

# 兒童行爲障礙

## Behavioural Disorders in Children

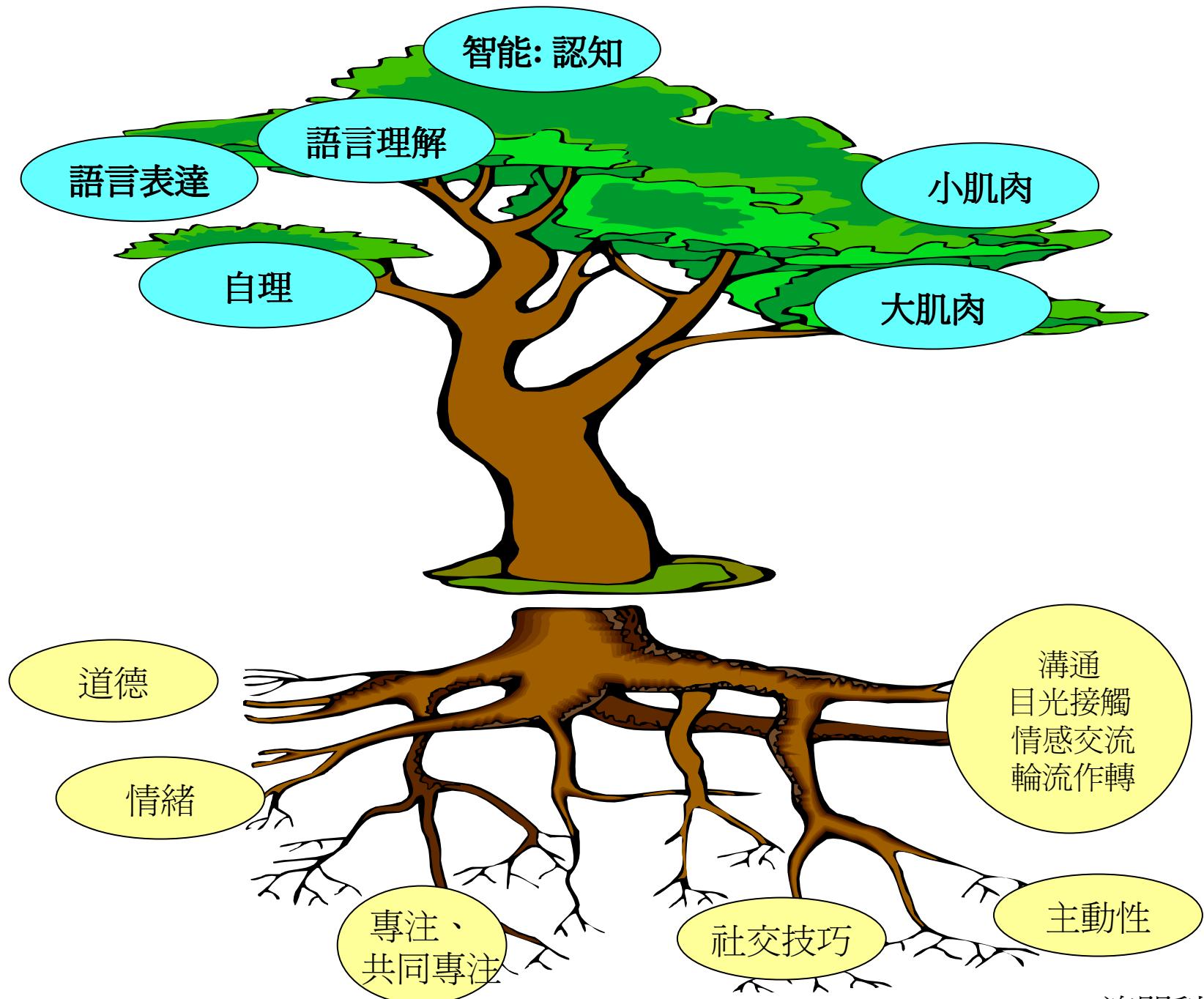
林蕙芬醫生  
兒科專科醫生  
英國兒童及嬰兒發展研究協會榮授導師

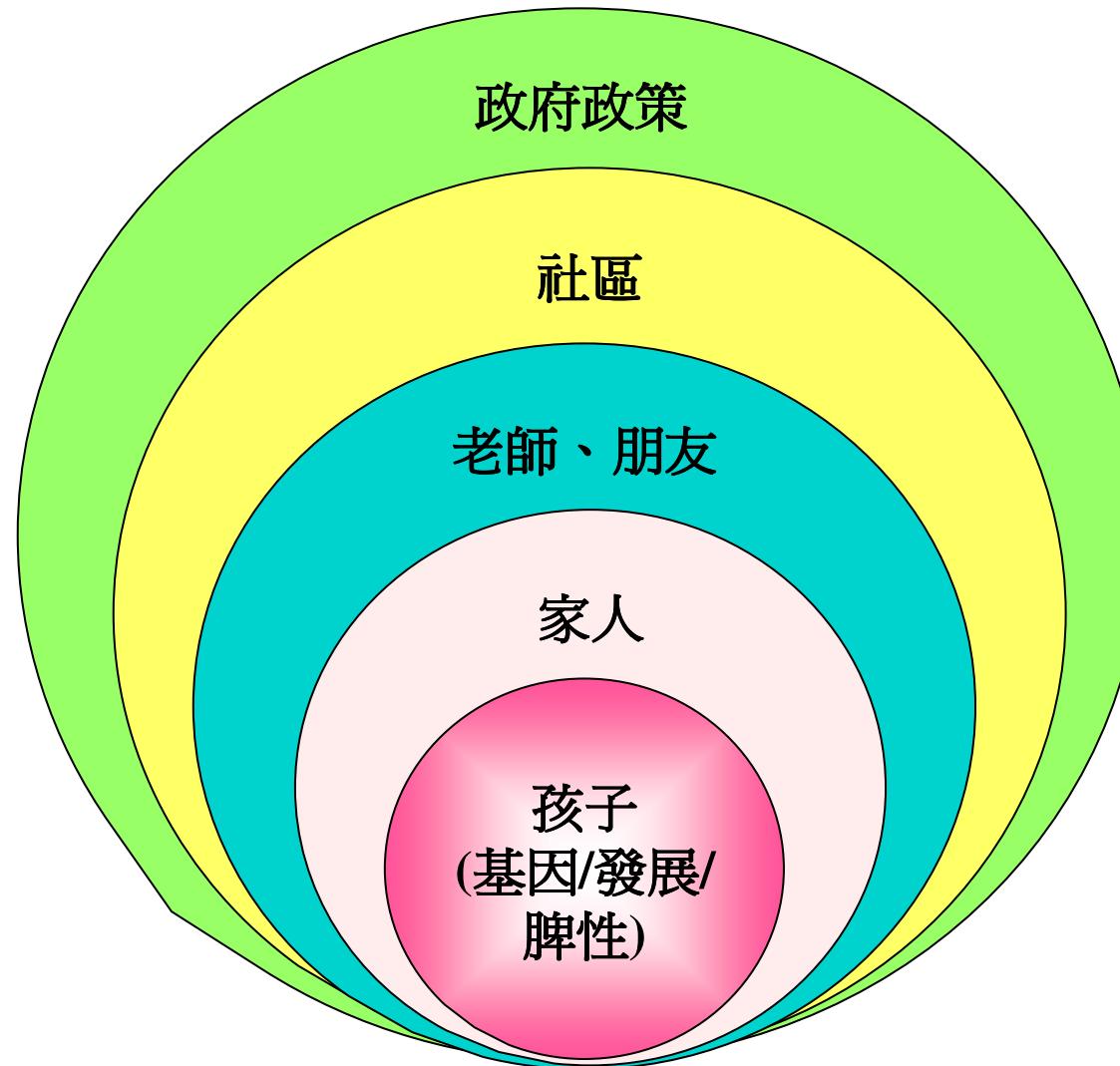
# Learning objectives 學習目標

1. Contributors of behaviour in a typically developing child  
影響兒童行爲及心理發育的因素
2. Neurological and neuropsychological basis of developmental behavioural disorders in childhood  
行爲障礙的腦神經及腦功能基礎
3. Early identification of common developmental conditions: what are their core features  
及早識別發展障礙: 認識發展障礙的情緒及行爲表徵
4. Overview on the management of common neurobehavioural disorders in childhood  
簡介發展行爲障礙的治療方案

# Factors that contribute to behaviour in a typically developing child

## 影響兒童心理、行爲發育的因素





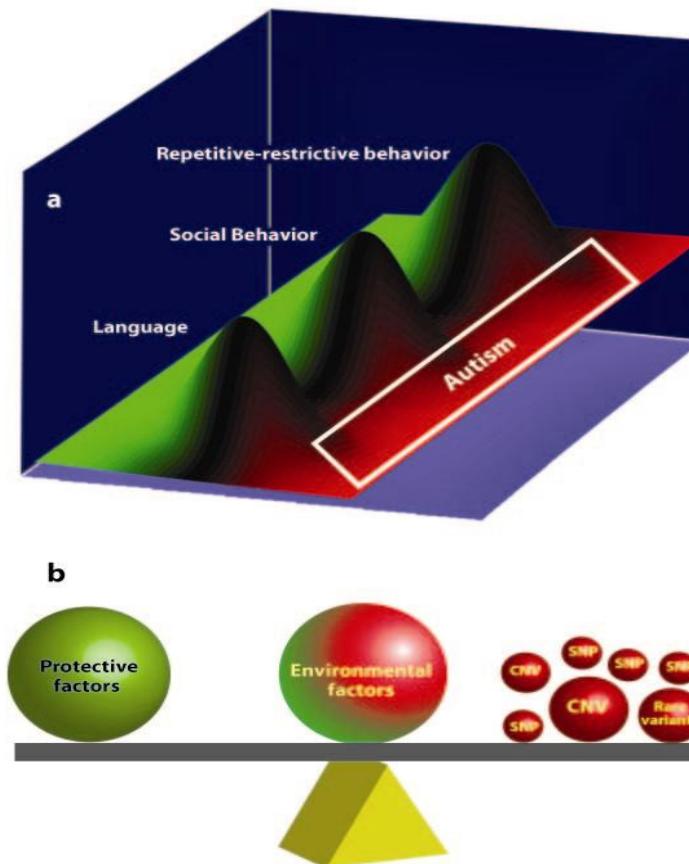
# 兒童行爲障礙的成因

## 遺傳 × 環境

- 染色體變異
  - 基因病變
  - 顯性與隱性遺傳綜合症
  - 基因印記
  - 毒素
  - 重金屬
  - 產前接觸酒精、尼古丁
  - 围產期：早產、缺氧
- 過濾性病毒或細菌感染

# 自閉症的遺傳

## Genetic: Autism



 Geschwind DH. 2009.  
Annu. Rev. Med. 60:367–80

# Parenting style vs. child's behaviour

## 父母教養方式與兒童性格特徵的相關系數

表 3-1 父母教养方式与儿童性格特征的相关系数

父母的 教养方式	性 格 特 征				
	意志坚强	情绪稳定	自发努力	友好态度	敌对行为
信任	0.74	0.60	0.27	0.44	-0.40
民主	0.43	0.16	0.36	0.33	-0.40
容忍	0.56	0.53	0.05	0.19	-0.10
严厉	-0.16	-0.18	-0.38	-0.38	0.40

