used for gain, e.g. emotions are not consistent with actions; can turn emotions "on" or "off" quickly, tries to manipulate or intimidate others
 - >= 2 criteria present during last 6 months

Conduct Disorders

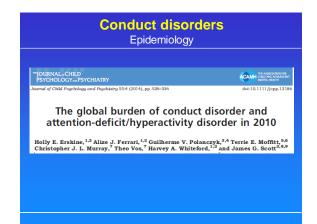
Epidemiology

- Sex rate: CD is commoner in boys at all ages.
 - in childhood, for oppositionality the ratio is 4:1.
 - in adolescence the ratio narrows to 2:1.
 - the proportion of girls increases when substance abuse and precocious sexual activity are included.
- Socioeconomic status: CD is three to four times more frequent in children from socio-ecomically deprived families with low income, or who receive state benefits or welfare or who live in poor neighbourhoods.

Conduct Disorders

Epidemiology

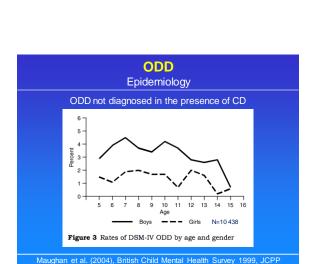
- Area: Similar rates in most Western countries with increased rates in urban compared to rural / small town locations in some countries.
- Period effects: Increase in all Western countries over the last decades
- Intervention rates: only some 15-25% of the affected children and adolescents receive professional intervention

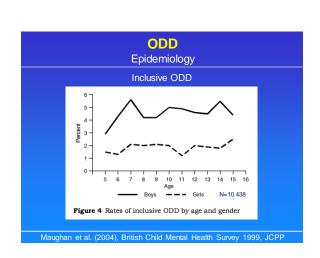


Conduct disorders Epidemiology Calculation of years lived with disability (YLDs) by multiplication of prevalence by a disability weight No years of life lost (YLLs) so that the number of disability adjusted life years (DALYs) was equal to that of YLDs Globally, CD was responsible for 5.75 million YLDs/DALYs In terms of DALYs, CD was the 72nd leading contributor and among the 15 leading causes in children aged 5-19 years





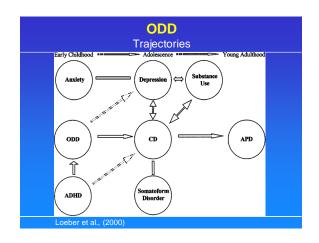




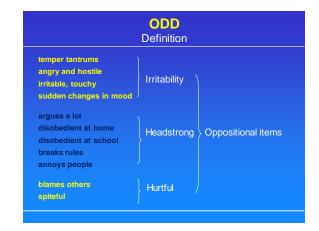
Definition

- An ongoing pattern of uncooperative, defiant, and hostile behavior toward authority figures that seriously interferes with the young person's day-to-day functioning
- One of the most common child psychiatric disorder in many services
- Distinct from / overlap with conduct disorder
- Substantial comorbidities with non-antisocial disorders
- Not confined to young children but still relevant in adolescence
- problems.

ODD Epidemiology			
	Boys	Girls	
Conduct disorders	2.1 %	0.8%	
ODD	3.4 %	1.4 %	
CD + ODD	4.6 %	1.8 %	
42% of children with ODD later develop CD This runs counter to the exclusion criteria			
Nock et al. (2007) NCSR (JCPP)		



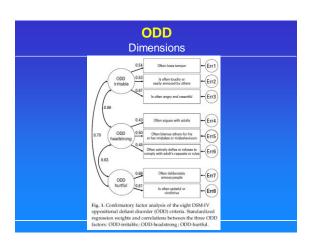
Definition ODD is heterogeneous part of what is labelled disruptive behaviours problems in young people are in fact mood problems. ODD involves 3 dimensions: an irritable mood as well as headstrong and hurtful behavioural dimensions. Atwo dimensional model differentiates between irritable and headstrong/hurtful (defiant/vindictive)

