ADHD AND ANXIETY AND DEPRESSION

AN OVERVIEW

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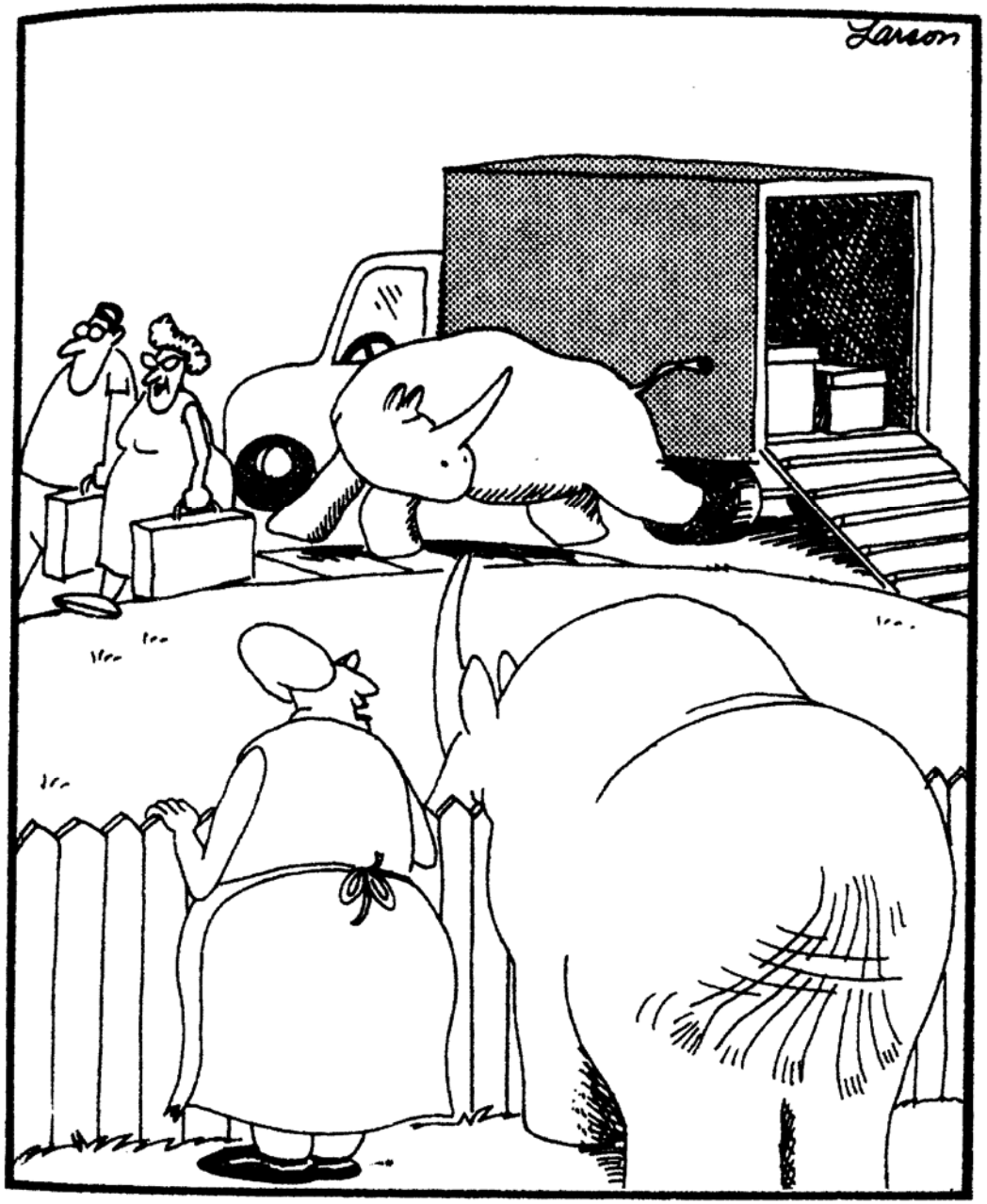
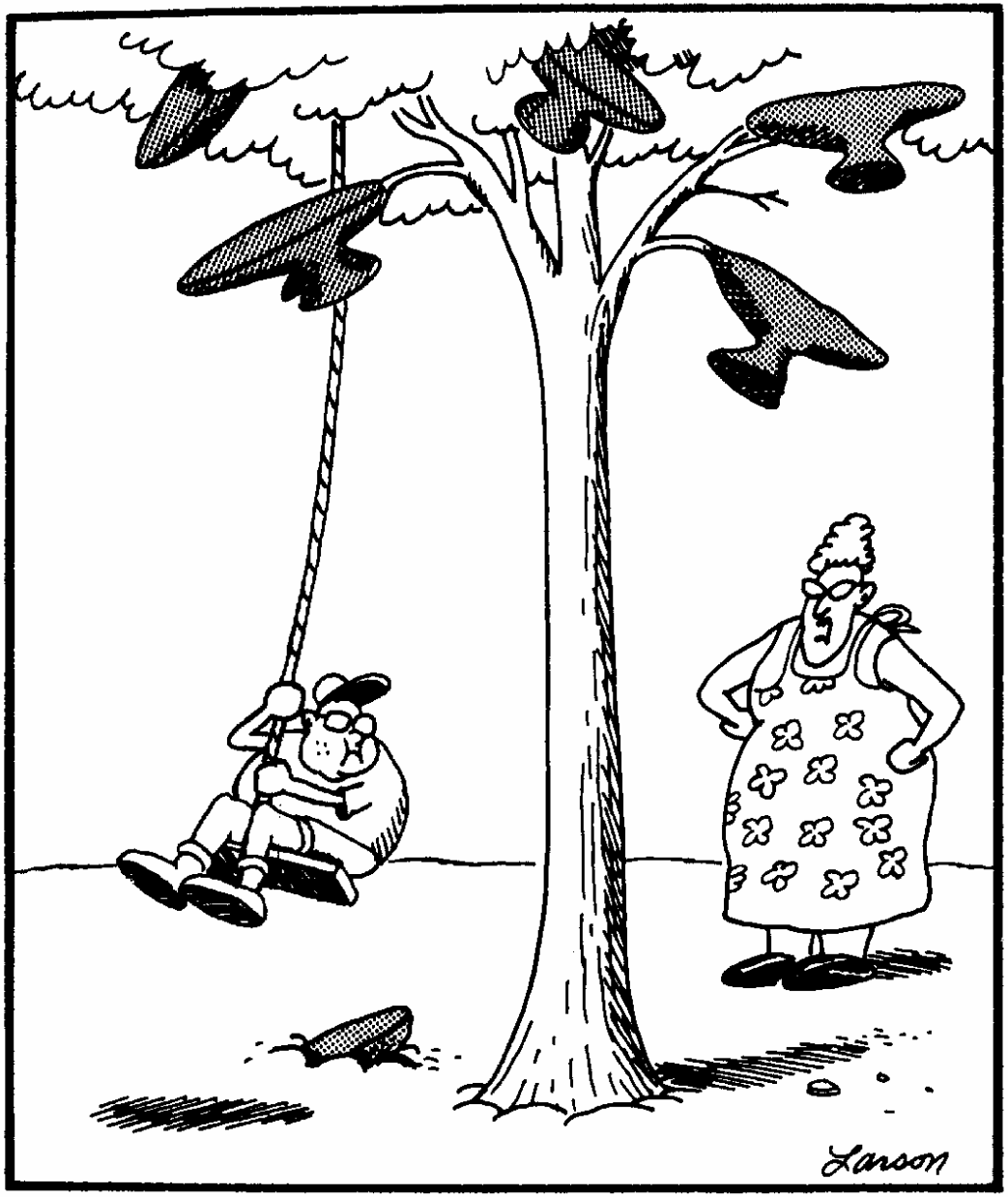
Outline of Presentation

- **Definition of ADHD, anxiety and depressive disorders**
- **The conceptual problem of comorbidity**
- **The clinical problem of comorbidity**
- **Future directions**



"Well, well, King . . . looks like the new neighbors have brought a friend for you, too."

