

Questionari e scale di valutazione

Gruppo di lavoro sulla diagnosi

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ADHD assessment: linee guida

concordanza su:

- assenza di un golden standard
- assessment sostanzialmente di tipo clinico
- raccolta di informazioni da fonti multiple

evidenze presenti (o utilità di):

- ★ ★ rating scales basate sul DSM-IV “narrowband”: diagnosi categoriale
- ★ ★ rating scales “broadband”: valutazione della comorbidità
- ★ interviste semistrutturate o strutturate
- ★ osservazioni comportamentali
- ★ sistemi di misura della compromissione funzionale in diversi ambiti

evidenze insufficienti o incerte:

- scale autosomministrate (disturbo prevalentemente esternalizzante)

non necessari:

- esami di laboratorio
- esami genetici
- esami neuropsicologici
- esami neuroradiologici
- esami neurofisiologici

valutazione iniziale

valutazione specialistica



raccolta di informazioni da fonti multiple: domande aperte, interviste semistrutturate, strutturate, questionari

genitori/caregiver

insegnanti/educatori

pazienti

uso di rating scales:



broadband scales: comorbidità



narrowband scales: diagnosi categoriale

valutazione clinica e di segni neurologici "minori"

valutazioni dell'apprendimento

valutazione neuropsicologica e valutazione delle funzioni esecutive

esami di laboratorio

esami neurofisiologici

esami neuroradiologici

ADHD assessment: 1044 casi

Strumento	Diagnosi completata	
	N	%
Colloquio clinico	798	98
Esame neurologico	686	84
Quoziente Intellettivo	712	87
Intervista diagnostica	651	80
	K-SADS PL	581
	DAWBA	70
Genitori	694	85
	CPRS	663
	CBCL	317
Insegnanti	592	73
	CTRS-R	565
	rifiuto collaborazione	27
CGI-S/ CGAS	245	30
	CGI-S	233
	CGAS	65
Totale	815	(100)
Completi nei 7 punti	161	20
Completi senza CGI-S o CGAS	397	49

Broadband scales – DSM IV
Interviste semistrutturate
Kiddie-SADS-PL, DAWBA

Narrowband scales – DSM IV
Questionari genitori e insegnanti
Conners Parents, Teachers

MAJOR DEPRESSION
DYSTHYMIA
MANIA
HYPOMANIA
CYCLOTHYMIA
BIPOLAR DISORDERS
SCHIZOAFFECTIVE DISORDERS

AFFECTIVE

SCHIZOPHRENIA
SCHIZOPHRENIFORM DISORDER
BRIEF REACTIVE PSYCHOSIS

PSYCHOTIC

PANIC DISORDER
AGORAPHOBIA
SEPARATION ANXIETY DISORDER
AVOIDANT DISORDER CHILD-ADOL.
SIMPLE PHOBIA
SOCIAL PHOBIA
OVERANXIOUS DISORDER
GENERALIZED ANXIETY

ANXIETY

OBSESSIVE COMPULSIVE DISORDER

CONDUCT DISORDER
OPPOSITIONAL DEFIANT DISORDER

ENURESIS
ENCOPRESIS

BEHAVIORAL

ANOREXIA NERVOSA
BULIMIA

TRANSIENT TIC DISORDER
TOURETTE'S DISORDER
CHRONIC MOTOR OR VOCAL TIC DISORDER

*SUBSTANCE ABUSE
OTHER*

ALCOHOL ABUSE
SUBSTANCE ABUSE

POST-TRAUMATIC STRESS DISORDER

ADJUSTMENT DISORDERS

ATTENTION DEFICIT HYPERACTIVITY
DISORDER

Ten-Year Review of Rating Scales. V: Scales Assessing Attention-Deficit/Hyperactivity Disorder

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ABSTRACT

Objective: This article summarizes information on scales assessing attention-deficit/hyperactivity disorder (ADHD) in children and adolescents. **Method:** The authors sampled articles on ADHD over the past decade. Several popular older ADHD measures have recently been revised, and new ADHD scales have been developed. The authors selected primarily ADHD scales based on the *DSM-IV* construct of ADHD that also have multiple literature citations. They then reviewed their psychometric properties. Those with adequate psychometric functioning plus considerable literature citations, known wide usage in clinical practice, or a current niche are presented here. **Results:** Several rating scales consistent with the *DSM-IV* conceptualization of ADHD are now available for use in both home and school settings. Many of the instruments demonstrate solid psychometric properties and a strong normative base. However, some popular scales have not been adequately investigated. Some measures are restricted to the comprehensive assessment of ADHD, whereas others also include symptoms of other disorders. The potential applications for these scales with youths diagnosed with ADHD are broad. **Conclusions:** Rating scales can reliably, validly, and efficiently measure *DSM-IV*-based ADHD symptoms in youths. They have great utility in research and clinical work, assist treatment planning, and help to ensure accountability in practice. *J. Am. Acad. Child Adolesc. Psychiatry*, 2003, 42(9):1015–1037. **Key Words:** rating scales, attention-deficit/hyperactivity disorder, disruptive behavior disorders, assessment.