# Attachment

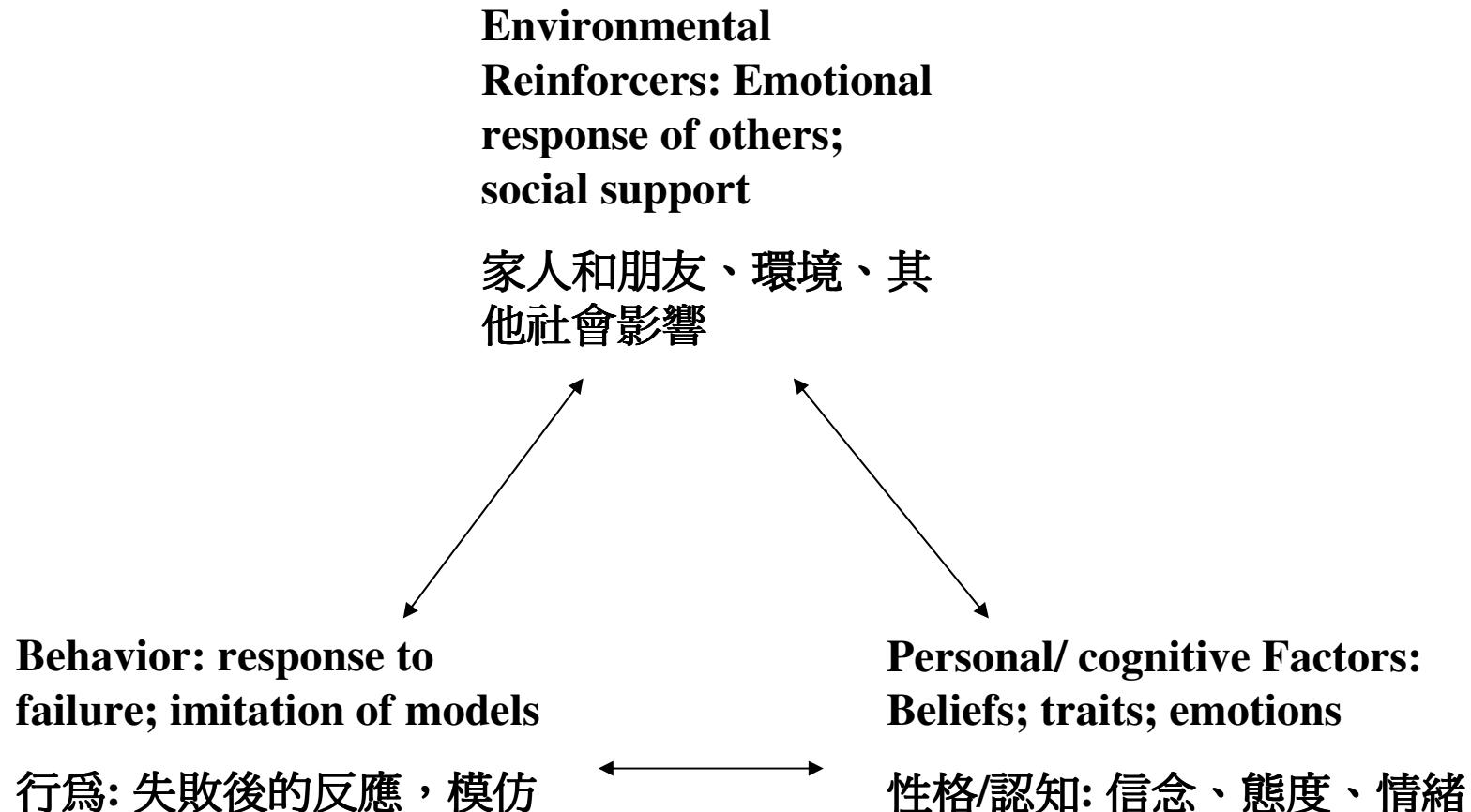
## 依附/連繫

- 依附是一種情感的關係，使雙方緊密的聯結
- 界定爲嬰兒對於特定人物強烈的感情聯結
- 它具有區別性與特殊性
- 不管何時何地相互依附的兩人內心感情都是聯結着
- 依附行爲則是尋求與依附對象親近的行爲表現

# 日後的影響

- 安全依附形:
  - 較長注意力
  - 較具利社會傾向
  - 團體中，積極參予活動，較易了解他人需要和感受，受人歡迎。
  - 好奇，自我引導，熱衷學習
  - 較具獨立性
- 不安全依附形:
  - 較被動，退縮，追求目標動力較弱

# 社交行爲及人格的形成— Badura's reciprocal determination



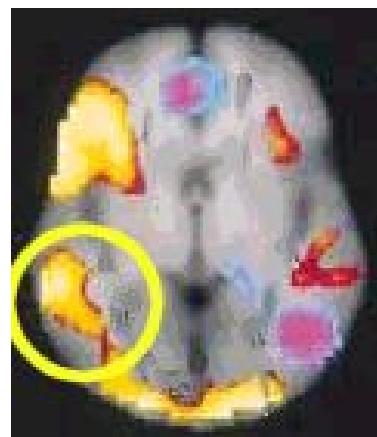
# Neurobiological and neuropsychological basis of developmental behavioural disorders

發展性行爲障礙的腦神經及腦功能基礎

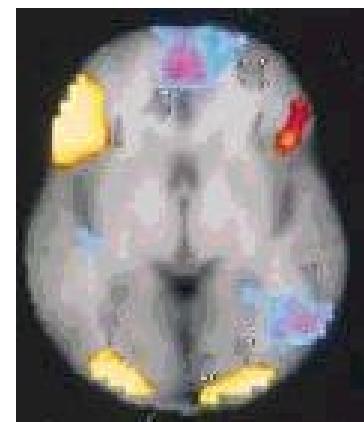
# 閱讀障礙的腦功能磁力共振



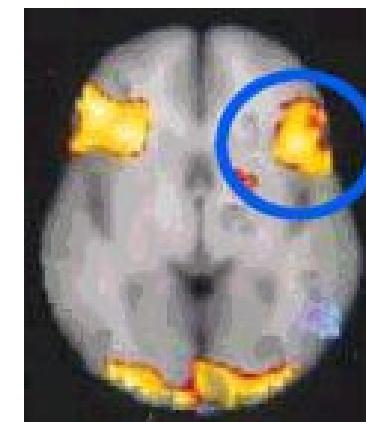
Normal



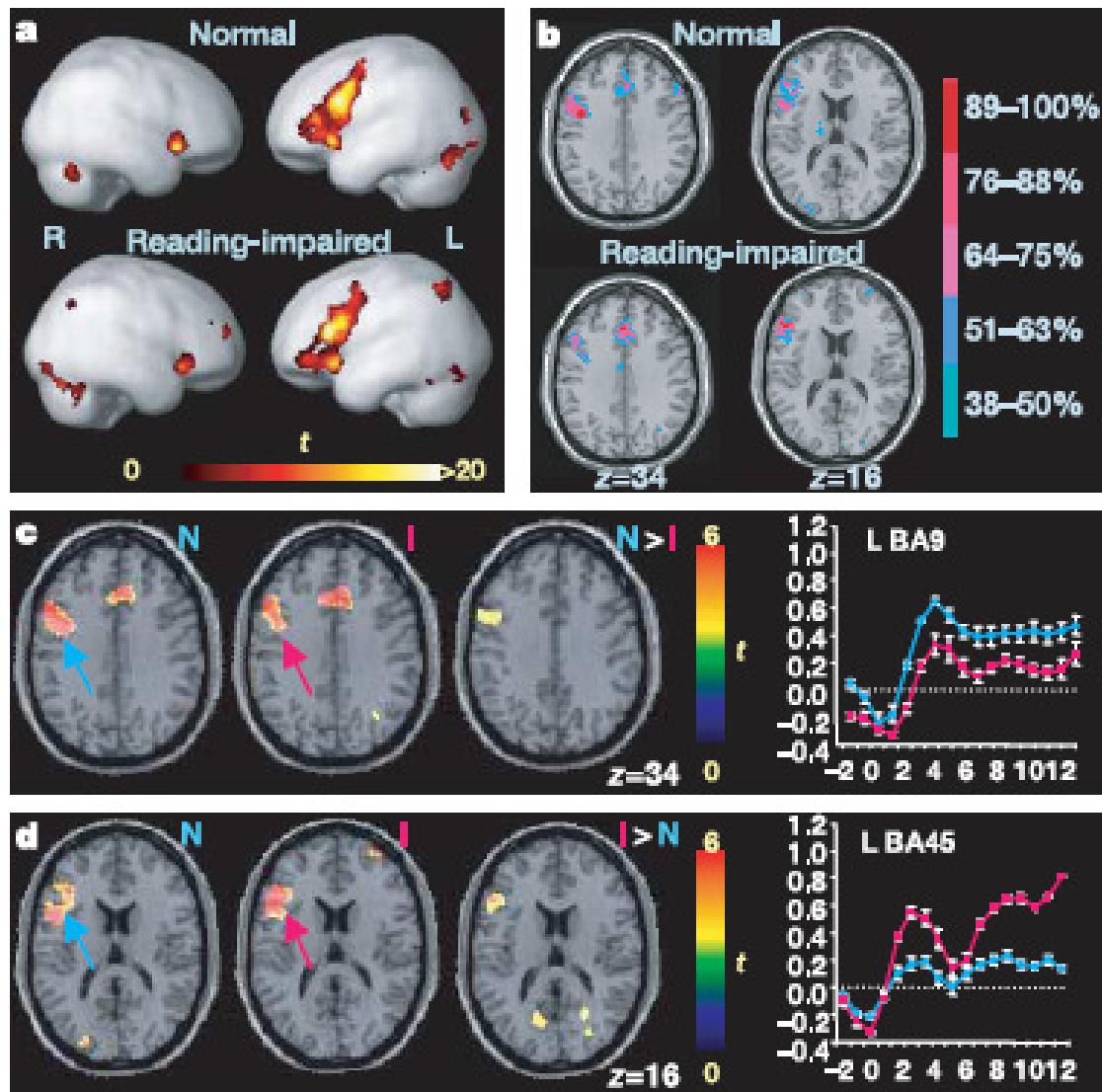
Dyslexic



Compensated dyslexic



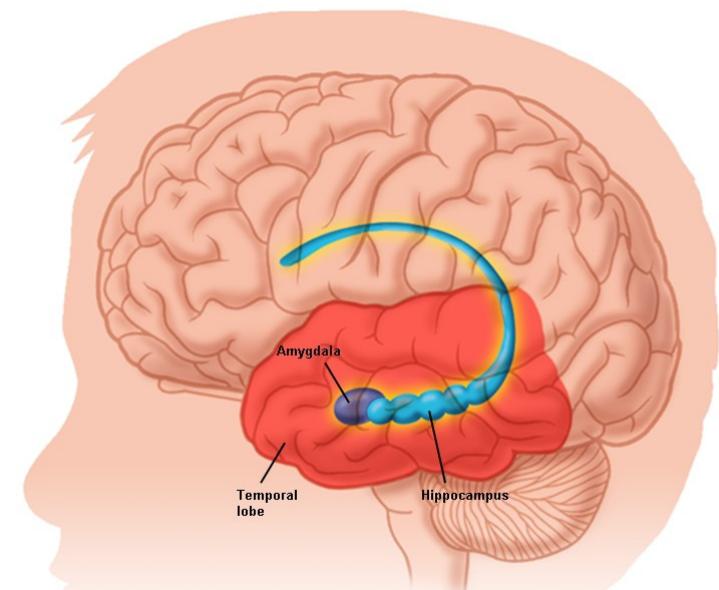
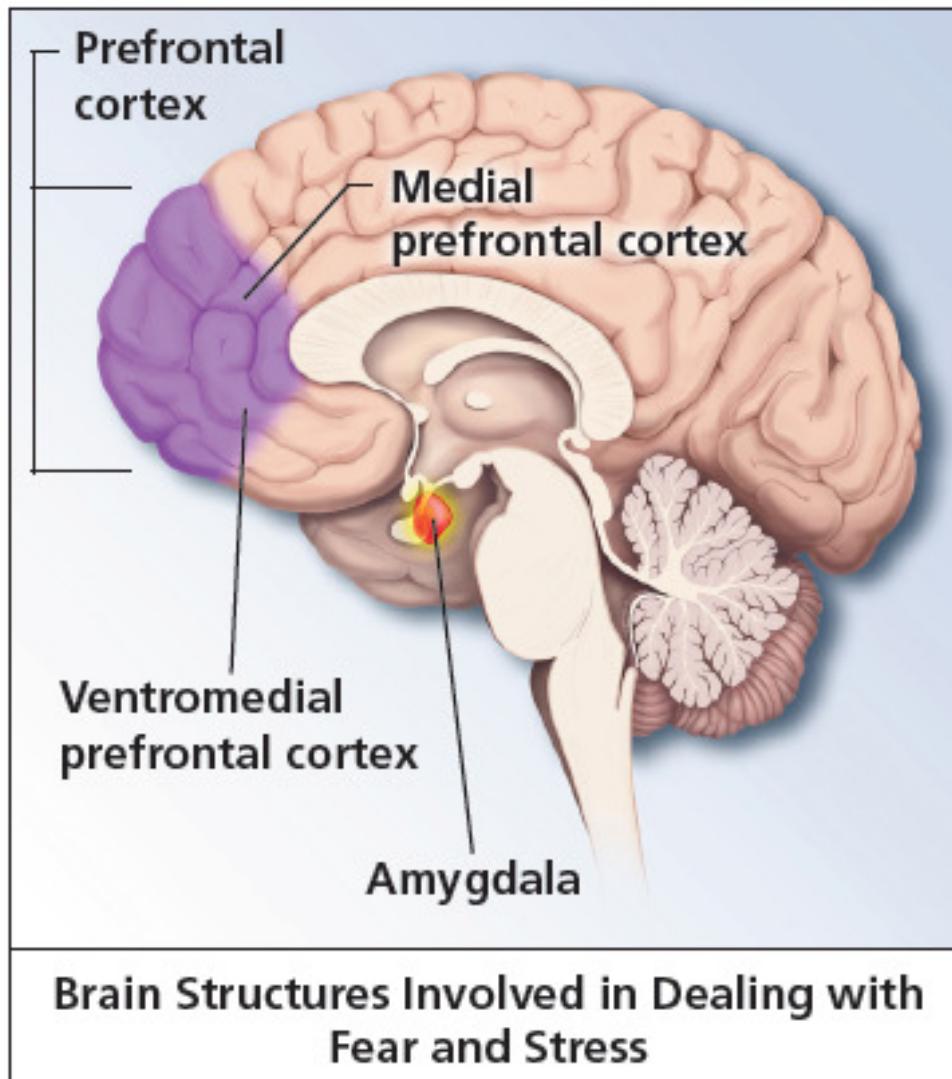
Shaywitz SE, Shaywitz BA, Fulbright R, et al (2013). Neural Systems for Compensation and Persistence: Young Adult Outcome of Childhood Reading Disability. *Biological Psychiatry* 54:25-33.



Siok WT, Perfetti CA, Jin Z & Tan LH. Nature 2004;431:76-79.