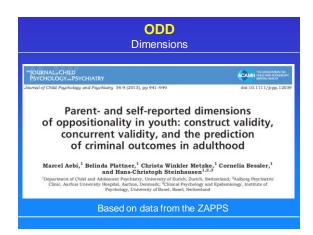


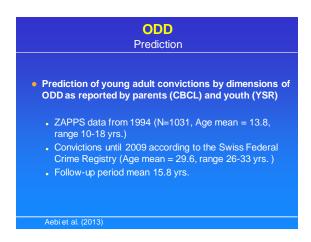
Longitudinal Outcome of Youth Oppositionality: Irritable, Headstrong, and Hurtful Behaviors Have Distinctive Predictions ARGYBS STRINGARIS, M.D., M.R.C. Prych., AND ROBERT GOODMAN, Ph.D., F.R.C. Prych. ABSTRACT Obsective: Oppositional behavior in youths is one of the disripusal predictors of a wide range of psychiatric disorders. We test the hypothesis that oppositionally encorpresses an Intable, is Headstrong, and a Hurtif diemsion, each with distinct prediction. Methods: Longitudine design contening date for two bollish independ alluryous and the respective 3-years follow-up (N = 7.9%). The Developmental and Well-Beirg Assessment was used to generate CSM-VI diagnoses. Results: The Intibilid demonsion was the sole product of orthological developmental combination are respective 3-years follow-up (N = 7.9%). The Developmental and Well-Beirg Assessment was used to generate CSM-VI diagnoses. Results: The Intibilid demonsion with the sole product of orthological developmental control and the sole production of the combination are developed and the production of the relative operation and the production of the relative operation date of the adjustment to tasking operation gain relative disorder inferences and control of the disorder inferences on a dispersation with the sole production of the basiness perplectables, The Hurtid demonstration of disorder inferences on a dispersation of the disord

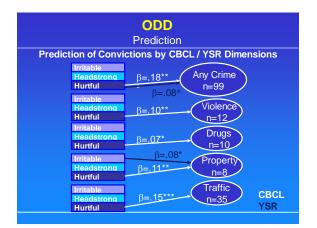
Dimensions The Irritable dimension was the sole predictor of emotional disorders at follow-up and was particularly associated with distress disorders (depression and anxiety) rather than fear disorders (phobias, separation anxiety, and panic disorder), both before and after adjustment for baseline psychopathology. The Headstrong dimension was the only predictor of attention-deficit/hyperactivity disorder at follow-up. Both Headstrong and Hurtful predicted conduct disorder, although only the Headstrong dimension did so after adjustment for baseline psychopathology. The Hurtful dimension was the strongest predictor of aggressive conduct disorder symptoms. Three Year Follow-Up Findings

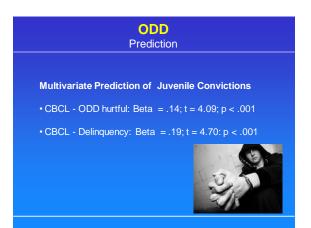












ODD

Genetics

- Dopamine, serotonin and oxytocin neurotransmitter systems have been suggested to play a role in the emergence of irritable and aggressive behaviors in children and adolescents.
- Polymorphisms in
 - dopamine receptor (DRD4)
 - serotonin transporter (5-HTT)
 - oxytocin receptor gene (OXTR)

ODD

Genetics

- No sig. associations of the two ODD dimensions in hypothesis – driven analyses of candidate genes (dopamine, serotonine, oxytonin genes and pathways)
- No genomewide (GWAS) sig. findings
- In pathway enrichment analyses 28 of 53 (56%) topranked ODD genes interact in a molecular landscape centered around β-catenin signaling.