J. Am. Acad. Child Adolesc. Psychiatry, 42:9, Sep 2003

TABLE 1
Psychometric Properties of ADHD Rating Scales

Scale (Ages) Publisher Reference	Items Factors Scoring	Normative Data and Reliabilities for Total Scale & Subscales (Samples)	Validities, Sensitivity & Specificity for Total Scale & Subscales (Samples)	Cutoff	Other
CRS-R (3–17 yr) © Multihealth Systems, Inc.; Conners, 1997	 80 items (parent) 59 items (teacher) 87 items (adolescent) 7 factors (parent) 6 factors (teacher) 6 factors (adolescent) plus: Global index, ADHD index, <i>DSM-IV</i> symptom subscale for parents & teachers 4 points	Normative data available IC: 0.75–0.94 (parent) IC: 0.73–0.94 (teacher) IC: 0.74–0.92 (adolescent) 6–8 wk TR: 0.13–0.78 (parent) 6–8 wk TR: 0.47–0.88 (teacher) 6–8 wk TR: 0.73–0.89 (adolescent) IR: 0.12–0.50 (parent–teacher) IR: 0.13–0.53 (adolescent–parent) IR: 0.08–0.41 (adolescent–teacher)	DISCRIM: ADHD vs. nondiurnal SENS 92% (parent) PPP 94% (parent) SPEC 94% (parent) NPP 92% (parent) SENS 78% (teacher) PPP 90% (teacher) SPEC 91% (teacher) NPP 81% (teacher) SENS 81% (adolescent) PPP 83% (adolescent) SPEC 84% (adolescent) NPP 82% (adolescent)	93rd percentile	Adm: 20–30 min Quick-score forms; computer, fax, mail-in scoring available Global index to assess treatment French-Canadian translation
IOWA Conners (6–12 yr) Available: Loney & Milich, 1982; Pelham et al., 1989	 10 items 2 factors 4 points	Limited normative data for teacher report form; no normative data for other report forms IC: 0.89–0.92 (teacher) IC: 0.78–0.87 (counselor) IC: 0.79–0.81 (adolescent) IR: 0.35–0.49 (teacher–teacher) TR: 0.86–0.89 (teacher) TR: 0.84–0.85 (counselor) TR: 0.74–0.83 (adolescent)	CONV: 0.47–0.81 (teacher) DISCRIM: ADHD from nonclinical (Total scale) ADHD from ODD (I/O subscale) ODD+ADHD from ADHD and from nonclinical (O/D scale)	11 (I/O, K–3rd gd) 9 (I/O, 4th–5th gd) 9 (O/D, K–3rd gd) 6 (O/D, 4th–5th gd) (teacher)	Adm: 5 min
SNAP-IV (5–11 yr) Available: <i>www.ADHD.net</i> ; Swanson, 1992; Swanson et al., 2001b	 90 items (full version) 31 items (ADHD+ ODD version) 2 factors 7 points	Limited normative data available IC: 0.84–0.95 (teacher) IR: 0.30 (parent–teacher)	No validity data available	95th percentile	Adm: 20–30 min (full version) 5–10 min (ADHD+ODD version)
SKAMP (7–12 yr) Available: <i>www.ADHD.net</i> ; Wigal et al., 1998	 13 items 2 factors 7 points	No normative data available 1 day TR: 0.70–0.78	CONV: 0.50–0.83	NA	Adm: 5 min