# Fear circuitry

## 驚恐的腦神經線路

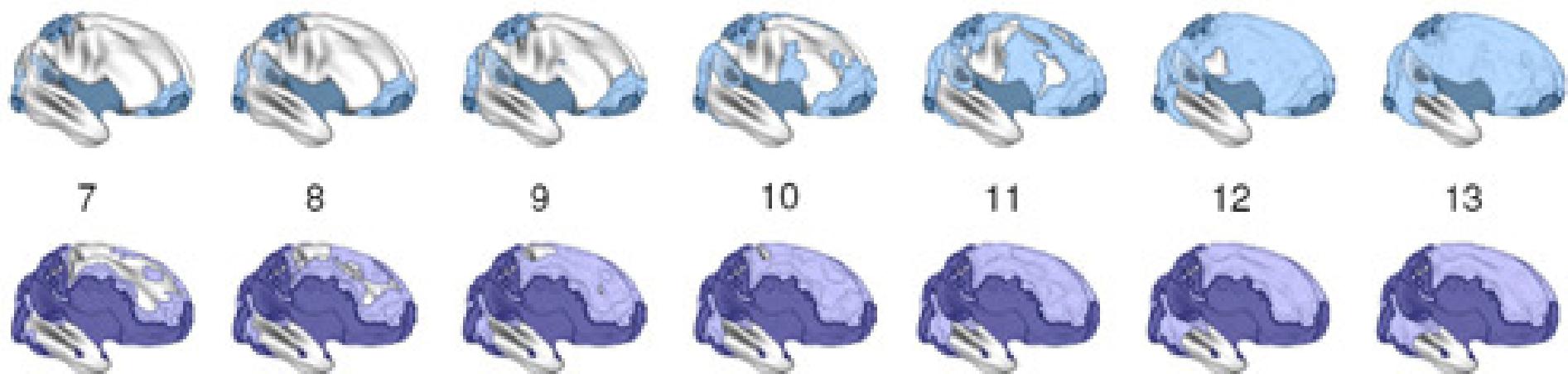


[www.BrainConnection.com](http://www.BrainConnection.com)  
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# Maturational delay in ADHD brains 患過度活躍的兒童大腦灰質發展遲緩

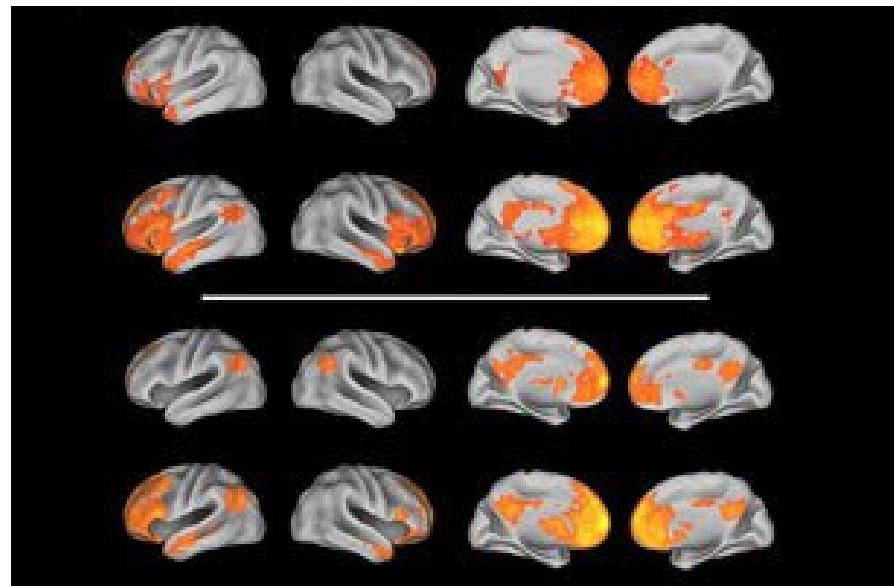
ADHD



Typically developing controls

Source: NIMH Child Psychiatry Branch

# Neurobiological basis of Autism

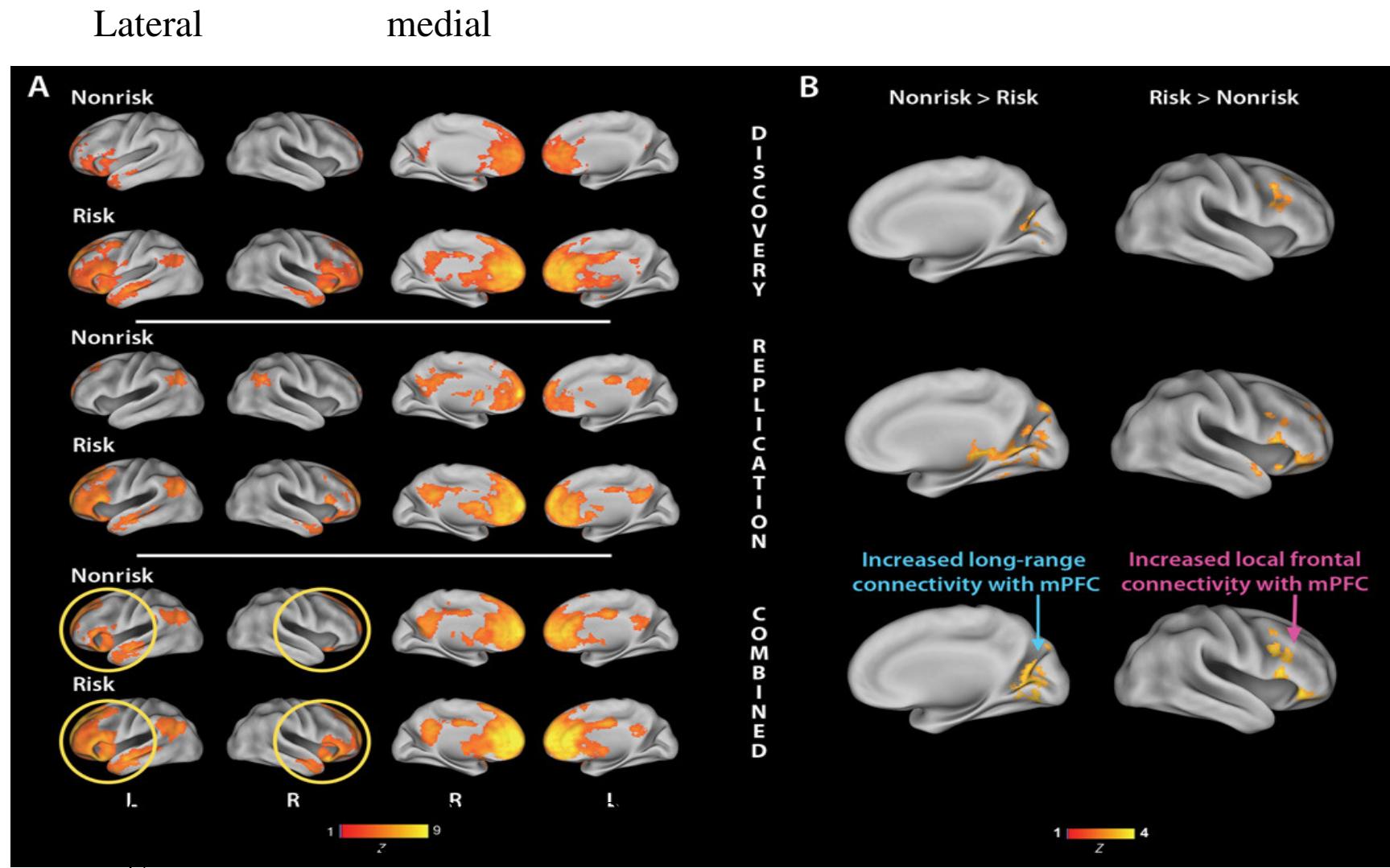


The research links a variant of the CNTNAP2 gene to this particular type of rewiring in the brain. The gene produces a protein called CASPR1 and is active during brain development — mostly during frontal-lobe development

**Scott-Van Zeeland A A et al. Sci Transl Med 2010;2:56ra80-56ra80**

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**Fig. 2 Functional connectivity with the mPFC is associated with CNTNAP2.**

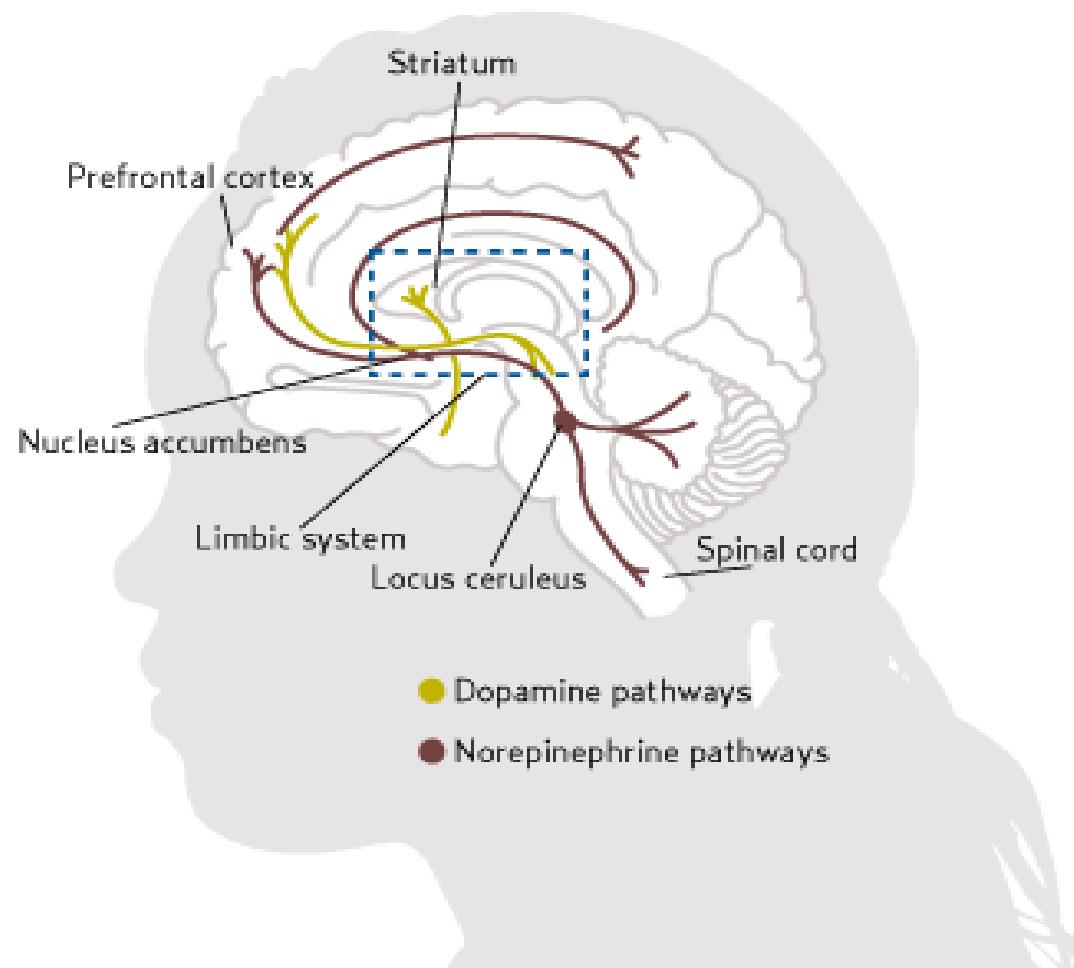


Scott-Van Zeeland A A et al. Sci Transl Med 2010;2:56ra80-56ra80

nonrisk showed stronger long-range anterior-posterior connectivity between the mPFC and the medial occipital and ventral temporal cortices

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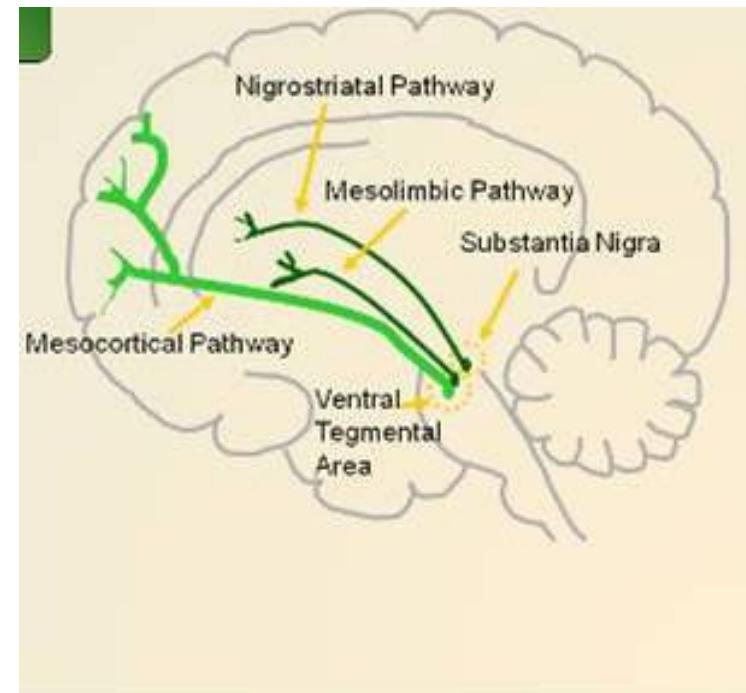
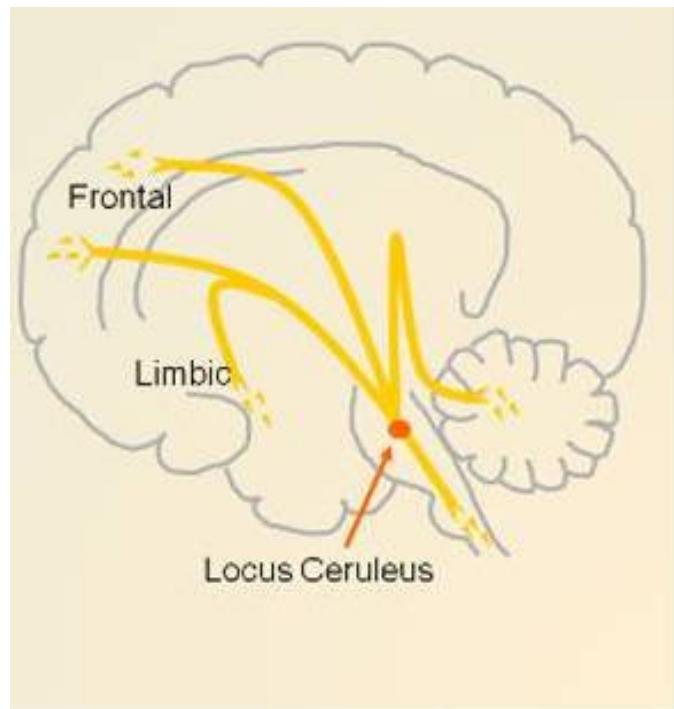
# 腦神經傳遞質