Aebi, van Donkelaar et al., (2015, submitted AJMG) based on IMAGE

ODD

Genetics

- The β-catenin protein has a pivotal function in an important signaling pathway leading to neurite outgrowth.
- Several proteins and signaling molecules in this pathway (including growth hormone, retinoic acid, serotonin, triiodo-thyronine and testosterone) have been found previously to be associated with ODD or aggressive behaviors
- Parenting behavior in terms of parental ability to cope with disruptive behavior was significantly associated to ODD dimensions and subtypes, most strongly to defiant/vindictive behaviors.

Aebi, van Donkelaar et al., (2015, submitted AJMG) based on IMAGE

Conduct Disorders

Aetiology

Conduct Disorders

Aetiology

Multifactorial model

- Biological factors
- Individual factors
- Social factors
 - family
 - peers
 - school
 - social context
 - society
- Interaction effects

CD Aetiology

Biological factors

Genetics

Rather variable heritability coefficients (0.2-0.8)

- aggression: stable genetic variable [G]
- non-aggressive, antisocial behaviour: E>G

Neuroanatomy

Structural deficits / different activation in the regions of the hypothalamus, amygdala and prefrontal cortex

Neurophysiology

Underactivation of the autonomous nerve system (low resting pulse and heart rate); deficient fronto-cortical inhibition

Eley et al. (2003). Dev. & Psychopath., 15, 383-402; Raine et al. (1997) Mauritius longitudinal study; Hill (2002). JCPP, 43, 133-164; Burke et al. (2002). JAACAP, 41, 1275-1293

CD Aetiology

Biological factors

Neurotransmitter systems

disturbed noradrenergic (\downarrow) and serotonergic (\downarrow / \uparrow) activity

Neuroendocrinology

androgens have a prenatal effect on brain development and postnatally an age-dependent association with aggression; low cortisol levels

Perinatal complications

prenatal neurotoxins (smoking, alcohol) and risk events as factors of vulnerability; interaction of perinatal risks and maternal rejection

Hill (2002). JCPP, 43, 133-164; Burke et al. (2002). JAACAP, 41, 1275-1293; Raine et al. (1997) Copenhagen birth cohort study. AJP, 154, 1265-1271

CD Aetiology

Psychological factors

dysfunctional temperament (lack of self-regulation, difficult to manage child, undercontrolled) in association with inadequate parenting

Attachment

unclear predictor; perhaps only covering other risk factors (e.g. maternal depression)

Caspi & Moffitt (2001) Dunedin Longitudinal study; Prior et al (2001) Australian Temperament Study; Hill (2002), JCPP, 43, 133-164; Burke et al. (2002). JAACAP, 41, 1275-1293

CD Aetiology

Psychological factors

Emotion regulation and recognition

- Reactive impulsive aggression
 - Deficits in emotion regulation
 - High anxiety
 - No callous unemotional traits
 - Proactive (instrumental) aggression

 - Low anxiety
 - High callous unemotional traits

CD Aetiology

Psychological factors

Callous unemotional traits

- Core deficits
 - reduced affective responsivity to distress
 - low emotional fear as a personality trait
- - Higher level of aggression and violence
 - Very demanding children
 - Poor prognosis (particularly in girls)
 - Poor response to standard interventions
 - → Need for early intervention in terms of fostering a positive parent child relationship

Callous Unemotional Traits



Clinical Psychology Review



What are the associations between parenting, callous-unemotional traits, and antisocial behavior in youth? A systematic review of evidence



Rebecca Waller a,*, Frances Gardner a, Luke W. Hyde b

HIGHLIGHTS

- · Dimensions of parenting predict CU traits in prospective longitudinal studies.
- CU traits are responsive to parenting in parent-focused interventions for AB.
 The construct of 'CU traits' as unresponsive to parenting needs revisiting.
- · Future studies need better measurement approaches to assess CU traits and parenting.
- Greater precision is needed in study design to assess associations.

CD Aetiology

Psychological factors

low intelligence may be confounded with ADHD and school failure

Verbal deficits

Unclear associations with CD; shared biological and social origins?