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Scale (Ages) Publisher Reference	Items Factors Scoring		Normative Data and Reliabilities for Total Scale & Subscales (Samples)	Validities, Sensitivity & Specificity for Total Scale & Subscales (Samples)	Cutoff	Other
SWAN (5–11 yr) <i>Available:</i> <i>www.ADHD.net;</i> <i>Swanson et al., 2001a,b</i>	26 items 3 factors 7 points		No normative data available No reliability data available	No validity data available	NA	Adm: 5 min
ADHD RS-IV (5–18 yr) © Guilford Press; <i>DuPaul et al., 1998b</i>	18 items 2 factors 4 points IC: 0.88–0.96 (school)		Normative data available IC: 0.86–0.92 (home) 4 wk TR: 0.78–0.86 (home) 4 wk TR: 0.88–0.90 (school) IR: 0.40–0.45 (parent–teacher)	CONV: 0.35–0.85 DISCRIM: ADHD vs nondinical ADHD vs clinical control ADHD-I vs ADHD-C SENS 83–84% (home) PPP 54–58% (home) SPEC 49% (home) NPP 77–81% (home) SENS 63–72% (school) PPP 78–79% (school) SPEC 86% (school) NPP 73–81% (school)	80th, 85th, 90th, 93rd percentiles	Adm: 5–10 min Spanish translation
VADTRS & VADPRS (6–12 yr) <i>Available:</i> <i>Wolraich, 2003;</i> <i>Wolraich et al., 1998</i>	43 items 6 factors 4 points & 5 points		Limited normative data available IC: 0.80–0.95 (teacher) IC: 0.94–0.95 (parent, ADHD subscales) IR: 0.27–0.34 (parent–teacher)	CONC: 0.79 (parent)	85th, 90th, 95th, 97th percentiles (teacher)	Adm: 10–15 min Spanish & German translations
ADHD-SRS (5–18 yr) © Wide <i>Range; Holland et al., 2001</i>	56 items 2 factors 5 points		Normative data available IC: 0.95–0.99 (parent) IC: 0.97–0.99 2 wk TR: 0.95–0.97 (teacher) IR: 0.18–0.27 (parent–teacher)	CONV: 0.90–0.97 DISCRIM: ADHD vs nondinical	85th, 95th percentiles	Adm: 15–20 min Computer scoring available Spanish translation
ADDES-2 (4–18 yr) © Hawthorne Press; McCarney, <i>1995a,b</i>	50 items (parent) 56 items (teacher) 2 factors 5 points		Normative data available IC: 0.96–0.98 (parent) IC: 0.98–0.99 (teacher) 30 day TR: 0.90–0.96 (parent) 30 day TR: 0.88–0.97 (teacher) IR: 0.81–0.90 (teacher–teacher) IR: 0.82 (parent–teacher)	CONV: 0.53–0.91 (parent) CONV: 0.42–0.89 (teacher) DISCRIM: ADHD vs. nonclinical	93rd, 98th percentiles	Adm: 10–15 min Computer scoring available Spanish translation