[www.strattera.com](http://www.strattera.com)

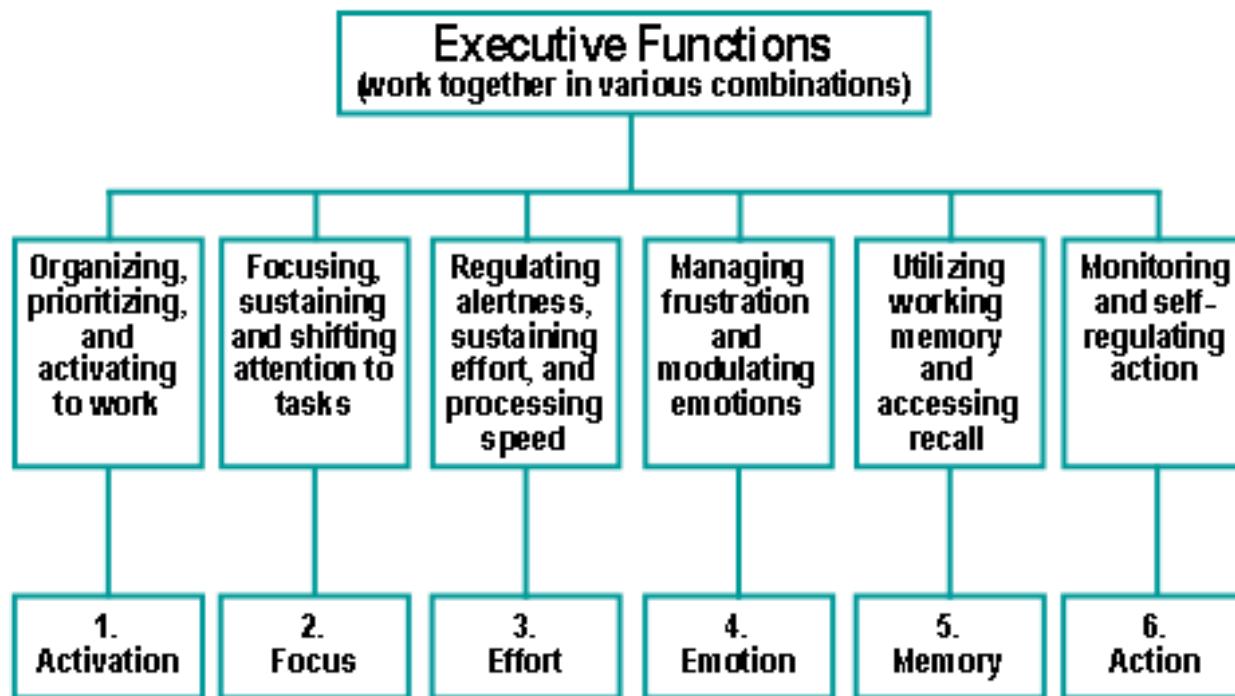
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- Dopamine 多巴胺
- Noradrenaline 去甲腲上腺素
- Serotonin- 血清素



# 執行功能障礙

## Executive Functions Impaired in ADD Syndrome



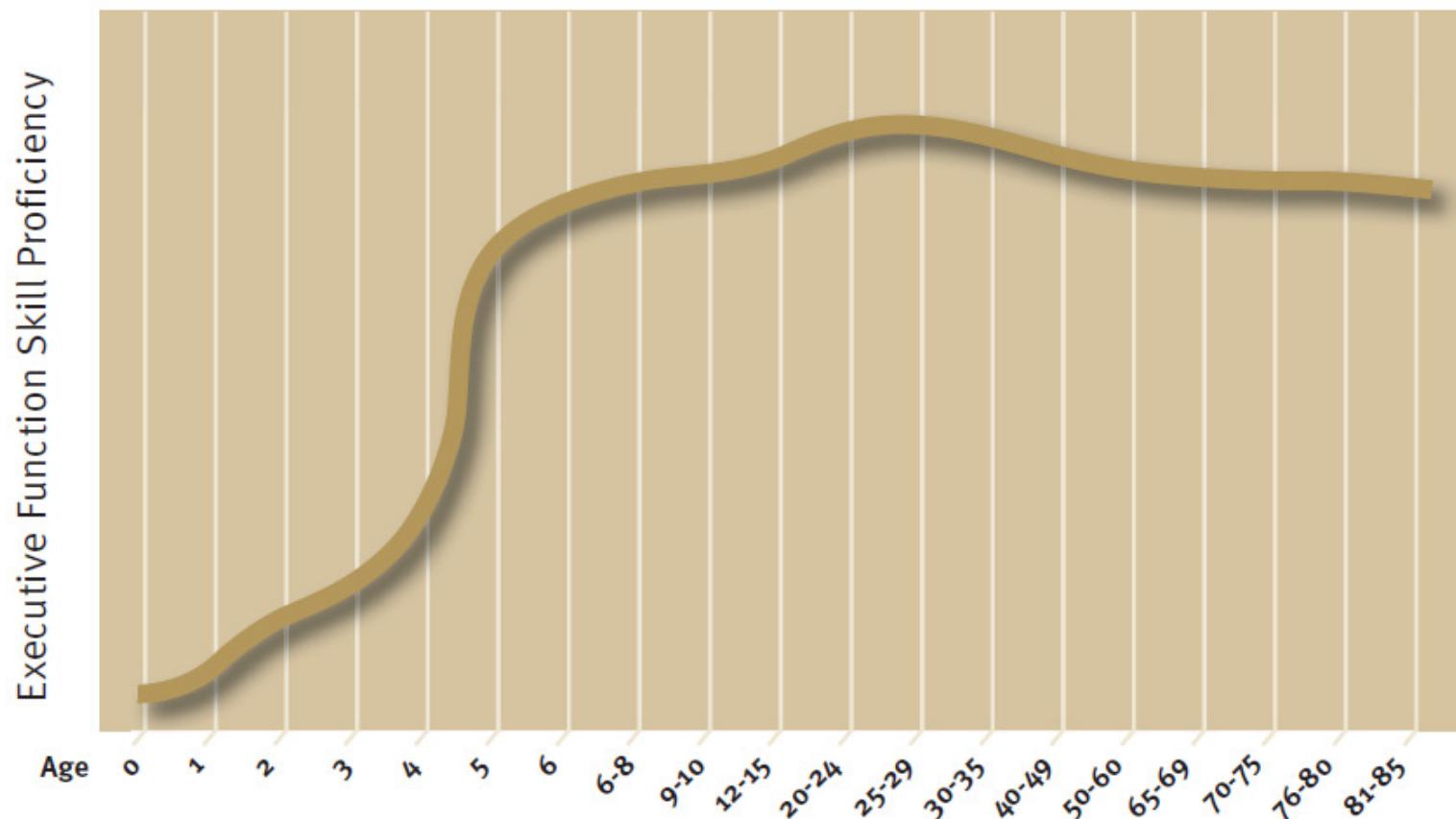
[TE Brown (2001) *Manual for Attention Deficit Disorder Scales for Children and Adolescents*]

[http://www.drthomasebrown.com/brown\\_model/index.html](http://www.drthomasebrown.com/brown_model/index.html)

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# 執行功能的發展

**Executive Function Skills Build Throughout Childhood and Adolescence**



# 常見發展障礙的情緒及行爲表徵

行爲問題



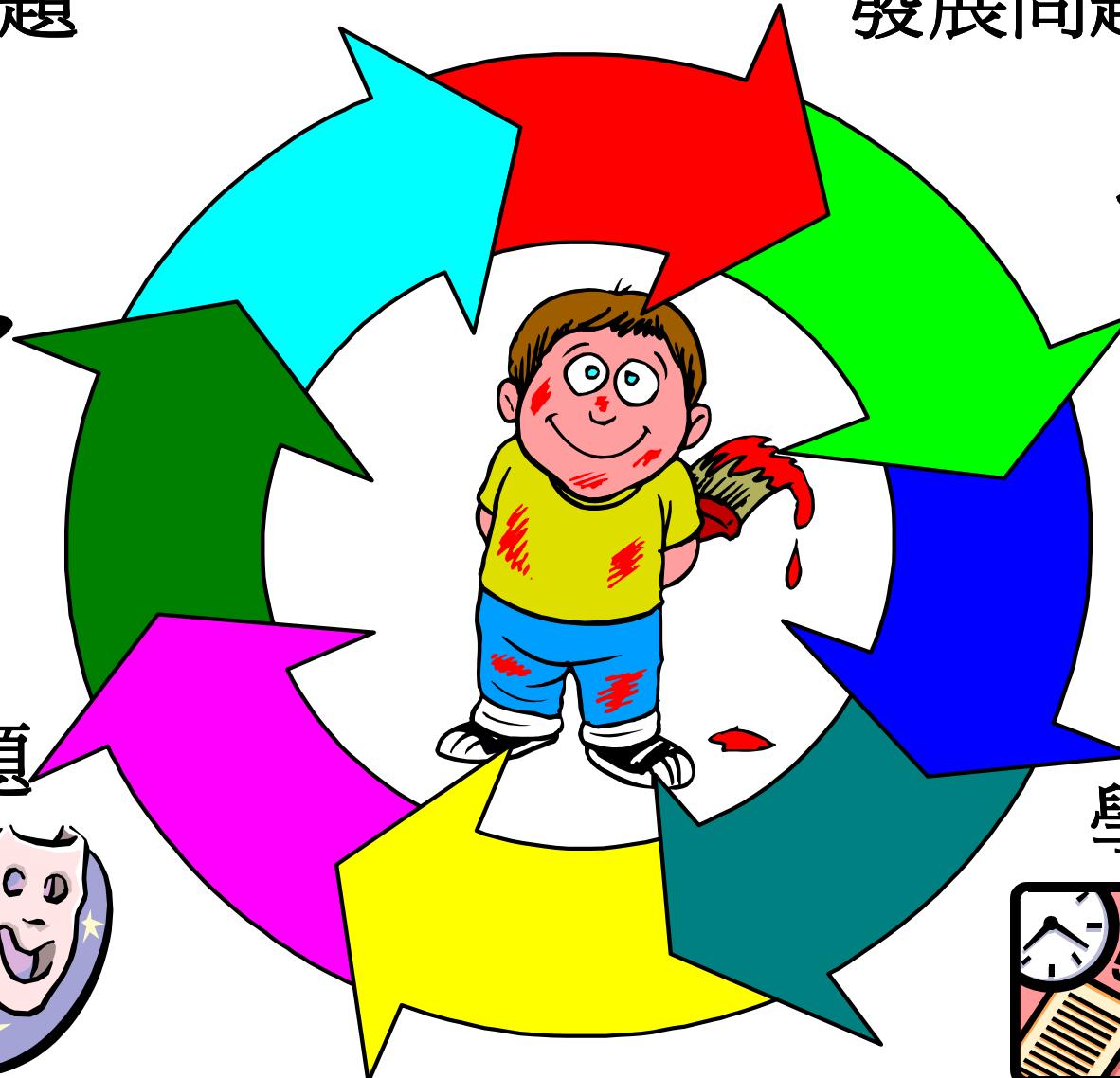
發展問題



情緒問題



學習問題



# 發展性症狀的分類

Variations 變異

Problems 問題

Disorders 障礙

# 常見的發展問題

**Specific Learning  
Disorders**  
**特殊學習障礙**

**Attention Deficit  
(Hyperactivity) Disorder**  
**專注力失調**

**Gifted Development**  
**資優**  
**Mental Retardation**  
**智障、弱智**

**Specific Language Impairment**  
**特殊語言障礙**

**Autistic Spectrum  
Disorders**  
**自閉症、廣泛性發  
展障礙**

**Developmental  
Coordination  
Disorder**  
**動作協調障礙**

# Trends in the Prevalence of Developmental Disabilities in US Children, 1997–2008

TABLE 3 Trends in Prevalence of Specific Developmental Disabilities in Children Aged 3 to 17 Years, NHIS, 1997–2008

Disability	n (Unweighted)	All Years, %	1997–1998, %	2000–2002, %	2003–2005, %	2006–2008, %	Percent Change 1997–1998 versus 2006–2008 <sup>c</sup>
Any developmental disability	15858	13.87	12.84	13.70	13.88	15.04	17.1 <sup>d</sup>
ADHD	7652	6.69	5.69	6.71	6.77	7.57	33.0 <sup>d</sup>
Autism	537	0.47	0.19	0.35	0.59	0.74	289.5 <sup>d</sup>
Blind/unable to see at all	160	0.13	0.11	0.15	0.12	0.13	18.2
Cerebral palsy	305	0.39	0.39	0.43	b	b	b
Moderate to profound hearing loss	533	0.45	0.55	0.44	0.42	0.38	30.9
Learning disability	8154	7.04	6.88	7.24	6.82	7.24	5.5
Intellectual disability*	868	0.71	0.68	0.73	0.75	0.67	-1.5
Seizures, past 12 months	792	0.67	0.66	0.65	0.66	0.72	9.1
Stuttered or stammered, past 12 months	1924	1.60	1.63	1.40	1.69	1.68	3.1
Other developmental delay	3978	3.65	3.40	3.28	3.67	4.24	24.7 <sup>d</sup>

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, NHIS.