Social cognitions

Problems of social information processing leading to deficient social competences

CD Aetiology

Family factors

Parenting deficits

hostile, critical, and punitive parenting leads to problematic child behaviour (vicious cycle)

Deprivation

Close association to child maltreatment, abuse and neglect; unclear mechanism



CD Aetiology

Family factors

Partnership problems

Conflict and fight as direct factor of influence; separation and divorce

Assortative mating

especially antisocial females select antisocial male partners

Parental mental disorders

Maternal depression (especially in infants); substance abuse, antisocial and criminal behaviour (especially in fathers).

CD Aetiology

Peer factors

• Rejection

more consequence than cause

Deviant peers

triggering effect especially in male adolescents or intensifying effect on pre-existing delinquency; fixation of roles and behaviour; attention for dominant and antisocial behaviour

Age effects

increasing relevance of the peers



CD Aetiology

School factors

Low academic achievement and motivation

associated with prevalence, time at onset, and severity of delinquency.

School structure

Teacher student rate as risk factor for victimization of the teacher

• Rule structure

deficient definition and enforcement of rules; impact on frequency, evaluation, and support of antisocial behaviour

CD Aetiology

Societal factors

Social disadvantage

strong association with poverty, low socioeconomic status, unemployment, deprived living areas

Parenting as mediator

social disadvantage impairs adequte parenting behaviour

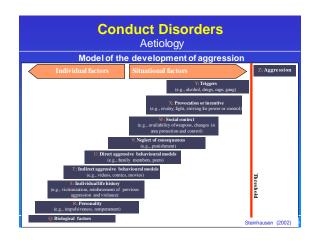
Mass media

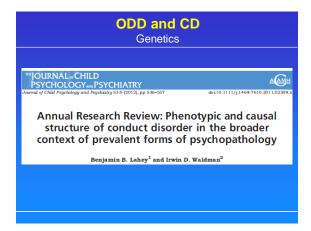
aggressive role models in TV & videos (effective in 8-12 year old boys, in particular)

Societal norms and values

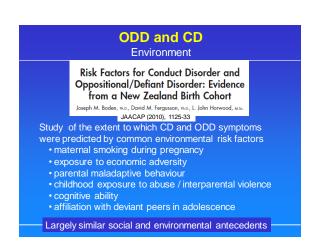
definition of norms, fostering and sanctioning of aggression and violence

Conduct Disorders Aetiology Makrosystem • Society and culture Exosystem • Social environment Mikrosystem • Family Situational factors • incentives • ingers Individual • Personality • Temperament • Biological factors





ODD and CD Genetics ODD and CD share half of their genetic influences Unlike most other dimensions of psychopathology, half of the genetic influences on CD seem to be unique to CD In contrast, ODD broadly shares nearly all of its genetic influences with other disorders and has little unique genetic variance



Clinical Picture Assessment

Conduct Disorders Clinical Picture / Assessment Co-morbidity Mixed disorders of conduct and emotions Hyperkinetic conduct disorder Brain disorders Specific Learning disorders (dyslexia) Substance use disorder

Conduct Disorders

Clinical Picture / Assessment

Differential diagnosis

- Adjustment disorders
- Hyperkinetic disorders (ADHD)
- Affective disorders
- Substance use disorders
- Psychoses (schizophrenias, bipolar disorders)
- Autism spectrum disorders
- Antisocial personality disorder

Conduct Disorders

Assessment

- Dimensional assessment with behavioural questionnaires (e.g., SDQ, CBCL, YSR)
- Family History (CD, substance abuse, other mental disorders, distress and ressources)
- History of the patient (early risk factors, trauma, physical abuse, attachment disorders etc.)
- Observation of parent-child interaction
- Family structure (parenting quality, partnership problems, single parenthood, age of parents, socioeconomic situation)