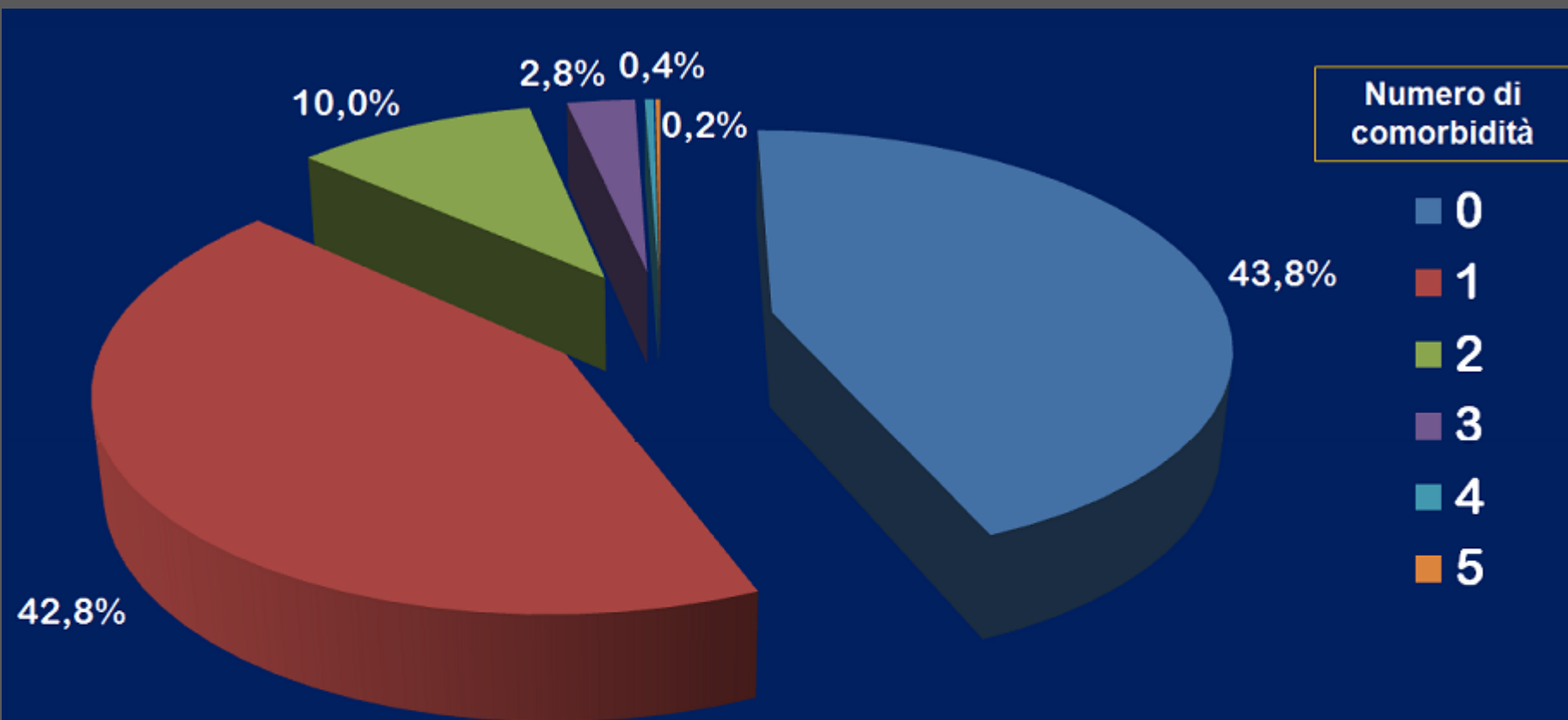
TABLE 1

Continued

Scale (Ages) Publisher Reference	Items Factors Scoring	Normative Data and Reliabilities for Total Scale & Subscales (Samples)	Validities, Sensitivity & Specificity for Total Scale & Subscales (Samples)	Cutoff	Other
ACTeRS (5–13 yr, parent & teacher versions) (adolescent-adult self-report) © <i>MetriTech</i> ; <i>Ullman et al., 2000</i>	25 items (parent) 24 items (teacher) 35 items (self-report) 4 factors (teacher) 5 factors (parent) 3 factors (self-report) 5 points	Limited normative data available IC: 0.78–0.96 (parent) IC: 0.92–0.97 (teacher) IC: 0.70–0.88 (self-report) TR: 0.78–0.82 (teacher) IR: 0.51–0.73 (teacher-teacher)	DISCRIM: ADHD vs. nondelinquents, ADHD vs. LD	T scores & percentiles	Adm: 5–10 min Computer administration & scoring available Spanish translation
BADDS (3–12 yr, parent & teacher forms) (8–18 yr, self-report form) © <i>Psychological Corp</i> ; <i>Brown, 2001</i>	44 items (3–7 yr, parent form, teacher form) 50 items (8–12 yr, parent form, teacher form, self- report form) 40 items (12–18 yr, self- report form) 6 subscales (3–7 yr) 6 subscales (8–12 yr) 5 subscales (12–18 yr) 4 points	Normative data available IC: 0.73–0.98 (parent) IC: 0.76–0.98 (teacher) IC: 0.71–0.96 (self, 8–12 yr) IC: 0.70–0.95 (self, 12–18 yr) 1–4 wk TR: 0.61–0.93 (parent) 1–4 wk TR: 0.77–0.93 (teacher) 1–4 wk TR: 0.40–0.60 (self, 8–12 yr) 1–4 wk TR: 0.87 (self, 12–18 yr) IR: 0.40–0.60 (parent-teacher, 3–7 yr & 9–12 yr) IR: 0.49–0.59 (self-parent, 8–12 yr) IR: 0.39–0.50 (self-teacher, 8–12 yr)	CONV: 0.48–0.94 DISCRIM: ADHD vs. nondelinquents	T scores & percentiles	Adm: 10–15 min Ready-score forms