\* Survey question asked about mental retardation, but we refer to the condition as intellectual disability.

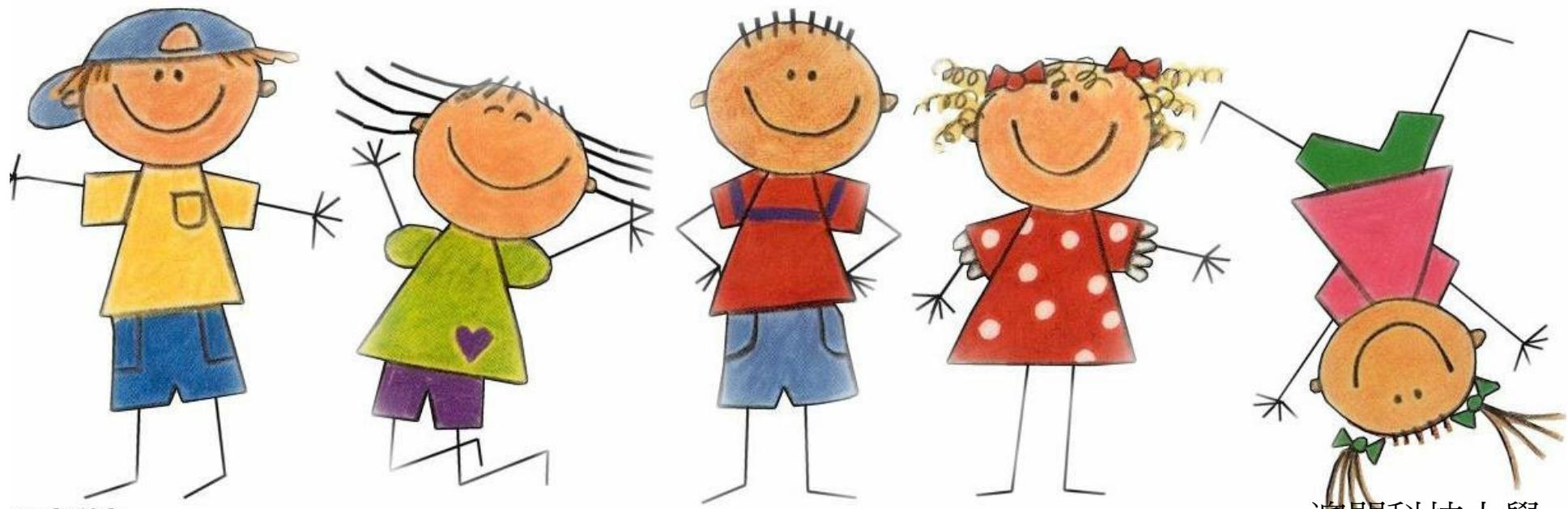
<sup>b</sup> We excluded cerebral palsy from the analysis for 2004–2007 because of the high likelihood of interviewer error arising from a questionnaire change in 2004.

<sup>c</sup> Percent change between 1997–1998 and 2006–2008.

<sup>d</sup> Test of linear trend over 4 time periods,  $P < .05$ .

# Attention-Deficit Hyperactivity Disorder (ADHD)

## 專注力不足/過度活躍症



# 流行病學資料

- 最常見的腦部發展障礙
- 患病率：
  - 美國: 5.69 (1996) to 7.57 (2008)
  - 德國: 4.2%
  - 新西蘭: 2%
  - 澳洲: 10%
  - 香港: 6%

# 專注力失調過度活躍症

## Attention Deficit Hyperactivity Disorder

### 主要特徵

專注不足

活動過度

衝動魯莽

### Core features

- Inattention
- Hyperactivity
- Impulsivity

# 專注力不足/過度活躍症的徵狀

- 不符合發展的水平
- 兒童在不同的場合(包括家中和學校)都出現徵狀
- 持續 > 6 個月
- 症狀 7 歲前開始
- 引致日常生活、學習、社交上明顯的困難，帶來功能障礙

# 注意力不足過度活躍症

專注力不足

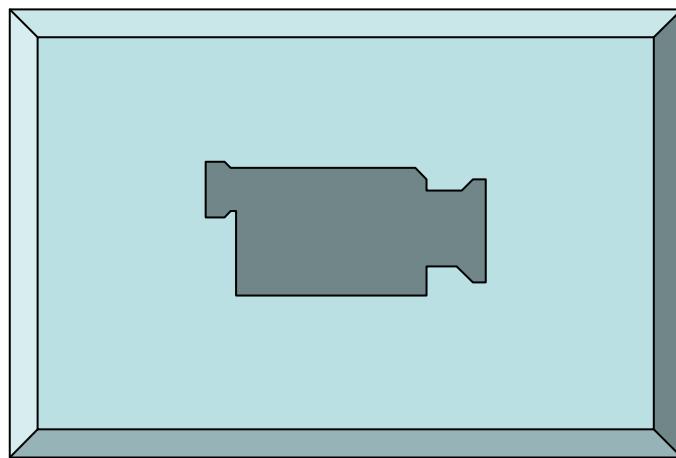
- 容易分心
- 難於聽從指令和難以集中精神
- 難於獨立地完成工作
- 不留意細節，常犯不小心的錯誤
- 未能留心別人的說話
- 常常遺失物件

## 過度活躍

- 常常「郁身郁勢」
- 難以安靜地坐著或玩耍
- 說話過多

## 衝動

- 在遊戲或其他活動時不能安靜地輪候
- 不經思考便搶簽或行動
- 經常打斷別人的說話或活動



Video on behaviour of ADHD

# 可能同時出現的問題

特殊學習困難

動作協調障礙

情緒問題

對抗性行爲

社交及人際關係問題

# 專注力失調/過度活躍症的前景



alcohol dependence/abuse (26.3%), antisocial personality disorder (16.8%), other substance dependence/abuse (16.4%), current or past history of hypomanic episode (15.1%), generalized anxiety disorder (14.2%), and current major depressive episode (12.9%).

the cause-specific mortality for suicide only was significantly higher among ADHD cases than controls (SMR, 4.83; 95% CI, 1.14–20.46; P = .032)

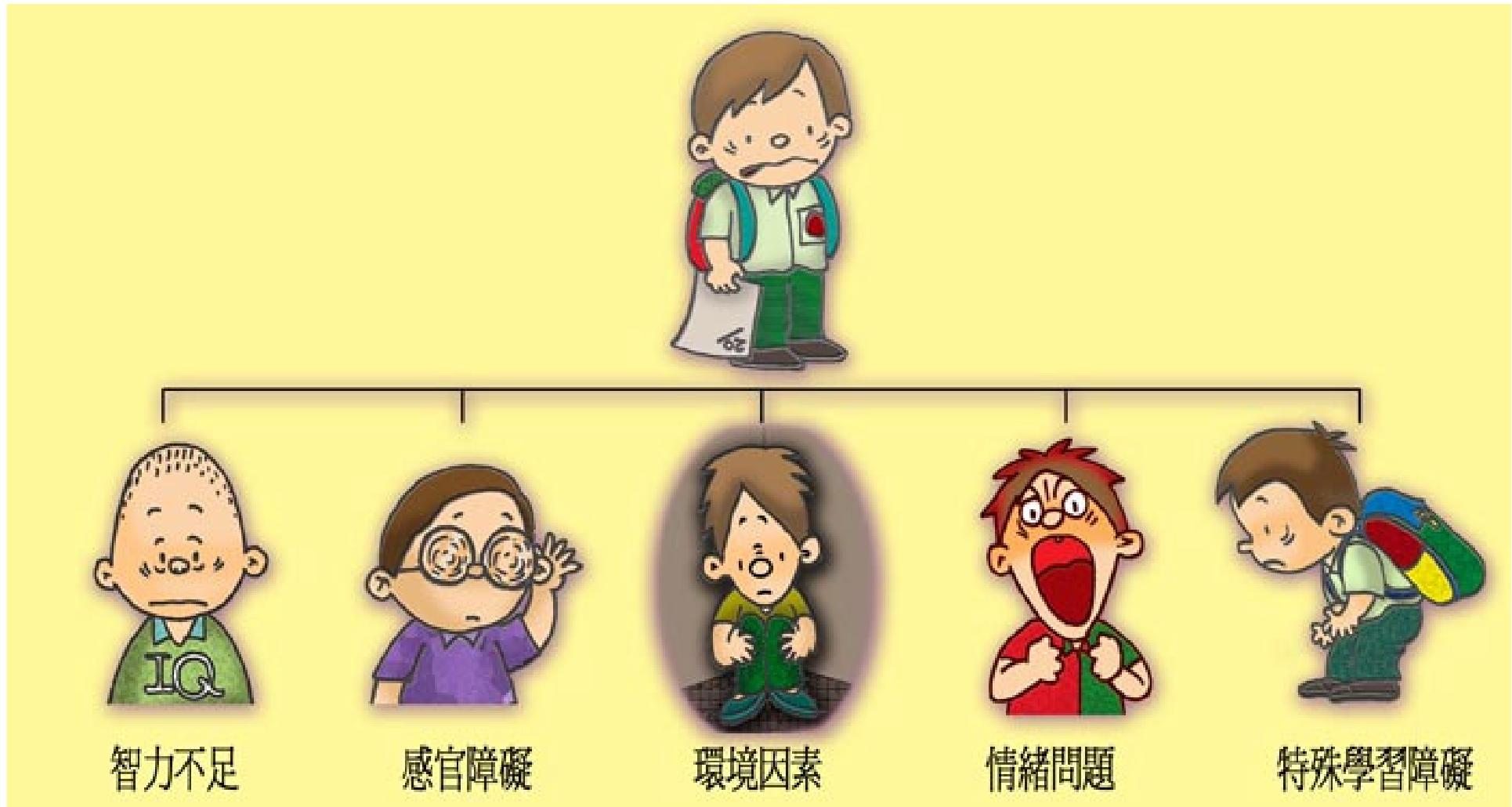
Mortality, ADHD, and Psychosocial Adversity in Adults With Childhood ADHD: A Prospective Study. *Paediatrics* 2013; 131:

# 特殊學習困難

# Specific Learning Disorder (SLD)



# 成績差的因素





你用不着這麼兇，嚇壞我了

## 醫學的觀點

家族性 – 遺傳

男女比率 : 1.6 對 1

約 10% 學齡兒童有讀寫障礙

**Prevalence, gender ratio and gender differences in reading-related cognitive abilities  
among Chinese children with dyslexia in Hong Kong. Educational Studies  
Volume 33, Issue 2, 2007**