"Hello, Emily. This is Gladys Murphy up the street. Fine, thanks . . . Say, could you go to your window and describe what's in my front yard?"



"All right, Billy, you just go right ahead! . . . I've warned you enough times about playing under the anvil tree!"

Attention Deficit Hyperactivity Disorder (ADHD)

DSM-IV CRITERIA

-six or more symptoms, at least six months, maladaptive/inconsistent with developmental level

-inattention dimension and/or hyperactivity-impulsivity dimension

-evident at least two settings

-onset before seven years of age

-impairment social, academic, occupational functioning

-symptoms not due to a PDD, Psychotic, Mood, or Anxiety Disorder

Definition (DSM-IV)

Major depressive disorder – one or more major depressive episode(s) characterized by the following:

period of two weeks or more

-depressed mood predominant and/or

-loss of interest or pleasure

-3 or 4 or more of the following;

feelings of worthlessness or excessive or inappropriate guilt, >5% weight change in a given month, in/hyper somnia, psychomotor agitation/retardation, anergia (fatigue), decreased concentration or ability to think or decisiveness, recurrent thoughts of death, suicidal ideation, suicide plan or suicide attempt

symptoms cause impairment in interpersonal, social, academic, occupational functioning

not due to a substance, medical condition or bereavement

Definition (DSM-IV)

Dysthymic disorder is characterized by the following:

2 years or more (most of the day, for more days than not),
<2 months absence in a given year

-depressed mood predominant

-2 or more of the following:

feelings of hopelessness, low self-esteem

appetite change, in/hyper somnia, anergia (fatigue),

decreased concentration or decisiveness

no major depressive episode evident in first year of the symptoms

symptoms cause impairment in interpersonal, social, academic, occupational functioning

not due to a substance, medical condition or bereavement

Definition (DSM-IV)

Anxiety disorders are characterized by the following:

Generalized Anxiety Disorder: > 6 months anxiety/worries
Specific Phobia: specific fear stimulus
Social Phobia: interpersonal sensitivity
Obsessive compulsive disorder: presence of obsessions/compulsions
Panic disorder: panic attacks with characteristic cognitions

symptoms cause impairment in interpersonal, social, academic, occupational functioning
not due to a substance or medical condition

Types of ADHD

-predominantly inattentive type (primarily)

-combined type

-predominantly hyperactive-impulsive type

- all subtypes average prevalence
  4% (9 years) 0.8% (20 years) (decrease 50%/5 years)

- Controversy continues…..diagnostic criteria and informants used

Comorbidity of ADHD

-alcohol/substance abuse/dependence disorders

-oppositional-defiant through to conduct disorders

-anxiety and depressive symptoms through to disorders

Comorbidity of ADHD (continued)

-males: increased rates of oppositional-defiant through to conduct disorders

-females: increased rates of anxiety and depressive symptoms through to disorders

-oppositional-defiant disorder increases risk of anxiety and depressive symptoms through to disorders

Comorbidity of ADHD (continued)

- psychotic disorders

primarily disorganized schizophrenia/ residual schizophrenia

prominent thought blocking, formal thought disorder, confusion, personality disintegration, social and occupational impairment

The conceptual problem of comorbidity

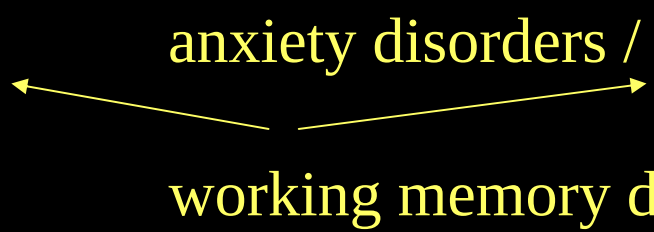
- comorbid disorders are separate disorders

- comorbid disorders are secondary disorders

ADHD ⟶ anxiety disorders / depressive disorders

ADHD ⟵ anxiety disorders / depressive disorders

- comorbid disorders share common antecedent



The conceptual problem of comorbidity

- comorbid disorders are separate disorders

- overwhelming evidence of a greater than chance association of ADHD and anxiety disorders / depressive disorders

The conceptual problem of comorbidity

- comorbid disorders are secondary disorders

ADHD ⟶ anxiety disorders / depressive disorders

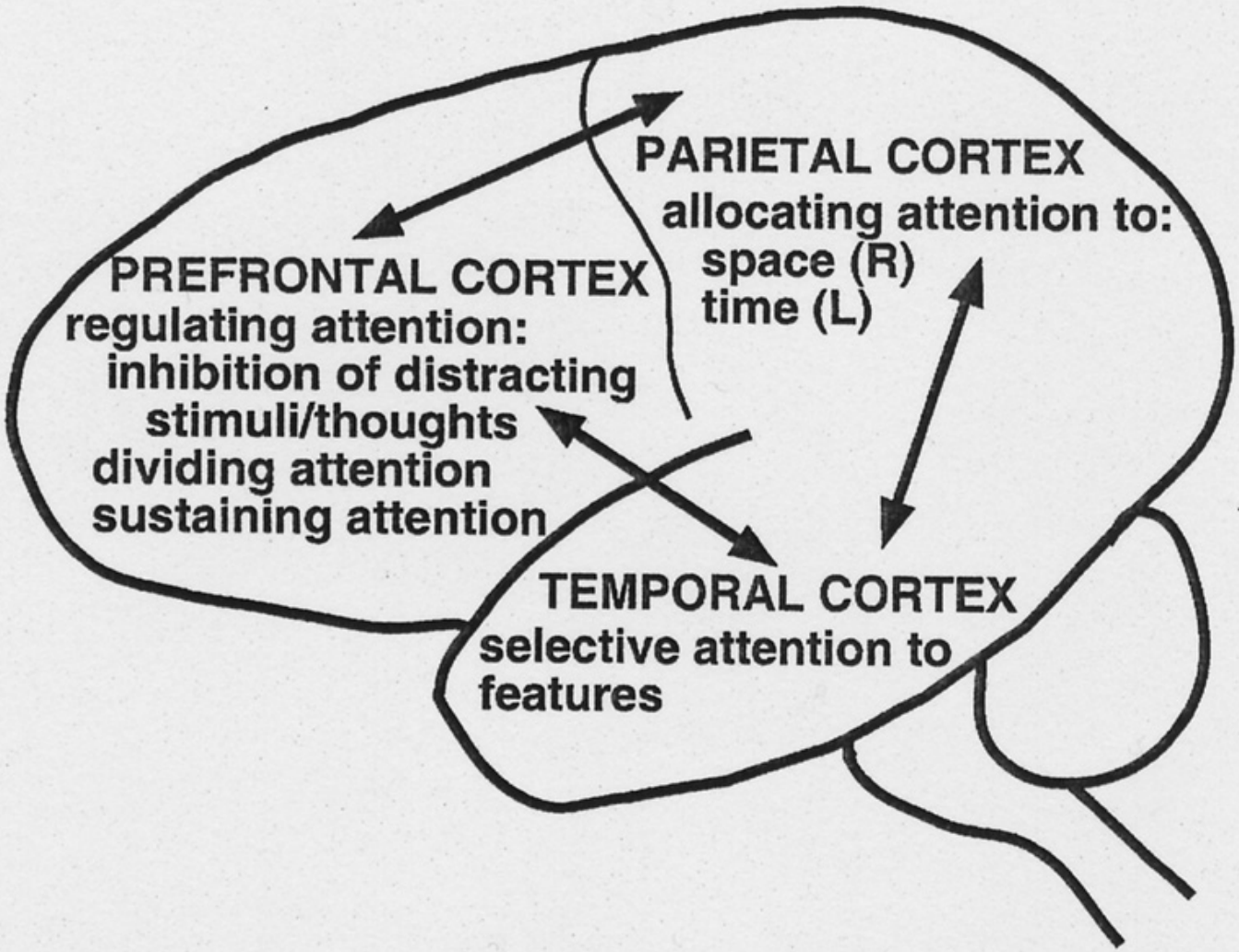


FIGURE 8.1 The prefrontal, parietal, and temporal association cortices form interconnected networks that play complementary roles in attentional processing.