Conduct Disorders

Assessment

- Mental state examination
 - Bonding and empathy
 - Impulse
 - Affects
 - Moral development
 - Cognitions
 - Reality testing
 - Peer relationships
 - Substance use
 - School performance
 - Media use / leisure time activities

Conduct Disorders

Assessment

- Comorbid mental disorders
- Personality (temperament, emotionality, impusivity)
- Neuropsychological testing (IQ, reading, writing etc.)
- Functional behaviour analysis (e.g., overt vs. covert behaviour; duration; eliciting and maintaining factors; parental discipline and rearing patterns)
- Reports from schools, institutions, welfare and justice systems, other third parties

Conduct Disorders

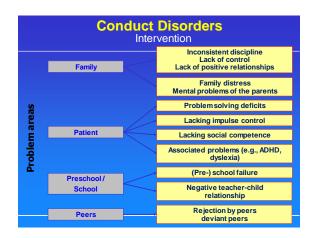
Intervention

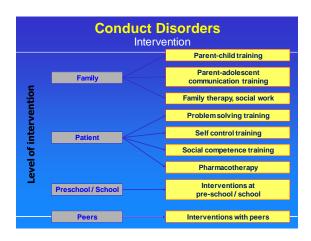
Conduct Disorders

Intervention

Multimodal intervention

- Emphasis on indication und differential diagnosis in psychiatric interventions; CD is not always an indication for CAP (e.g., gang delinquency)
- Family oriented behaviour therapy, training of parental competence
- Child / adolescent centered training of social skills / cognitive behaviour therapy





Conduct Disorders Intervention Effects

Conduct disorders Intervention Effects There is a substantial number of international manuals for parent trainings and child-centered skill trainings Parent trainings are moderately effective (d=0.45) for reducing oppositional-aggressive behaviours in the family but not for reducing aggressive behaviour towards peers and for building up social problem solving skills The evaluation of child-centered skill trainings is less developed than the publication of manuals McCart et al., 2006; Webster-Stratton & Hammond, 2004)

Conduct disorders

Intervention Effects

- Effectiveness according to APA (American Psychological Association)
 - Parent trainings: specifically effective (Oregon model, Parent-Child Interaction Therapy, Forehand & McMahon, Incredible Years, Positive Parenting Program-Triple P)
 - Social competence trainings: effective (Anger Control Training, Incredible Years, Problem Solving Skills Training)

Specifically effective:

better than placebo or alternative treatment or equivalent to established alternative treatment; studies by >= 2 independent research groups; n>=2 subjects Effective: better than untreated controls (at least two studies)

Eyberg et al. 2008

Conduct disorders

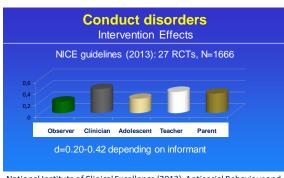
Intervention Effects

Psychosocial Treatment Efficacy for Disruptive Behavior Problems in Very Young Children: A Meta-Analytic Examination

Jonathan S. Comer, Ph.D., Candice Chow, M.A., Priscilla T. Chan, M.A., Christine Cooper-Vince, M.A., Lianna A.S. Wilson, M.A.

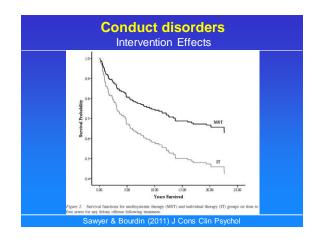
JAACAP (2012), 26-36

Conduct disorders Intervention Effects • Meta-analysis of 33 studies , N= 3042 children, mean age=4.7 yrs., 72% males, 33% minority youths • Large and sustained overall effect (Hedges g = 0.82) for psychosocial treatments • Largest effect for • behavioural treatments (Hedges g = 0.88) • samples with comparisons against TAU (Hedges g = 1.17) • general externalizing problems (Hedges g = 0.90) • problems of oppositionality and non-compliance (Hedges g = 0.76) • Weakest for problems of impulsivity and hyperactivity (Hedges g = 0.61)



National Institute of Clinical Excellence (2013). Antisocial Behaviour and conduct disorders in children and young people: Recognition, intervention and management. Published by The British Psychological Society and The Royal College of Psychiatrists.