# 讀寫障礙定義

- 特殊學習障礙
- 腦神經及生理基礎
- 特徵：未能準確及流暢地認讀文字
- 串字及解碼的困難
- 語音處理缺失
- 不能歸疚於智力問題或沒機會接受有效教育

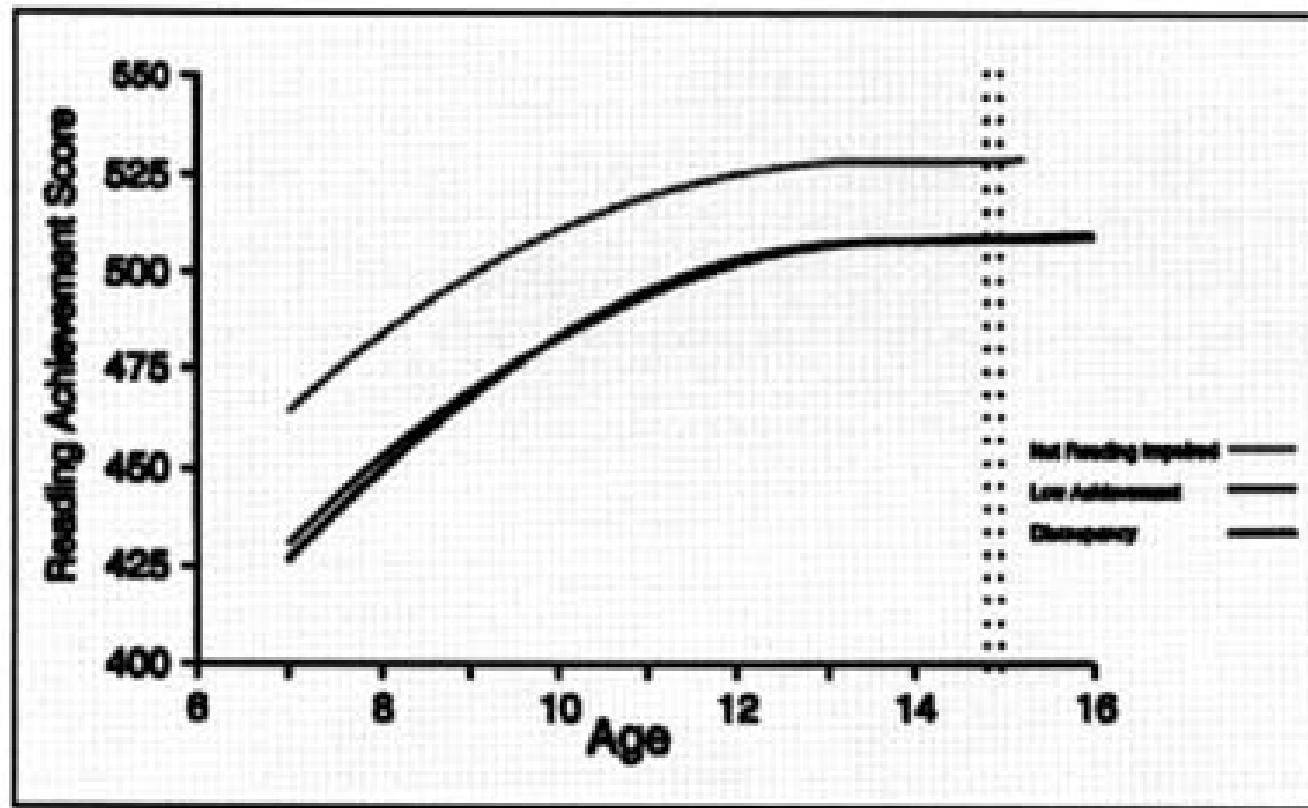
# 認知缺失

- 語音意識:口語語音結構
- 語素意識:語意單位及結構
- 字形意識
- 流暢度

# 後遺症

- ✓ 學童的成績差
- ✓ 知識及詞彙的增長困難
- ✓ 懷疑自己的能力，自我形象低落，行爲情緒問題
- ✓ 缺乏成功經驗，失去學習興趣，學習動機減弱
- ✓ 學障加重家庭中的情緒負擔

# 閱讀障礙:不會因成長而消失



The Neurobiology of Reading and Dyslexia . Sally E. Shaywitz, M.D.,  
and Bennett A. Shaywitz, NCSALL website

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# Autism Spectrum Disorder

## 自閉症群譜



自閉症群譜

# Prevalence of ASD on the rise!

## Autism Prevalence On The Rise\*

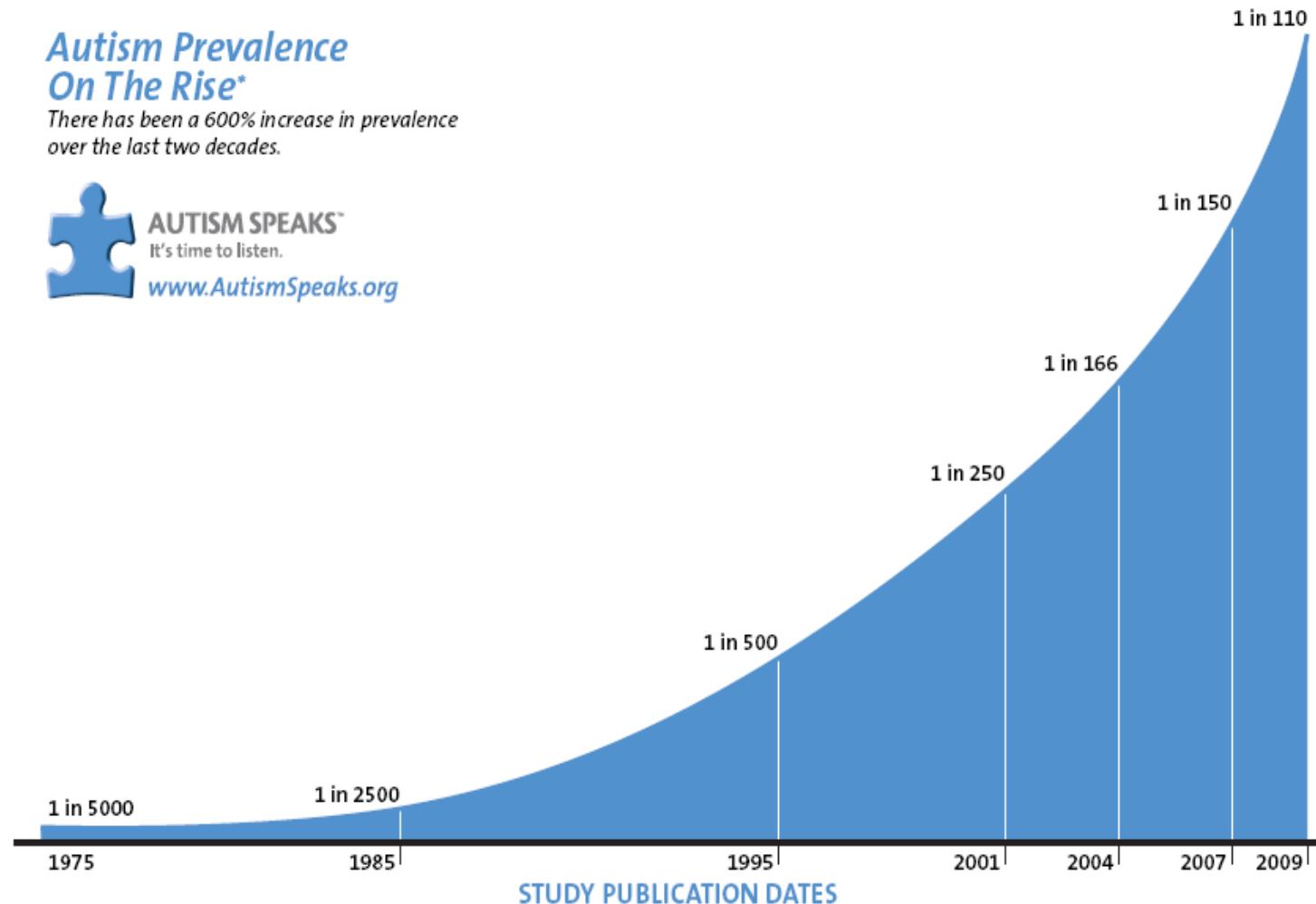
There has been a 600% increase in prevalence  
over the last two decades.



AUTISM SPEAKS™

It's time to listen.

[www.AutismSpeaks.org](http://www.AutismSpeaks.org)



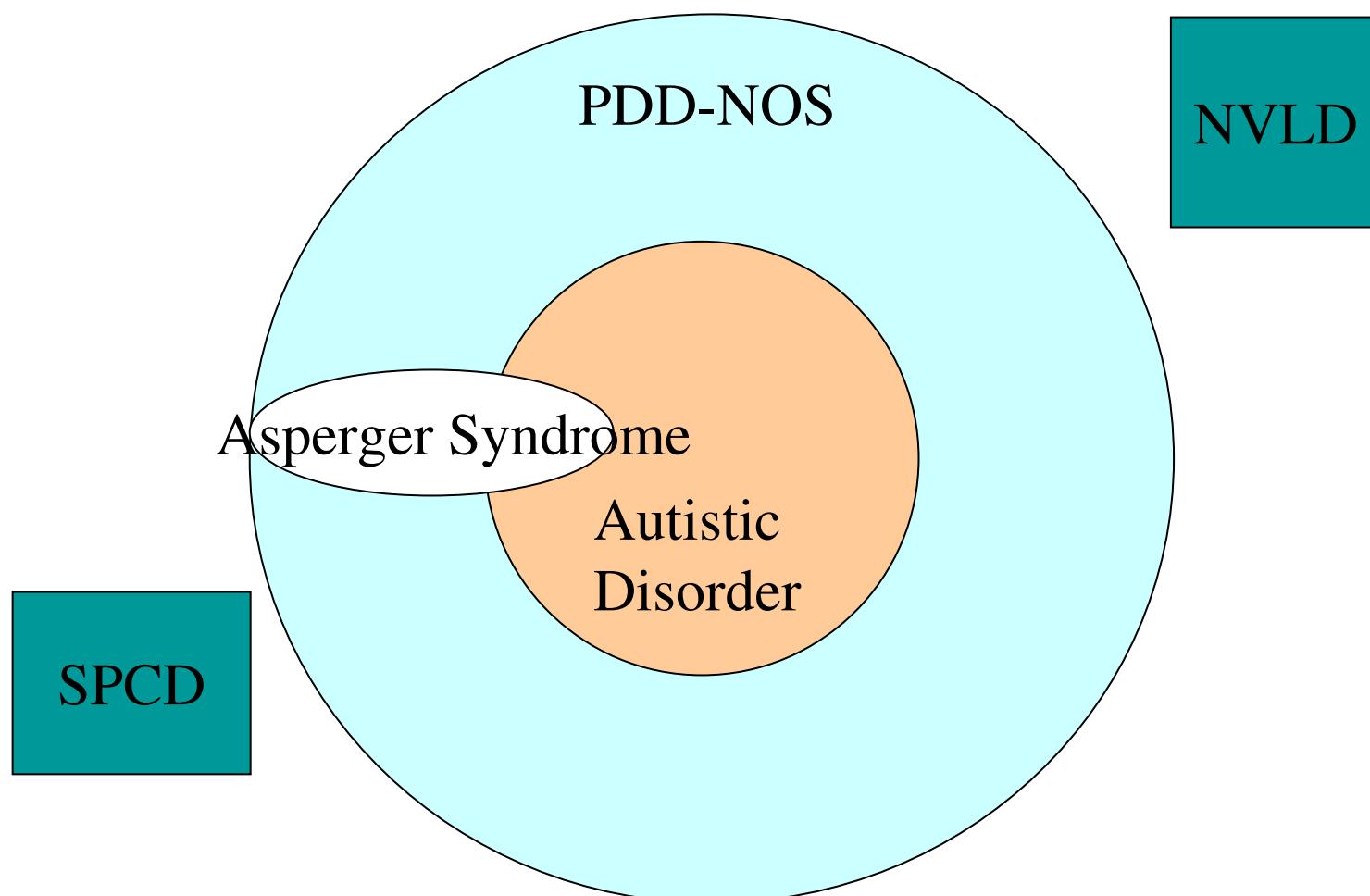
\*Recent research has indicated that changes in diagnostic practices may account for at least 25% of the increase in prevalence over time, however much of the increase is still unaccounted for and may be influenced by environmental factors.