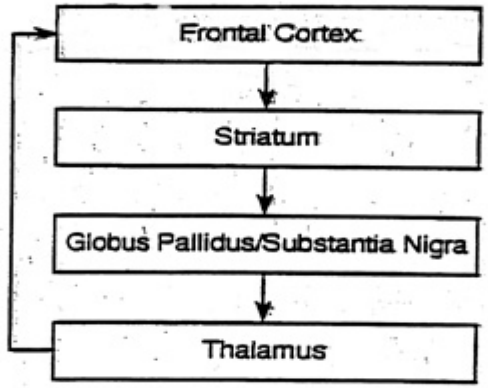


Figure 16.1. Central organisation of the frontal–subcortical circuits.

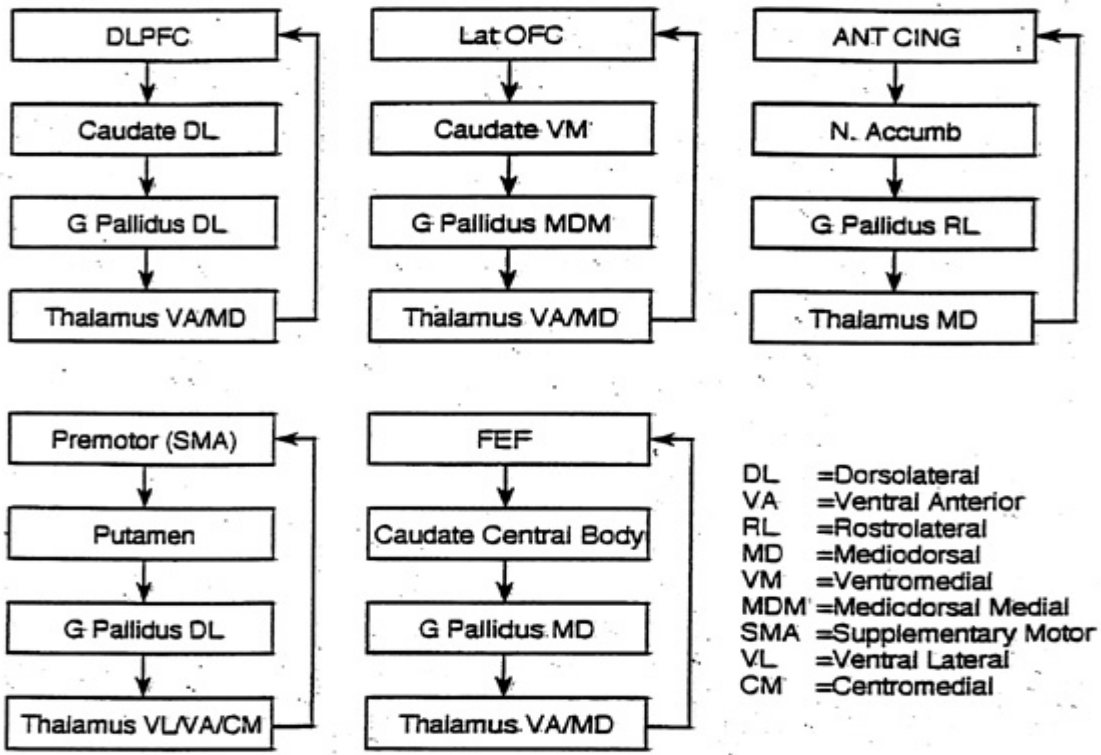
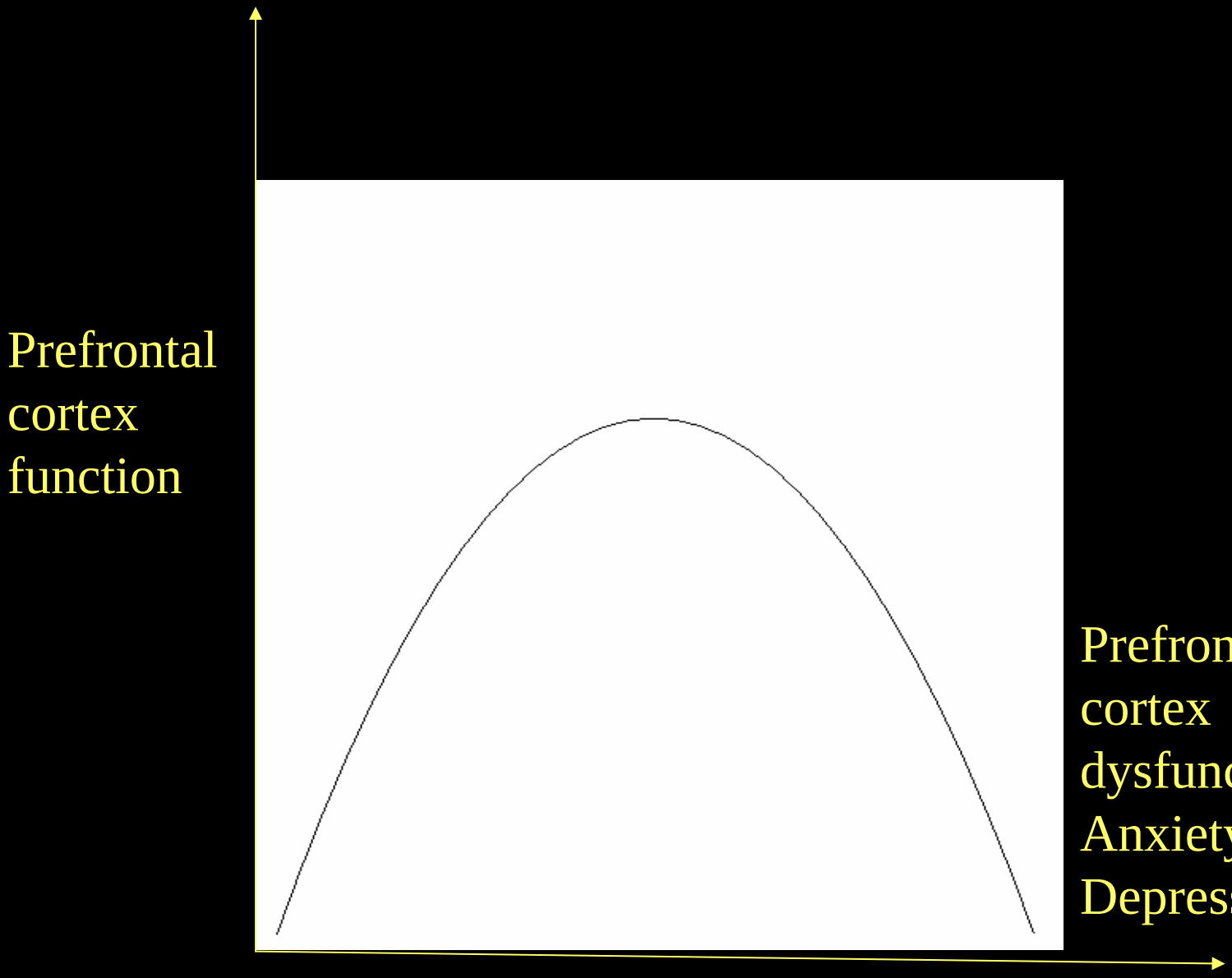


Figure 16.2. Organisation of the frontal-subcortical circuits (see also Cummings, 1993). (NB: indirect circuits of the substantia nigra and subthalamic nucleus are not shown.)