Note: ADHD = attention-deficit/hyperactivity disorder; ADHD-I = ADHD inattentive type; ADHD-C = ADHD combined type; ODD = oppositional defiant disorder; CRS-R = Conners Rating Scales-Revised; SNAP-IV = Swanson, Nolan, and Pelham-IV questionnaire; SKAMP = Swanson, Kotkin, M-Flynn, and Pelham Rating Scale; SWAN = Strengths and Weaknesses of ADHD Symptoms and Normal Behavior; ADHD RS-IV = ADHD Rating Scales-IV; VADTRS & VADPRS = Vanderbilt ADHD Teacher Rating Scale & Vanderbilt ADHD Parent Rating Scale; ADDS-2 = Attention Deficit Disorder Evaluation Scale-Second Edition; ADHD-SRS = ADHD Symptoms Rating Scale; BADDS = Brown Attention-Deficit Disorder Scales; LD = learning disabilities; I/O = Inattentive/Overactive; O/D = Oppositional/Defiant; IC = internal consistency reliability; TR = test-retest reliability; IR = interrater reliability; CONV = convergent validity; CONC = concurrent validity; DISCRIM = discriminant validity; SENS = sensitivity; SPEC = specificity; PPP = positive predictive power; NPP = negative predictive power; Adm = administration; gd = grade; NA = not available.

Numero di comorbidità (528 casi)



	Registro Regionale	Jensen et al., 2001 MTA Study
Almeno 1 comorbidità	56%	70%
2 o più comorbidità	13%	40-50%

Tipo di comorbidità (528 casi)

Pazienti con diagnosi di ADHD (N=528)

Disturbi psichici	Registro regionale		Dati Internazionali
	N	%	%
Disturbi dell'apprendimento	201	38	46
Disturbo oppositivo – provocatorio	60	11	40
Ansia	34	6	34
Depressione	8	2	4
Disturbi della condotta	21	4	14
Disturbi da tic / Sindrome di Tourette	6	1	11
Ritardo mentale	13	2	13
Disturbi dello spettro autistico	2	0,4	6

Comorbidità non psichiatriche

developmental coordination disorder

disturbi specifici del linguaggio

disturbi specifici dell' apprendimento

(disturbi dello spettro autistico ?)

disabilità cognitiva

Diagnosi DSM-IV e ICD-10

Diagnosi Categoriali

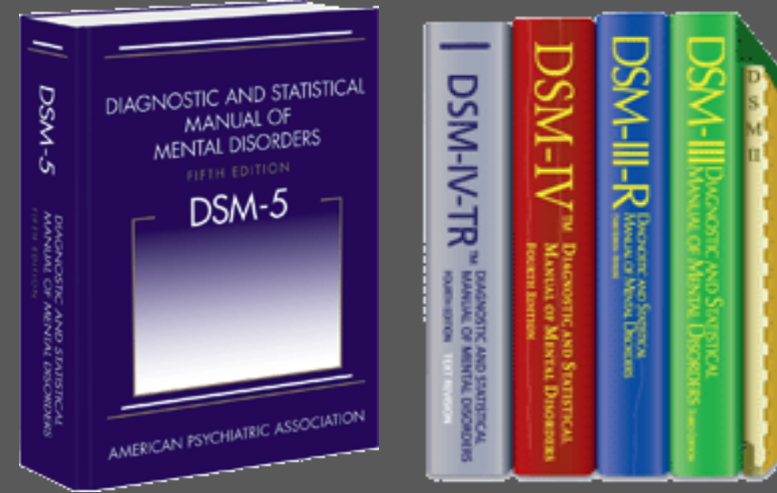
Distinzione netta tra normalità e patologia (sintomi)

I sintomi non sono disposti lungo un continuum normalità / disfunzione (spettro dimensionale)

Non intercettano l'eterogeneità fenotipica dell'ADHD in un contesto clinico

Muoversi da diagnosi categoriali a dimensionali (DSM V)

DSM V



classificazione

basata sui sintomi

basata sulla separazione delle diagnosi

conseguenze

eccesso di comorbidità

condizioni eterogenee raccolte sotto una singola diagnosi

eccesso di diagnosi “NOS”

eccesso di situazioni “subsindromiche”