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# 自閉症群譜

## Autism Spectrum Disorder



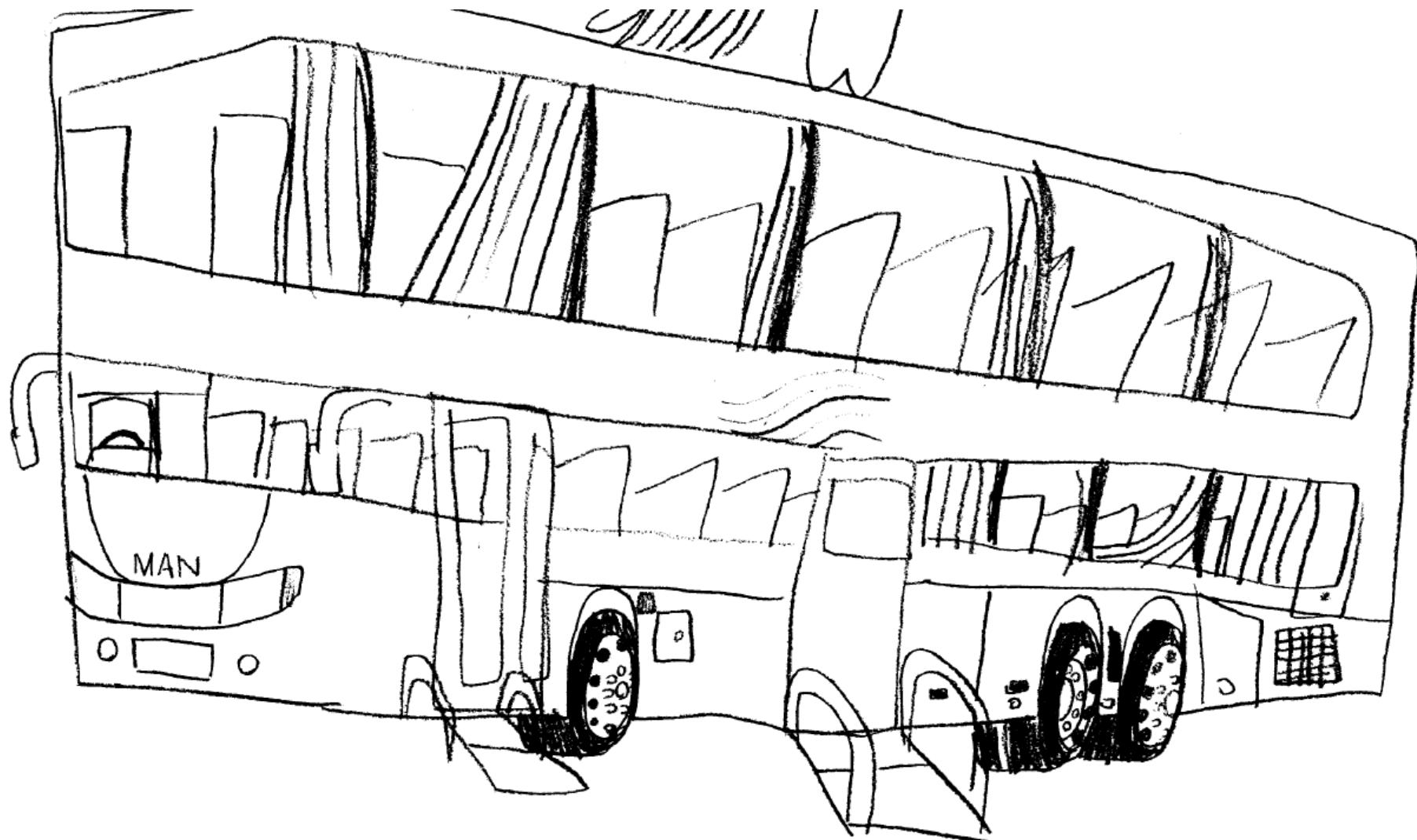
# 自閉症 Autistic Spectrum Disorders

## 主要特徵    Core features

1. 社交缺陷+ 溝通障礙 (語言和非語言)
2. 刻板的、重複的興趣和行為  
+/- 感覺統合問題

~~elephant tiger~~

~~hippo snake~~



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# Anxiety 焦慮



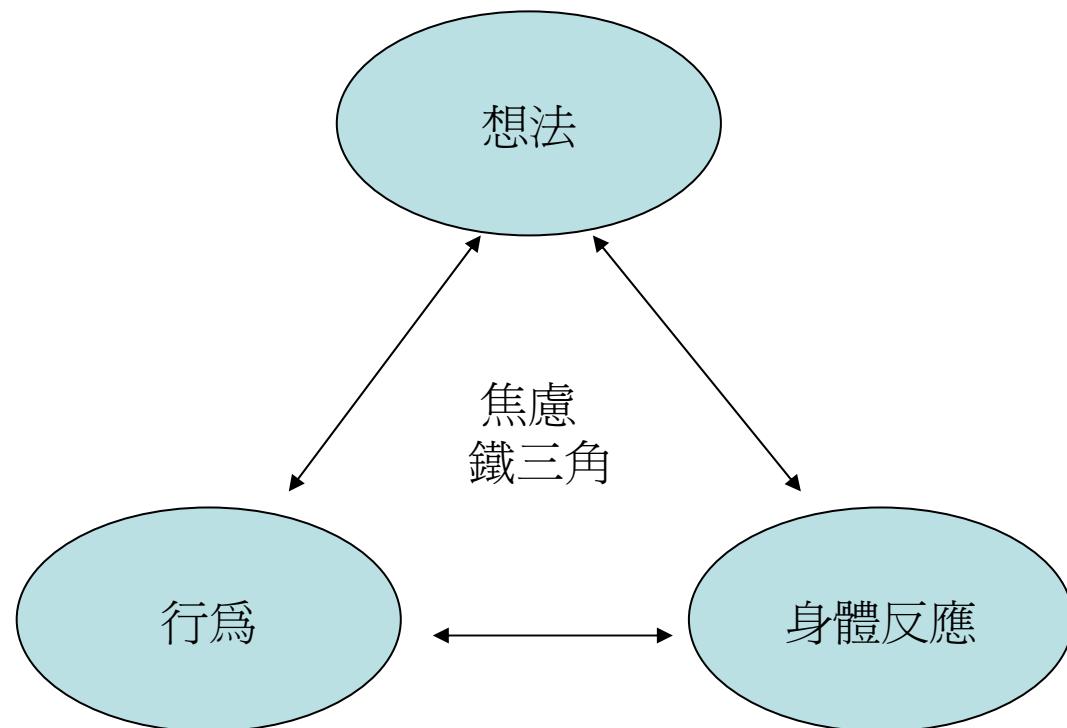
# 焦慮症

- 焦慮症是最影響兒童及青少年的精神病症之一  
(Merikangas & Avenevoli, 2002)
  - 本地發病率:焦慮症 6.9%  
    焦慮症狀 30.2% (Leung, et al., 2008)
  - 全球發病率:焦慮症 8-27% (Costello et al., 2005)
  - 心理社交及功能缺損, 其他影響包括較差的學習能力, 缺乏自信心及較弱的社交能力

# Types of anxiety 焦慮症的種類

1. Generalized Anxiety Disorder 廣泛焦慮症
2. Social Phobia 社交焦慮症
3. Separation Anxiety 分離焦慮症
4. Obsessive Compulsive Disorder 強迫症
5. Selective Mutism 選擇性緘默症
6. Specific Phobia 特殊恐懼症
7. Post Traumatic Stress Disorder 創傷後壓力症狀

# Triangle of anxiety 甚麼是焦慮

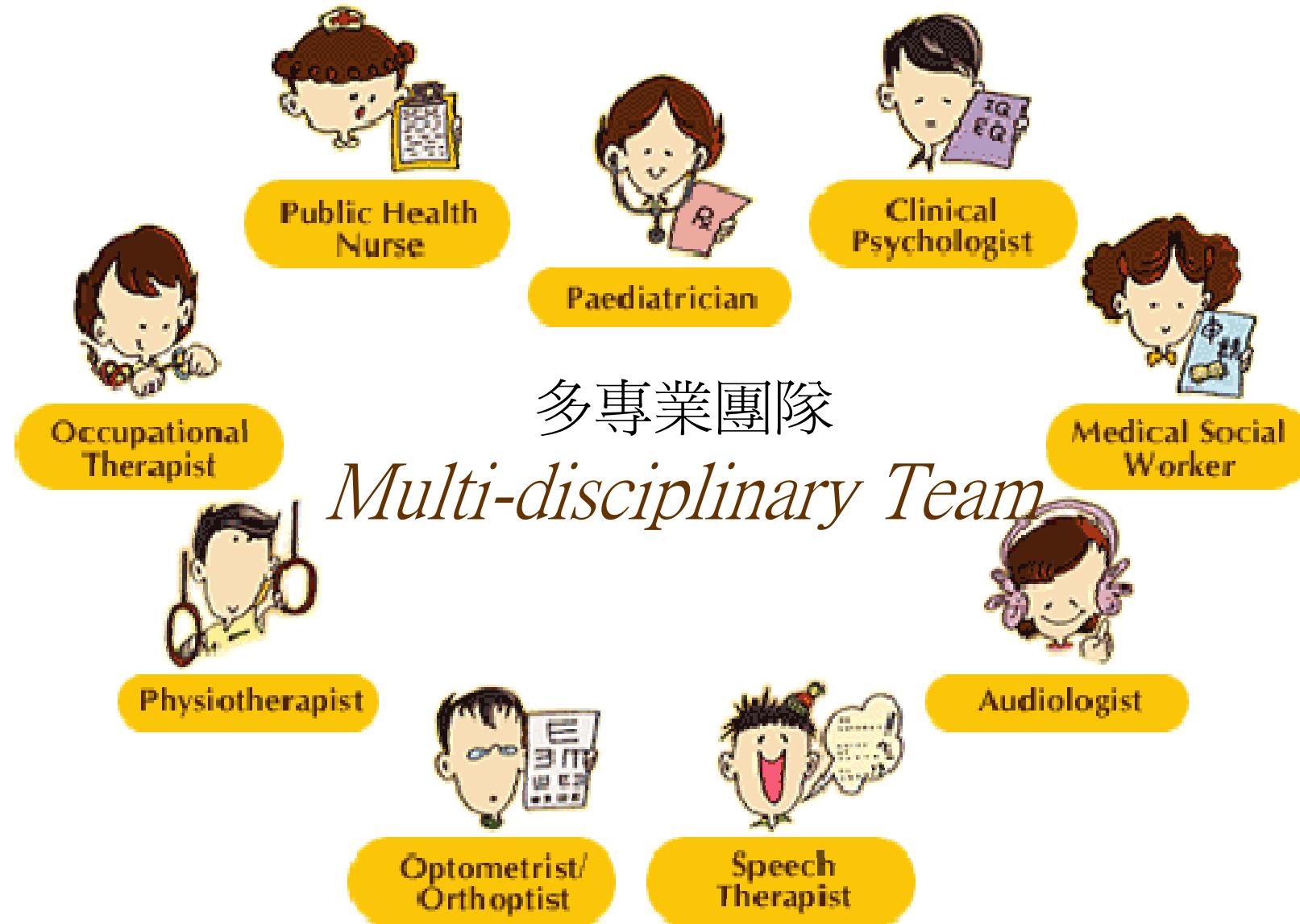


# Signs of anxiety 焦慮症的徵象



# 診斷評估

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# 診斷評估

- 病歷：發展史、學習歷程、家庭成員病史等
- 標準行爲量表
- 學習報告
- 行爲觀察 (個別及小組)
- 其他評估：智力、專注力、執行功能、社交能力、語言、體能
- 醫學檢查需要
  - 心電圖、磁力共振、腦電圖、重金屬檢查、睡眠測試