The conceptual problem of comorbidity

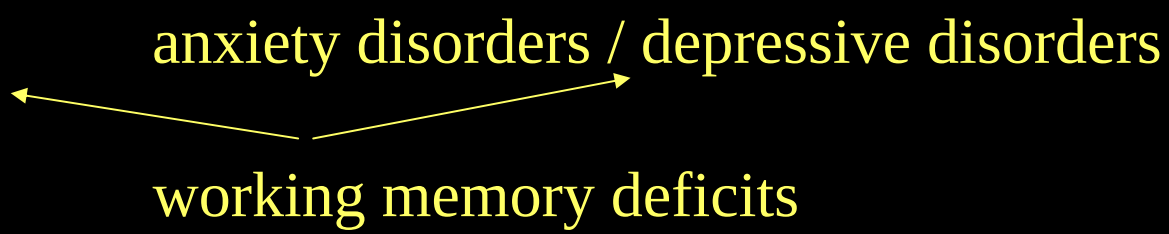
- comorbid disorders are secondary disorders

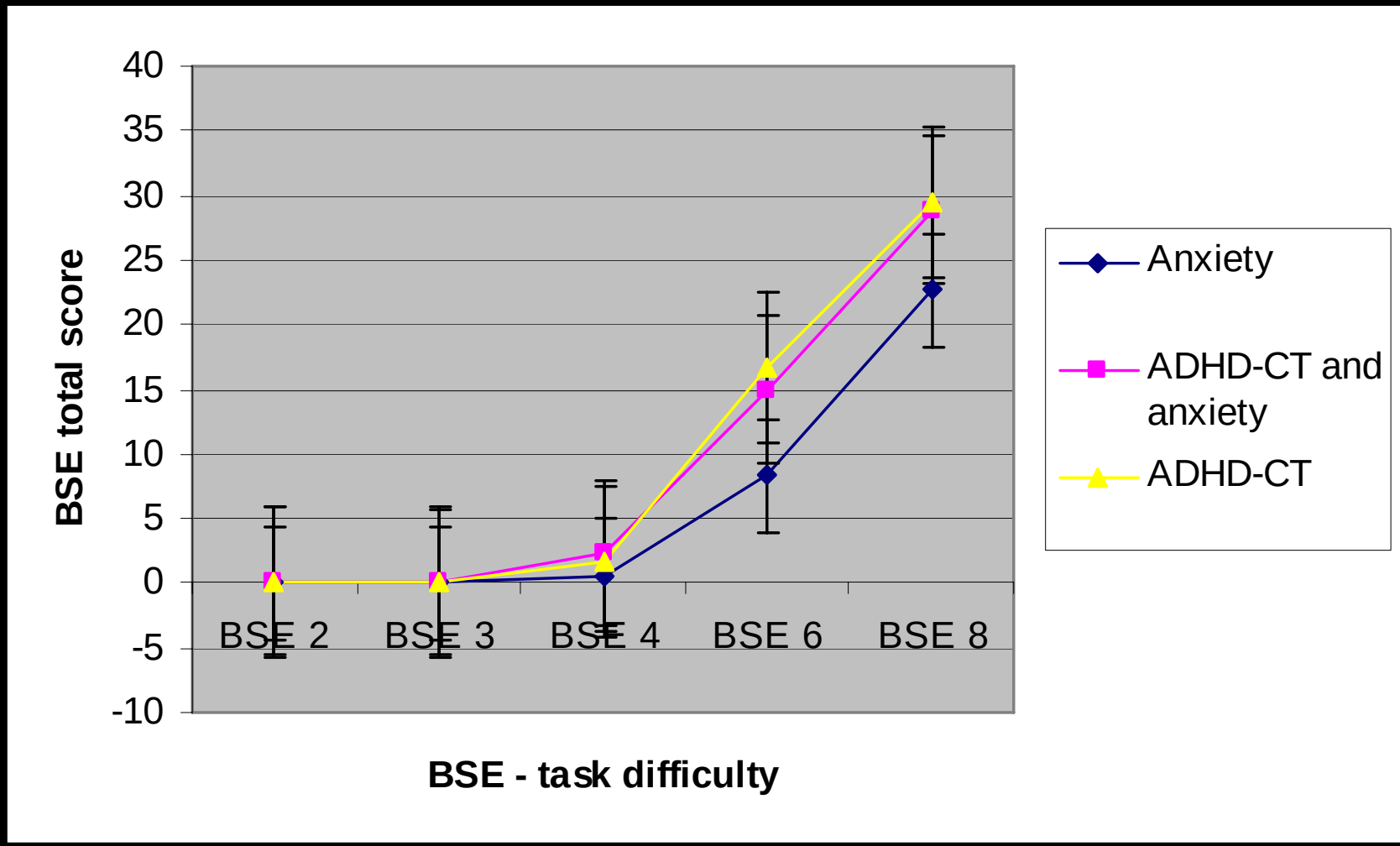
ADHD ⟵ anxiety disorders / depressive disorders


Prefrontal cortex function
Prefrontal cortex dysfunction
Anxiety – low/high
Depression - low
Behavioural symptom level

The conceptual problem of comorbidity

- comorbid disorders share common antecedent




40
35
30
25
20
15
10
5
0
-5
-10
BSE total score
BSE 2
BSE 3
BSE 4
BSE 6
BSE 8
BSE - task difficulty
Anxiety
ADHD-CT and anxiety
ADHD-CT