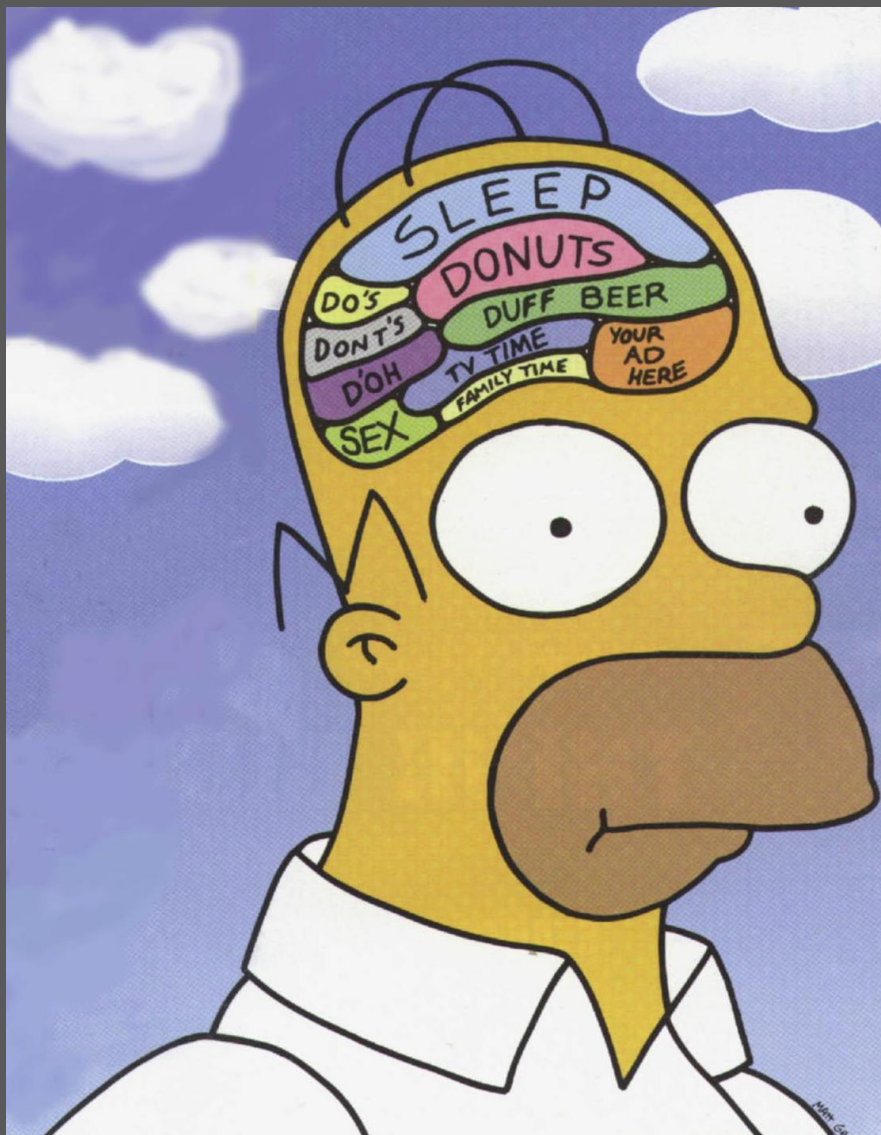
Regier, The Conceptual Development of DSM-V. Am J Psychiatry 2009

Miller, Beyond DSM: Seeking a Brain-Based Classification of Mental Illness. Science 19 March 2010

Insel T. et al, 2010

Research Domain Criteria (RDoC): Toward a New Classification Framework for Research on Mental Disorders

- ✓ Concettualizzazione del disturbo mentale come disturbo cerebrale
mal. neurologica = lesione identificabile
mal. mentale = disordine di circuiti cerebrali
- ✓ Disfunzione identificabile con strumenti delle neuroscienze cliniche
neurofisiologia, neuroimmagini funzionali, connectome
- ✓ Dati della genetica o delle neuroscienze rappresentano biomarkers con significato incrementale sui sintomi e segni clinici
Es: modelli clinicamente rilevanti di interrelazioni tra circuiti e comportamento come paura/estinzione, premio, funzioni esecutive, controllo degli impulsi