Conduct disorders Intervention Effects / Limitations Mostly comparisons with waitlist or no treatment conditions and few with active controls Rarely combined parent and child related interventions Rarely individual treatment (7%) Rarely based on diagnoses (15-22%) Ratings mostly unblinded and based on significant others Rarely based on multi-informant design Rarely based on direct behaviour observation Mostly rather short interventions (average=16 h) Weisz et al. (2005) Ann Rev Psychol; McCart et al. (2006) JACP; NICE (2013)



Practitioner Review: Effective ingredients of prevention programs for youth at risk of persistent juvenile delinquency - recommendations for clinical practice

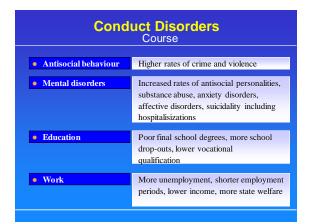
Sanne L. A. de Vries, Machteld Hoeve, Mark Assink, Geert Jan J. M. Stams, and Jessica J. Asscher
Research Institute Child Development and Education, University of Amsterdam, Amsterdam, The Netherlands

Conduct disorders

Prevention

- Meta-analysis based on 39 studies (N=9084)
- Prevention programs for juveniles at the onset of a delinquent trajectory and at risk for persistent offending
- Small but significant effect size (d=0.24)
- Behavioural-oriented programs focusing on parenting skill programs, behavioural modeling, or behavioural contracting yielded the largest effects.
- Multimodal programs and programs carried out in the family proved to be more beneficial than individual and group-based programs.
- Less intensive programs yielded larger effects.

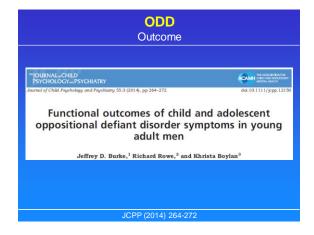
Conduct Disorders Course and Outcome



Conduct Disorders Course		
Social network	Less friendships and contacts with relatives, less social integration into neighbourhoods	
• Partnership	High rate of short-living and violent relationhips with antisocial partners	
• Children	High rate of child abuse, anti-social behaviour of the children, institutionalization	
• Health	More medical problems, premature death	

Conduct disorders Outcome Findings • The persistence from child and adolescent CD into ASPD is below 50% in clinical samples. • The rates are much lower in community samples. Associations of ODD with ASPD often run via CD. • The childhood limited type tends to remit but the adolescent limited type has a somewhat less benign outcome than initially assumed. Even in highly antisocial subgroups with 'life course persistent' (LCP) trajectories significant proportions do eventually desist. Costello & Maughan (2014) JCPP

Conduct disorders Outcome Findings Increased risk of different diagnosis Substance use disorders Anxiety and depressive disorders Poor physical health Poor functioning (education, occupation, partnership) Correlates of more positive outcomes maturational factors attachment to adult bonds avoidance of the adverse downstream consequences of early disruptiveness



ODD Outcome Clinical sample of 177 boys aged 7-12 followed-up at age 18 and 24 Parental reports from adolescence used for prediction of self-reported functioning at age 24 Controlling for parent-reported symptoms of ADHD, CD, ANX, DEP, ODD symptoms from childhood through adolescence predicted poorer age 24 functioning only parent-reported ODD symptoms and self-reported CD symptoms predicted a composite score of poor adult outcomes. JCPP (2014) 264-272

Conduct disorders Conclusions Disruptive disorders (ODD and CD) represent a serious problem for both the individual and the society. The role of CAP for dx and tx needs critical reflection. The societal costs are high and the role of the society also needs critical reflection. Early prevention and intervention are in the best interest of both the individual and the society.

Thank you for your attention