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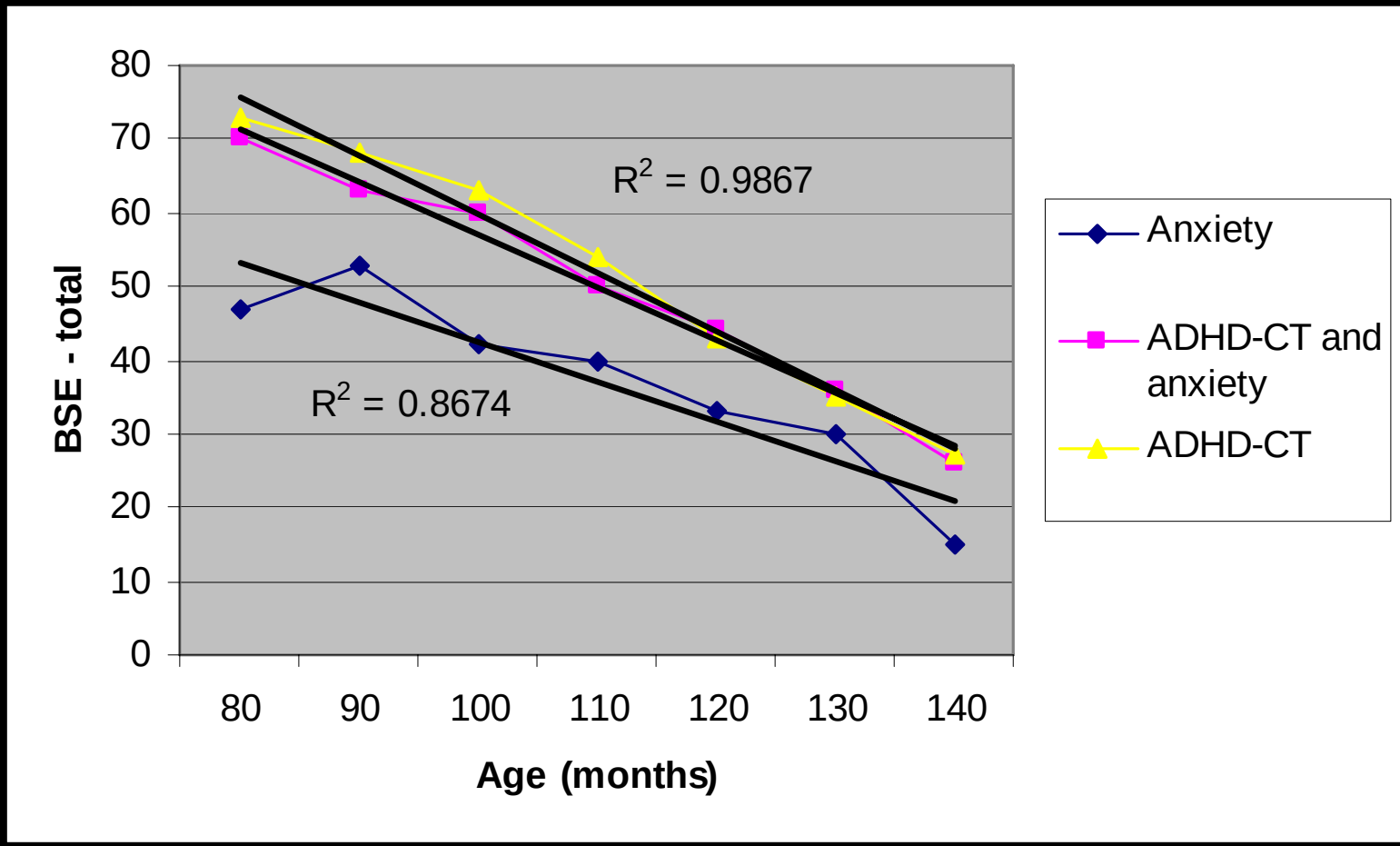
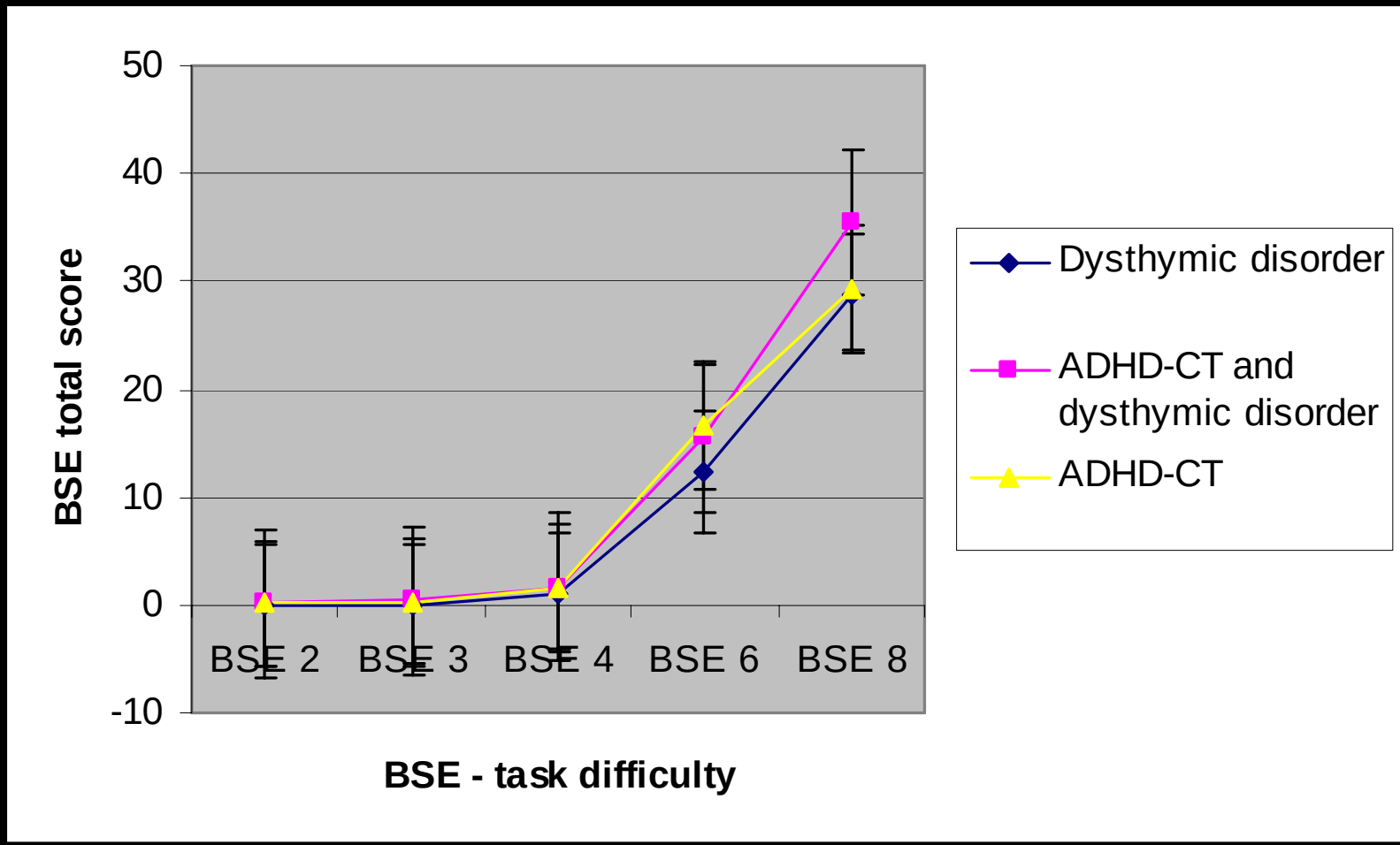
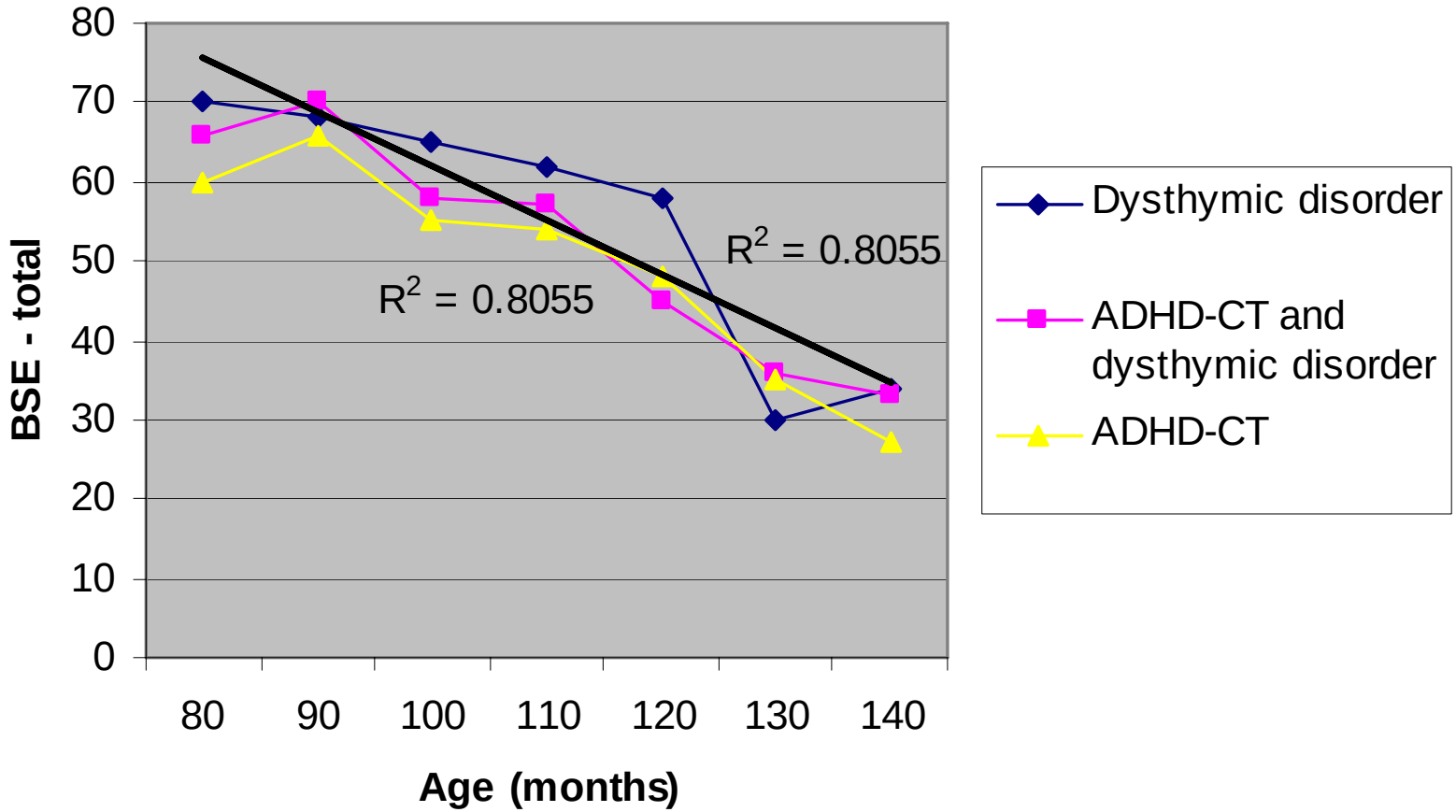