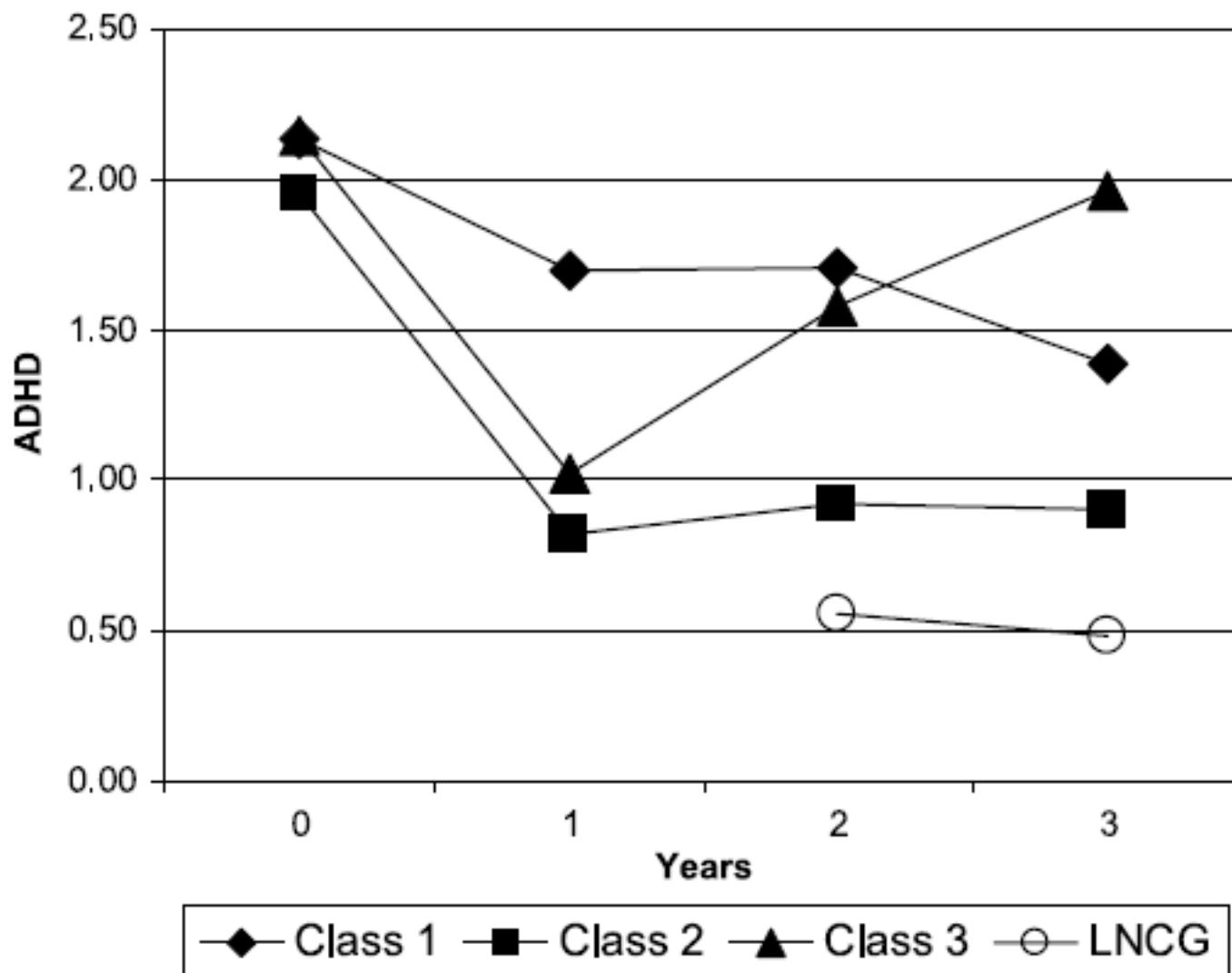
# 治療、支援

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# 有關「治療結果」的研究

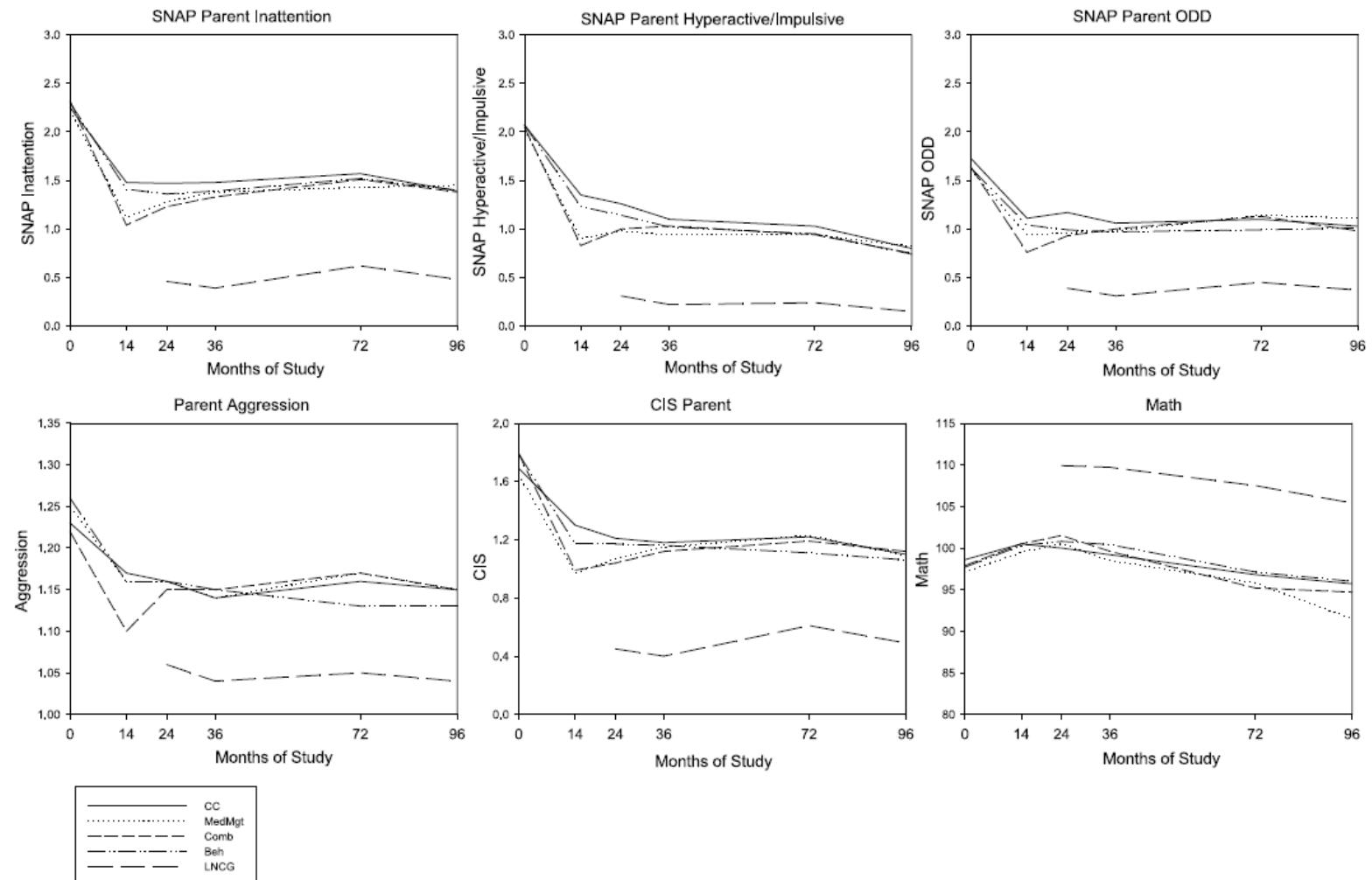
- 美國：兒童多動症的多式治療研究：一年、三年、和八年跟進研究

The MTA at 8 years: Prospective Follow-up of children treated to combined type ADHD in a multisite study; JAM Acad Child Adolesc Psychiatry 2009; 48(5):484-500



**Fig. 1** Average ADHD symptom score over time by latent class. LNCG = local Normative Comparison Group. Reproduced with permission from Wolters Kluwer Health. Originally published in Swanson JM, Hinshaw SP, Arnold LE et al. Secondary evaluations of MTA 36-month outcomes: propensity score and growth mixture model analyses. *J Am Acad Child Adolesc Psychiatry*. 2007;46(8):1003–1014.

## 8-YEAR FOLLOW-UP OF THE MTA



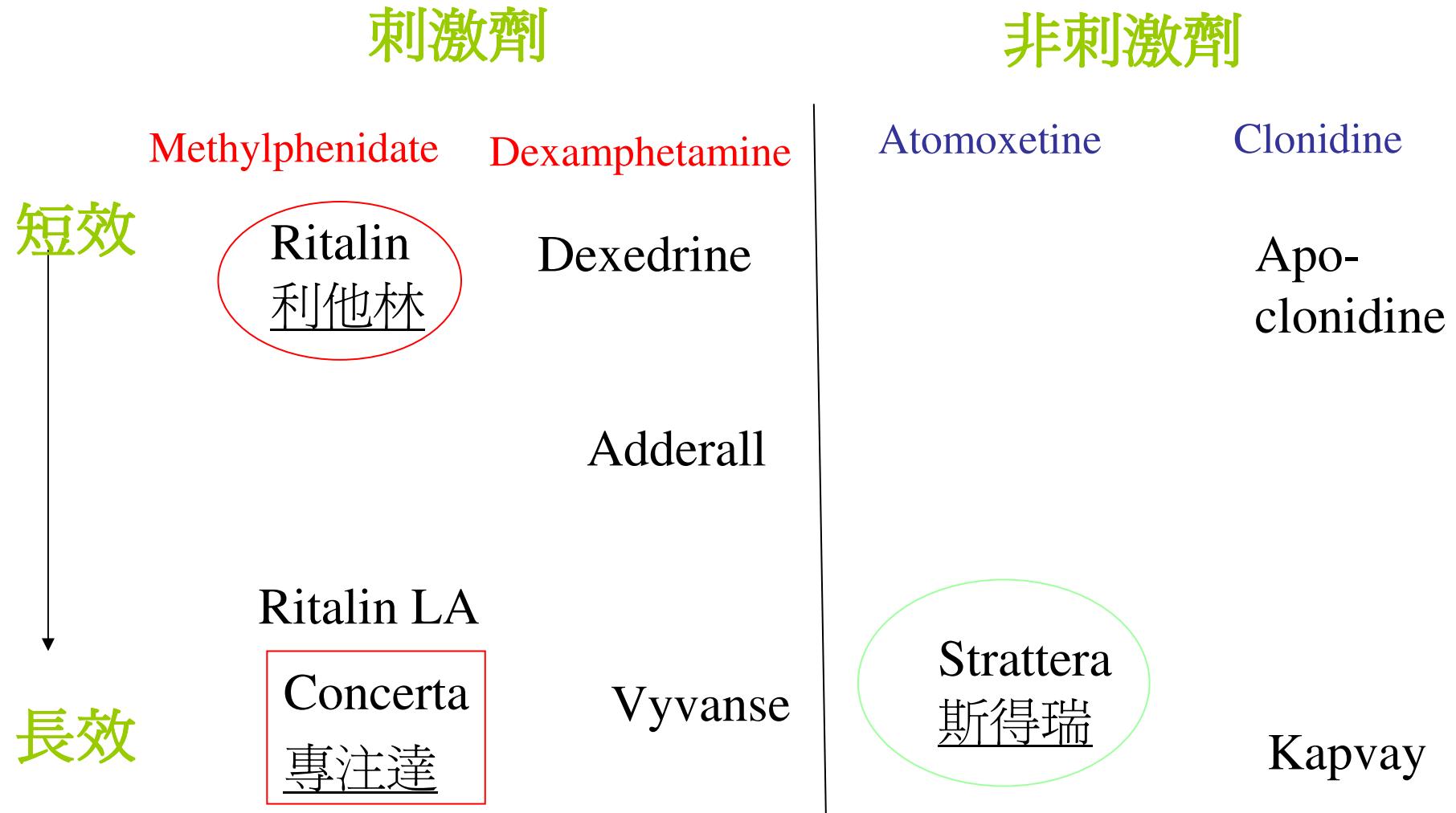
1. ADHD早期軌跡有效地預計長期結果
2. 患ADHD兒童病情隨成長有改善，但相比同班同學對照組仍有缺失，所以需長期覆診
3. 藥物治療在首14個月有明顯幫助，但行為治療在長期8年治療期跟藥物治療同樣有成效



# 治療計劃

- 藥物
- 心理教育
- 認知行爲治療
- 輔助/替代/補充治療
  - 藝術治療
  - 音樂治療
  - 感覺統合治療
  - 食療
  - 針灸

# 專注力不足/過度活躍症藥物治療



# 利他林 Ritalin / 專注達 Concerta

- 功效：能增加腦內化學物質多巴胺，使大腦皮層前額葉正常運作，提高專注力和控制能力
- 有效減低 專注力不足/過度活躍症 之主要徵狀
- 可被濫用
- 效用快: 在30分鐘至一小時之內生效
- **70-80%** 服藥者見效

# 利他林 Ritalin / 專注達 Concerta

- 副作用：
  - 常見副作用：胃口減低、體重下降、腸胃不適、頭痛、失眠、情緒波動及焦慮
  - 較罕見之副作用：影響生長、抽動、抽搐、憂鬱、心跳加速、血壓增高
  - 極罕見之副作用：猝死

# Atomoxetine (Strattera) 斯得瑞

- 功效: 能增加腦內化學物質多巴胺和去甲腎上腺素，使大腦皮層前額葉正常運作，提高專注力和控制能力
- 有效減低 專注力不足/過度活躍症 之主要徵狀
- 用於有焦慮/對抗行爲
- 持續較長時間，每天需要採取一次或兩次
- 逐步增加劑量,較慢見效（約兩個星期）
- **50-60% 服藥者見效**

# Atomoxetine (Strattera)斯得瑞

- 副作用:胃口減低、腸胃不適、昏昏欲睡、失眠
- 較罕見之副作用:體重減輕、心血管問題、心律不齊、肝功能失調、抑鬱
- 極罕見之副作用:抽搐、自殺意念

# 行爲治療的基本原則

- 資訊及支援
- 以開放，互動及不批判的態度合作，建立關係
- 與對象一起探索他們的憂慮，從而一起了解治療方案
- 確保這方面的討論在保密性，隱私和尊嚴得到尊重的情況下發生
- 根據相關人士的知識水平和了解能力，提供度身訂造的治療
- 本地的自助組織和志願機構資料
- 拉攏家庭和照顧者的支持

# 行爲分析

**A: Antecedent**

前因



**B: Behaviour**

問題行爲



**C: Consequence**

後果

**Reinforcers**

強化

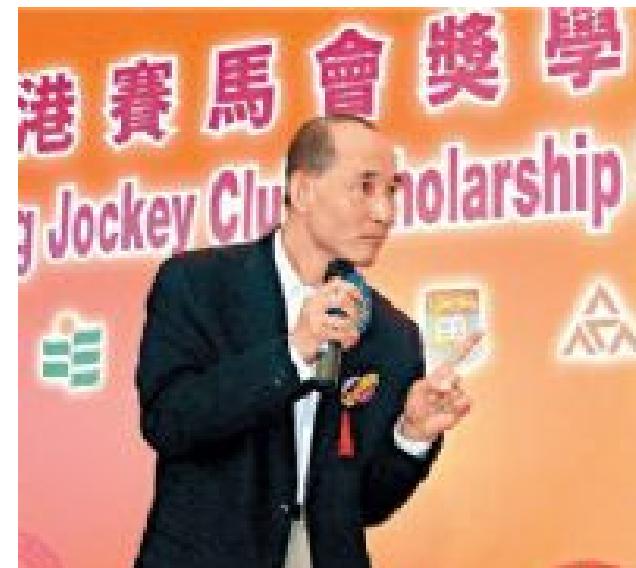
# 認知行爲訓練

- 有系統及有計劃地改善孩子行爲的方法
- 透過改變行爲的前因和後果來減少孩子不適當的行爲
- 強化適當/理想行爲的方法：包括關注、讚美、獎勵、計積分制度、行爲合約等
- 減少不適當行爲的方法：包括故意忽視、暫停獎勵、合理的後果
- 孩子、家長、學校合作以幫助孩子為目標

# 幫助孩子跨越障礙

- 👉 明白孩子的困難、限制、困擾
- 👉 正面欣賞及讚賞孩子所付出的努力
- 👉 培育孩子不同的興趣
- 👉 鼓勵及幫助孩子以不同的方式表達情緒及感受
- 👉 增進孩子對自己正面的看法

# 發展所長，建立自信



澳門科技大學



# Stephen Wiltshire



澳門科技大學

# 結論

1. 行爲障礙具有遺傳及腦神經基礎，並非純粹因爲管教問題
2. 及早識別及治療可加強療效
3. 治療方案要衡量個別兒童的需要及身體狀況，及配合家庭和學校的支援，藥物治療不是治療的全部



謝謝

developmental  
paediatrics