Segregation and wiring in the brain

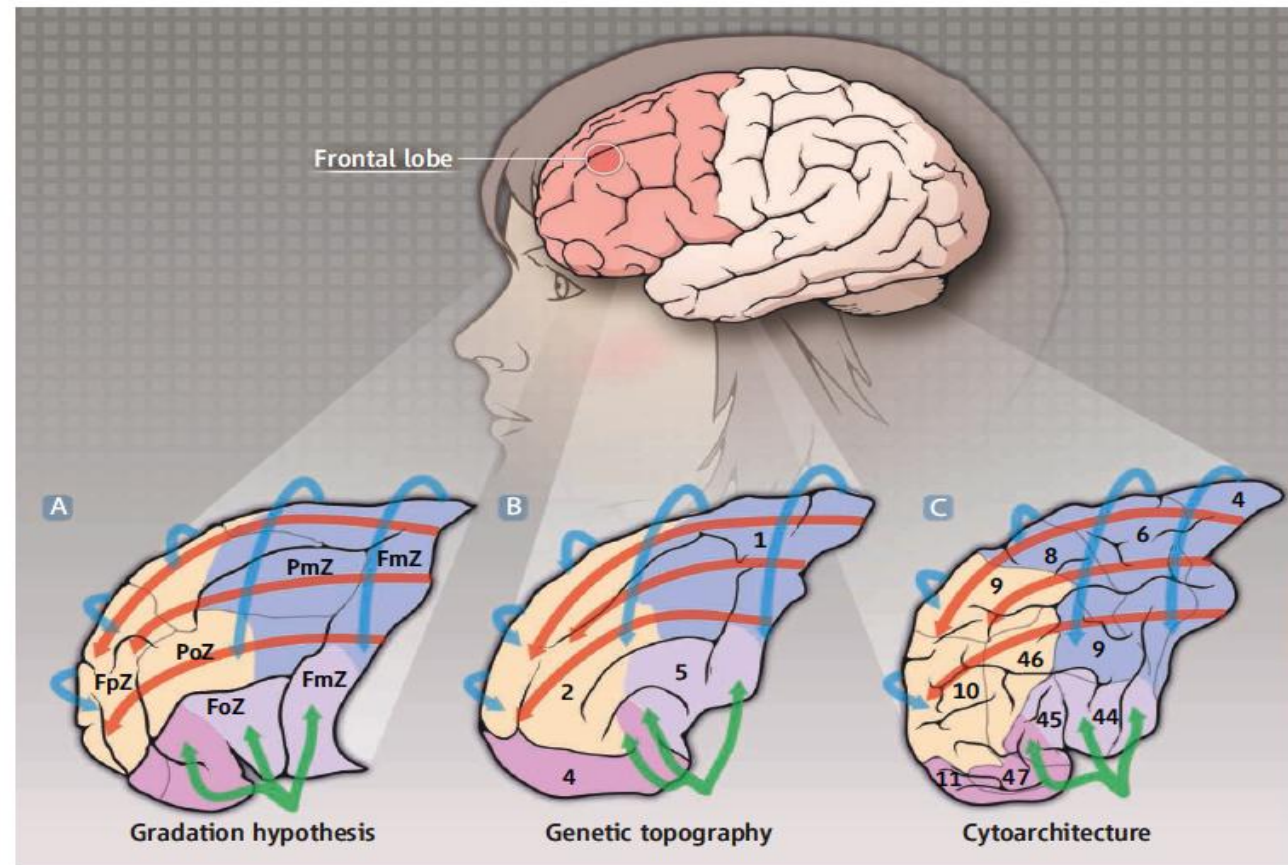
Are there unifying principles behind the structural complexity of the cerebral cortex?

Espressione dei geni nella corteccia cerebrale

Atlante della corteccia cerebrale nell'uomo basato solo su correlazioni genetiche e non su informazioni a priori di tipo strutturale o funzionale

L'organizzazione genetica della corteccia è:

- gerarchica
- modulare
- prevalentemente simmetrica nei due emisferi



Genetic topography, gradation, and cytoarchitecture. Regional organization of the human frontal lobe is shown according to the gradation hypothesis (A), genetic topography (B), and cytoarchitecture (C). Corresponding regions are highlighted with colors. Dark black lines represent sulci; thin gray lines mark boundaries of the zones. Blue, red, and green arrows label the architectonic gradation streams from the cingulate cortex, the central sulcus, and the insular cortex, respectively. Regions in (A): FmZ, frontomotoric zone; FoZ, fronto-opercular zone; FpZ, frontopolar zone; PmZ, paramotoric zone; PoZ, paraopercular zone. Regions in (B): 1, motor-premotor cluster; 2, dorsolateral-prefrontal cluster; 4, orbitofrontal cluster; 5, opercular-subcentral cluster. In (C), numerals indicate Brodmann areas (6) (regions defined according to the structure and organization of cells).

Morfogenesi della corteccia cerebrale

La complessità del cervello rende difficile delinearne la morfogenesi

Studio dei percorsi delle fibre nervose mediante diffusion MRI in diverse specie di primati e nell'uomo: CONNETTIVITA'

Griglia rettilinea tridimensionale in continuità con i tre assi principali dello sviluppo

Le vie maggiori sono delle condensazioni locali di questa griglia

Forte omologia tra le diverse specie

Questo tipo di architettura supporta:

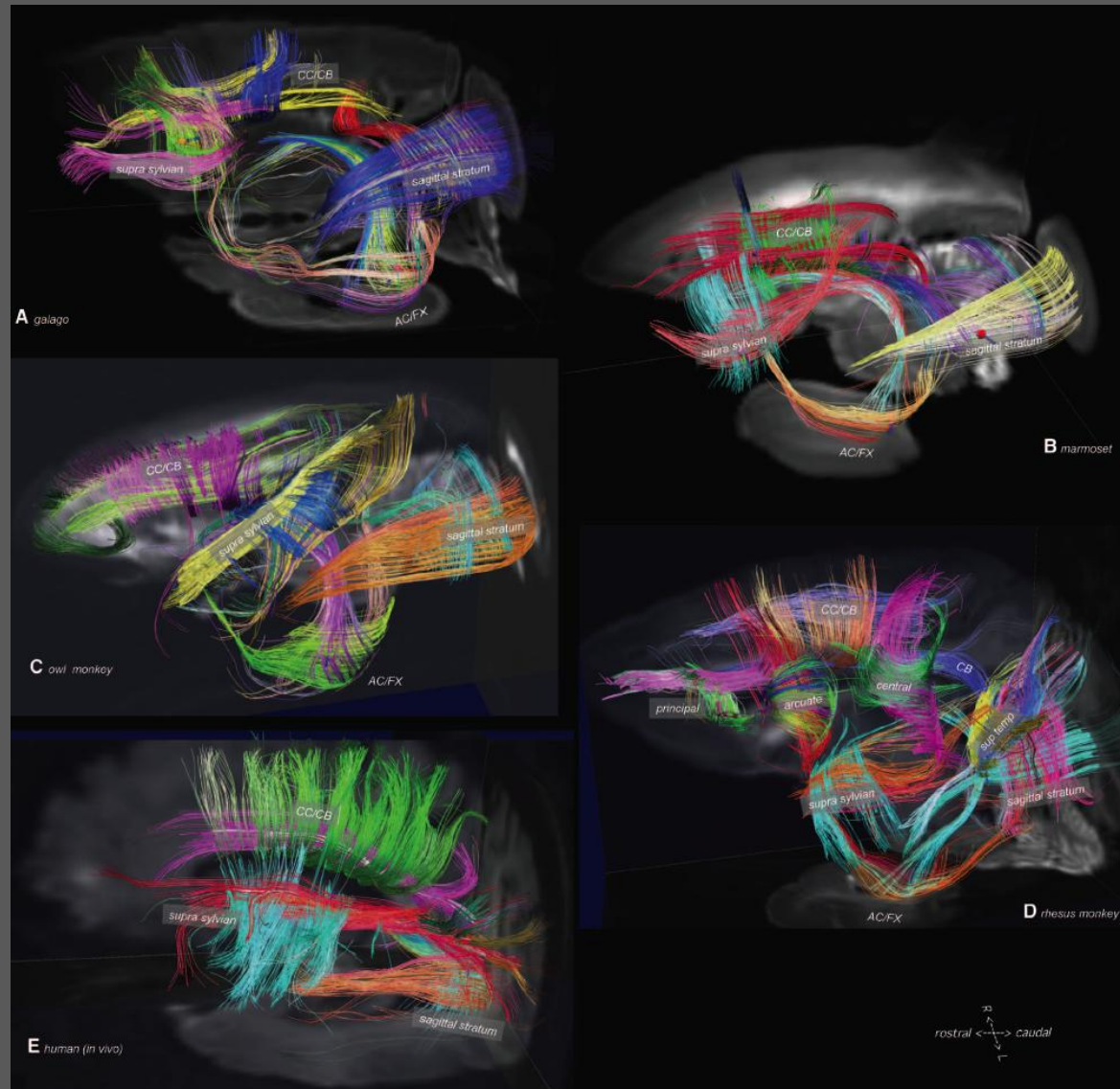
- ✓ coerenza funzionale spazio-temporale
- ✓ percorsi di sviluppo (pathfinding)

- ✓ rimodulazione delle connessioni (adattamento della struttura alla funzione sia per la plasticità che per lo sviluppo)

The Geometric Structure of the Brain Fiber Pathways

Van J. Wedeen, SCIENCE 30 march 2012

Morfogenesi della corteccia cerebrale



The Geometric Structure of the Brain Fiber Pathways

Van J. Wedeen, SCIENCE 30 march 2012

conclusioni

- ✓ Strumenti di valutazione della compromissione funzionale inclusa valutazione del temperamento, qualità della vita
 - ✓ Estensione verso preschooler e età adulta
- ✓ Integrazione dati neuropsicologici, neurofisiologici, neuroradiologici
 - ✓ Estensione longitudinale della valutazione
 - ✓ Risultati del trattamento