80
70
60
50
40
30
20
10
0
BSE - total
80
90
100
110
120
130
140
Age (months)
R2 = 0.9867
R2 = 0.8674
Anxiety
ADHD-CT and anxiety
ADHD-CT


50
40
30
20
10
0
-10
BSE total score
BSE 2
BSE 3
BSE 4
BSE 6
BSE 8
BSE - task difficulty
Dysthymic disorder
ADHD-CT and dysthymic disorder
ADHD-CT


80
70
60
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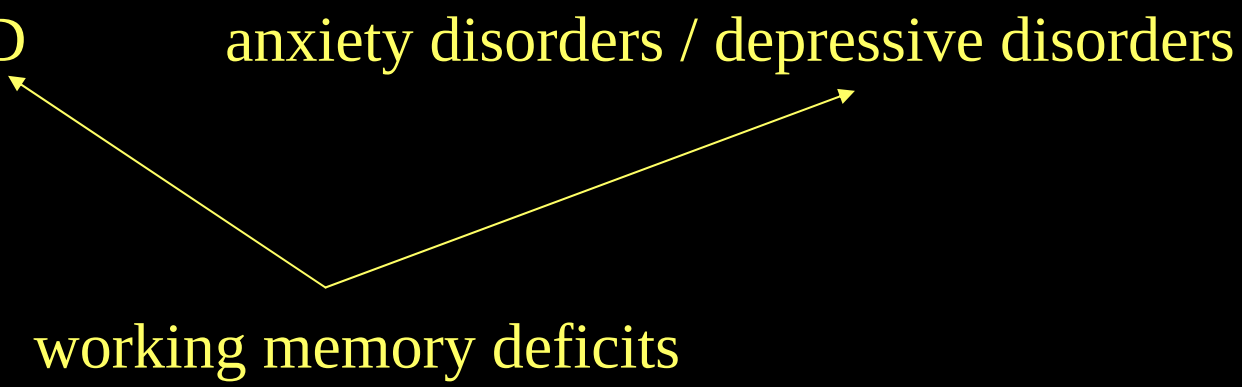
40
30
20
10
0
BSE - total
80
90
100
110
120
130
140
Age (months)
R2 = 0.8055
R2 = 0.8055
Dysthymic disorder
ADHD-CT and dysthymic disorder
ADHD-CT

The conceptual problem of comorbidity

- comorbid disorders share common antecedent



The clinical problem of comorbidity

-Summary to date:

impairment governs referral

comorbidity is common

relatively specific and common risk factors emerging

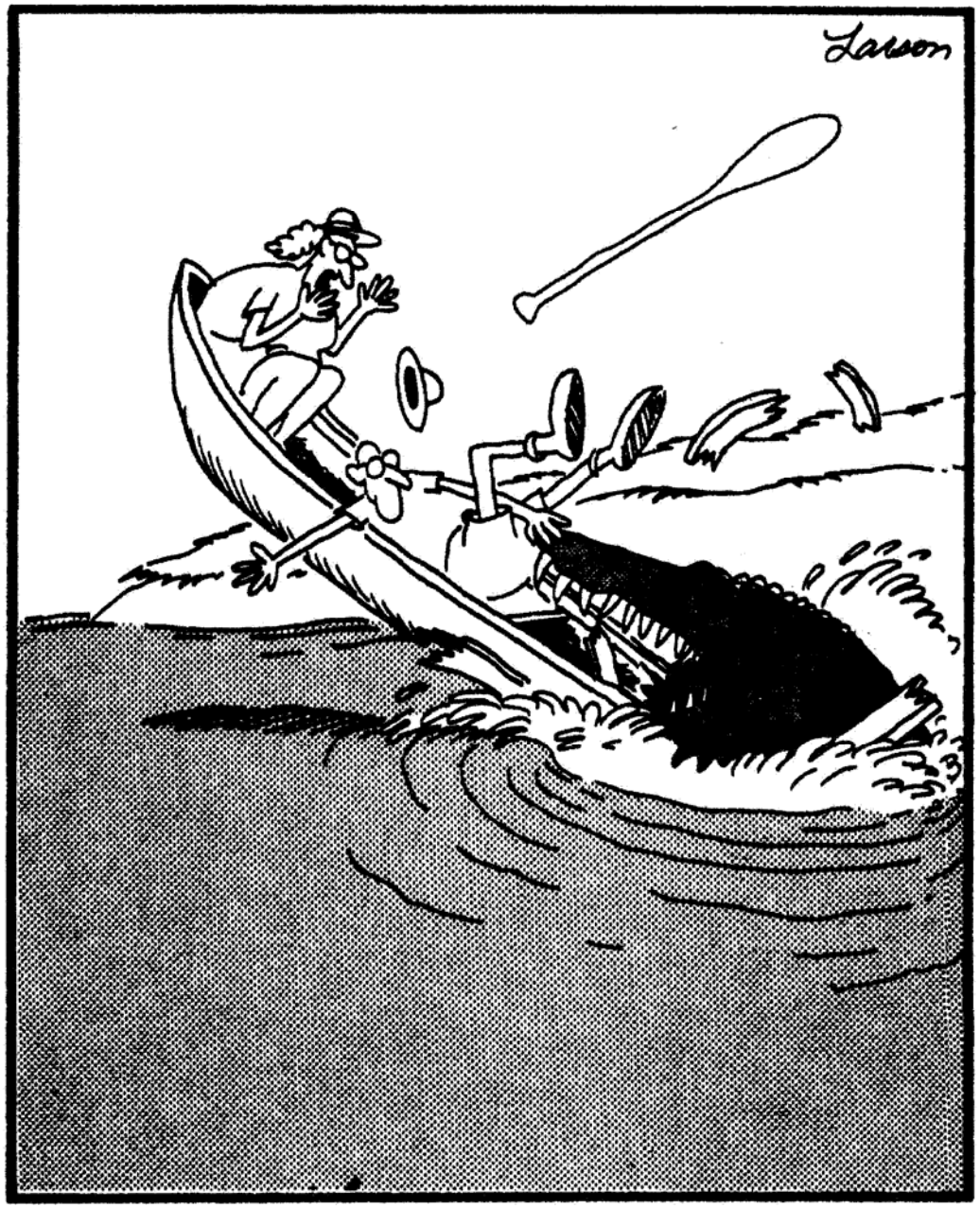
brain systems studied affected by ‘biological’ and ‘environmental’ factors

Developmental psychopathology

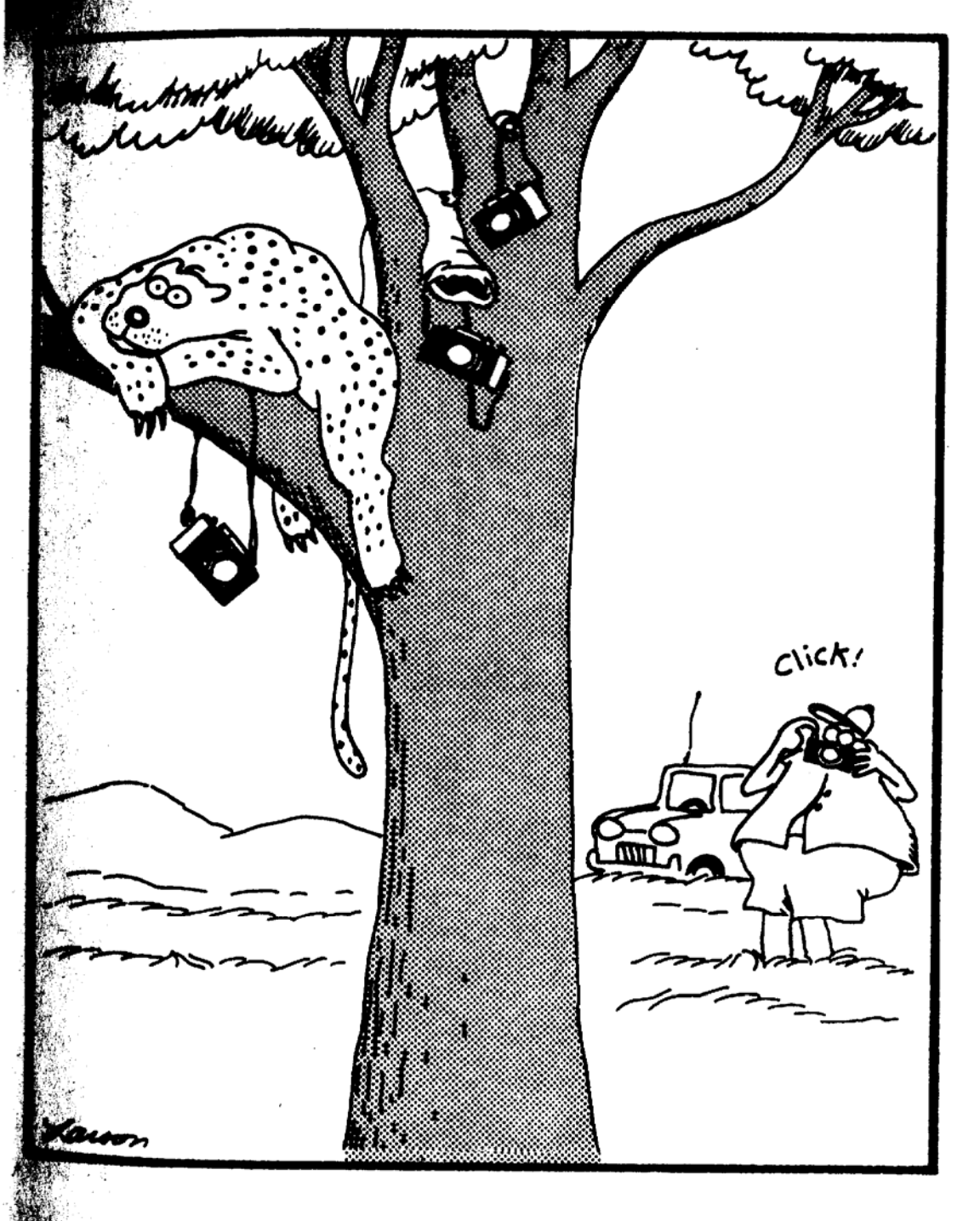
-assessment and treatment involves [1] identifying biological, psychological, social, cultural and developmental risk and resilience factors and their ***relative importance*** in a given individual and [2] ***biological and psychological*** treatments used alone or in conjunction to achieve specific goals informed by the relative priorities of these risk and resilience factors

-monitoring of treatment resides primarily with the ***clinician*** in association with the individual in the treatment process

-clear biological risk factors or resilience factors identified



"Rub his belly, Ernie! Rub his belly!"


Click!

Key targets of psychological and biological treatment

Executive functioning

Response inhibition: motor and cognition
optimise response speed and accuracy

Working memory: verbal and visuospatial
optimise span and strategy

Key targets of psychological and biological treatment

Mood dysregulation:	**decrease irritability** **increase emotional salience**
Arousal dysregulation:	**optimise physiological arousal** **optimise habituation**

Useful medication approaches

Response inhibition:

motor and cognition	stimulant medication -linear dose response
speed and accuracy	clonidine higher dose

Working memory:

span	stimulant medication -inverted parabolic response
strategy	stimulant medication -linear dose response clonidine higher dose

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Useful medication approaches

Mood dysregulation:

irritability	stimulant medication SSRI TCA antipsychotic medication
emotional salience	stimulant medication SSRI? TCA?

Useful medication approaches

Arousal regulation:

physiological arousal	clonidine benzodiazepines TCA antipsychotic medication
habituation response	clonidine benzodiazepines TCA? antipsychotic medication?

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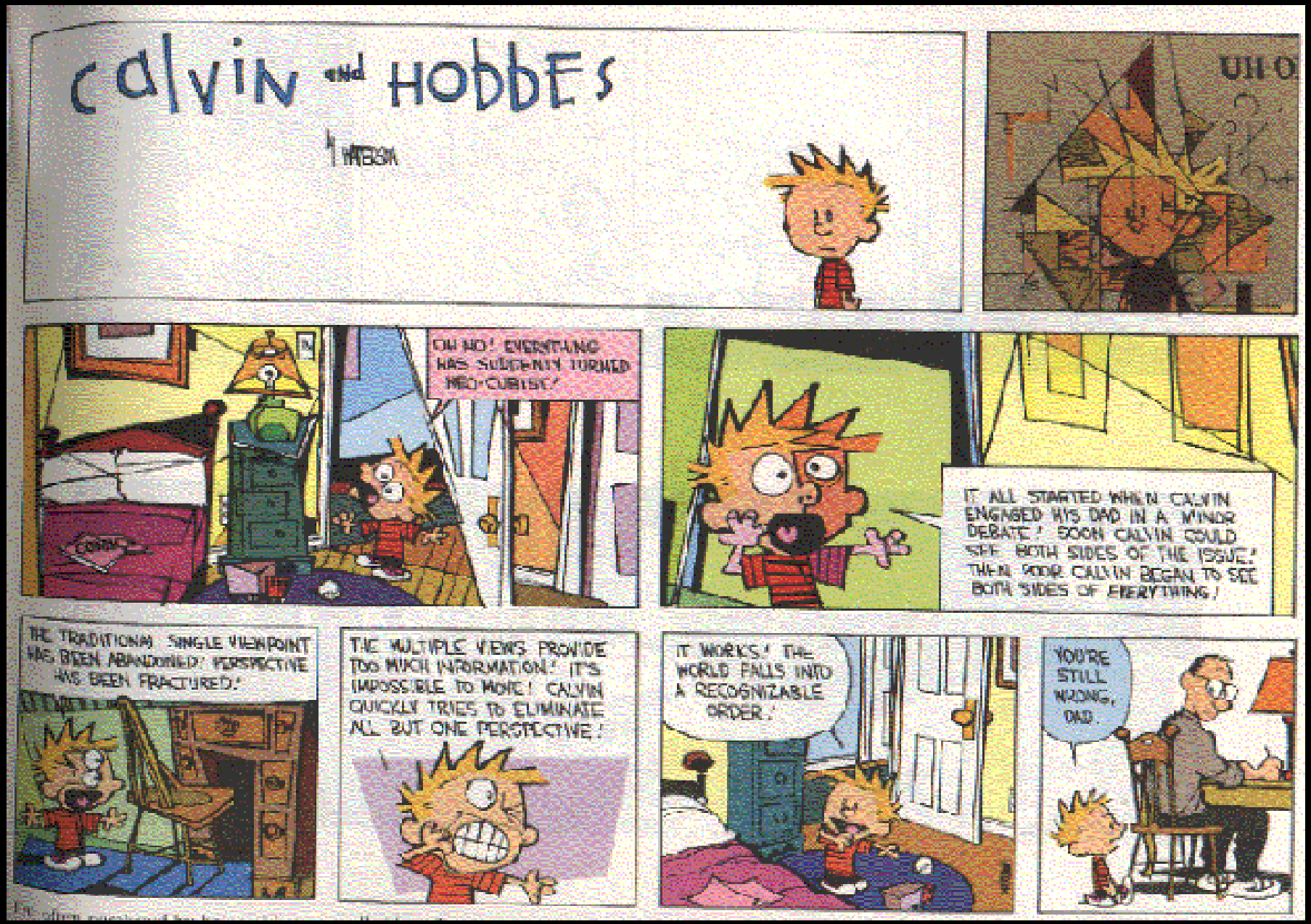
Future directions

- developmental stage dependent / independent risk and resilience factors determined

- more specific psychological and medication treatments determined

- more specific monitoring of these treatments determined


calvin and HOBBES
UH-O
OH NO! EVERYTHING HAS SUDDENLY TURNED NEO-CUBIST!
IT ALL STARTED WHEN CALVIN ENGAGED HIS DAD IN A MINOR DEBATE. SOON CALVIN COULD SEE BOTH SIDES OF THE ISSUE. THEN POOR CALVIN BEGAN TO SEE BOTH SIDES OF EVERYTHING!
THE TRADITIONAL SINGLE VIEWPOINT HAS BEEN ABANDONED. PERSPECTIVE HAS BEEN FRACTURED.
THE MULTIPLE VIEWS PROVIDE TOO MUCH INFORMATION. IT'S IMPOSSIBLE TO MOVE! CALVIN QUICKLY TRIES TO ELIMINATE ALL BUT ONE PERSPECTIVE.
IT WORKS! THE WORLD FALLS INTO A RECOGNIZABLE ORDER.
YOU'RE STILL WRONG, DAD.

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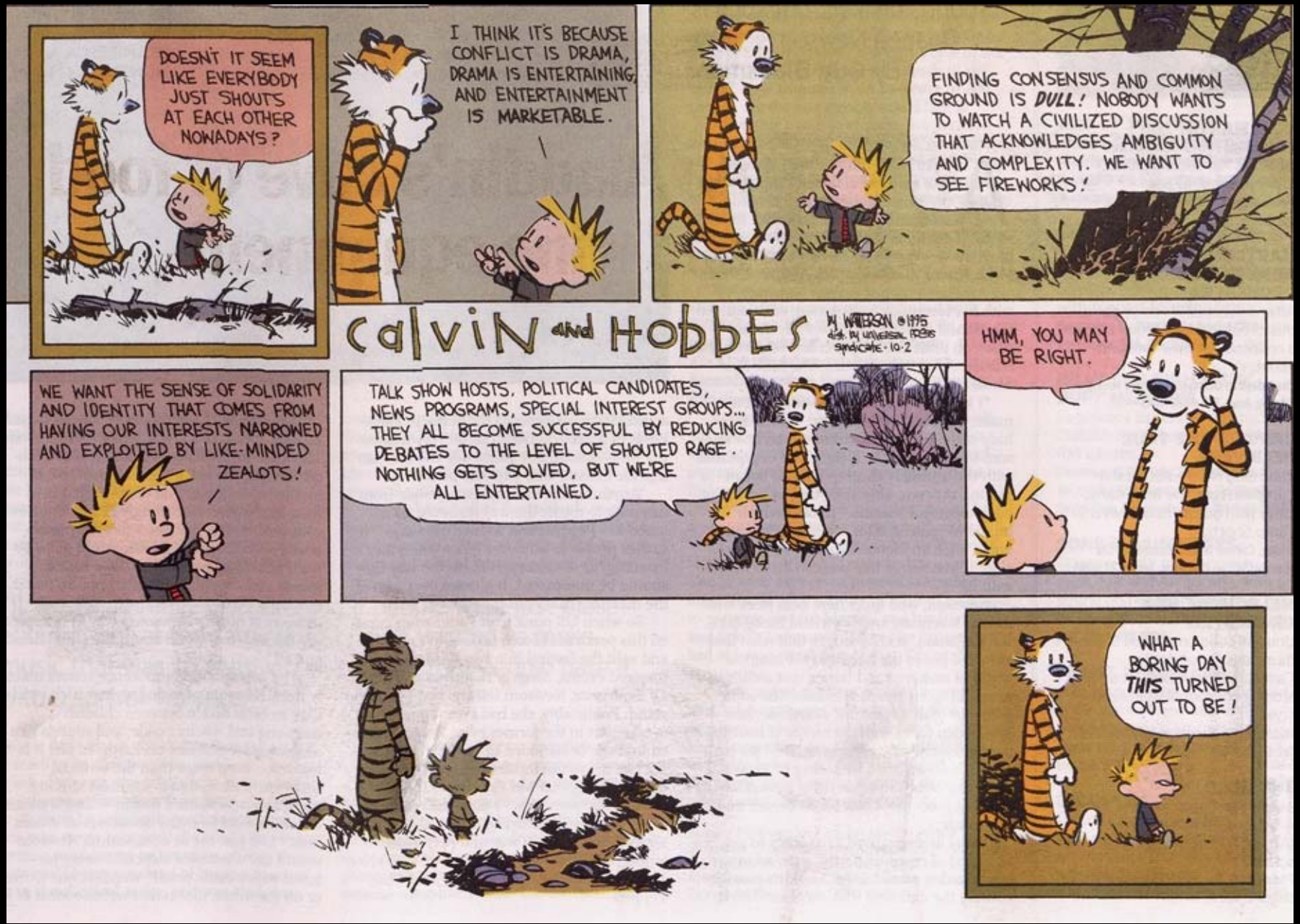
DOESN'T IT SEEM LIKE EVERYBODY JUST SHOUTS AT EACH OTHER NOWADAYS?
I THINK IT'S BECAUSE CONFLICT IS DRAMA, DRAMA IS ENTERTAINING, AND ENTERTAINMENT IS MARKETABLE.
FINDING CONSENSUS AND COMMON GROUND IS DULL! NOBODY WANTS TO WATCH A CIVILIZED DISCUSSION THAT ACKNOWLEDGES AMBIGUITY AND COMPLEXITY. WE WANT TO SEE FIREWORKS!
Calvin and Hobbes
by Watterson ©1995 dist. by Universal Press Syndicate 10-2
WE WANT THE SENSE OF SOLIDARITY AND IDENTITY THAT COMES FROM HAVING OUR INTERESTS NARROWED AND EXPLOITED BY LIKE-MINDED ZEALOTS!
TALK SHOW HOSTS, POLITICAL CANDIDATES, NEWS PROGRAMS, SPECIAL INTEREST GROUPS... THEY ALL BECOME SUCCESSFUL BY REDUCING DEBATES TO THE LEVEL OF SHOUTED RAGE. NOTHING GETS SOLVED, BUT WE'RE ALL ENTERTAINED.
HMM, YOU MAY BE RIGHT.
WHAT A BORING DAY THIS TURNED OUT TO BE!