



從醫學看性教育



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Charles Sturt University Theology

Master Diplomat

主導性教育的機構

美國性知識與性教育委員會（SIECUS）

青年促進會（AFY）

家庭計劃協會（Planned Parenthood）

你們在教導我孩子甚麼？第一章

意識形態 v.s. 科學臨床發現

性別平等

性別定義

性權利

身體的主權

安全的性行為

研究生理發展與身

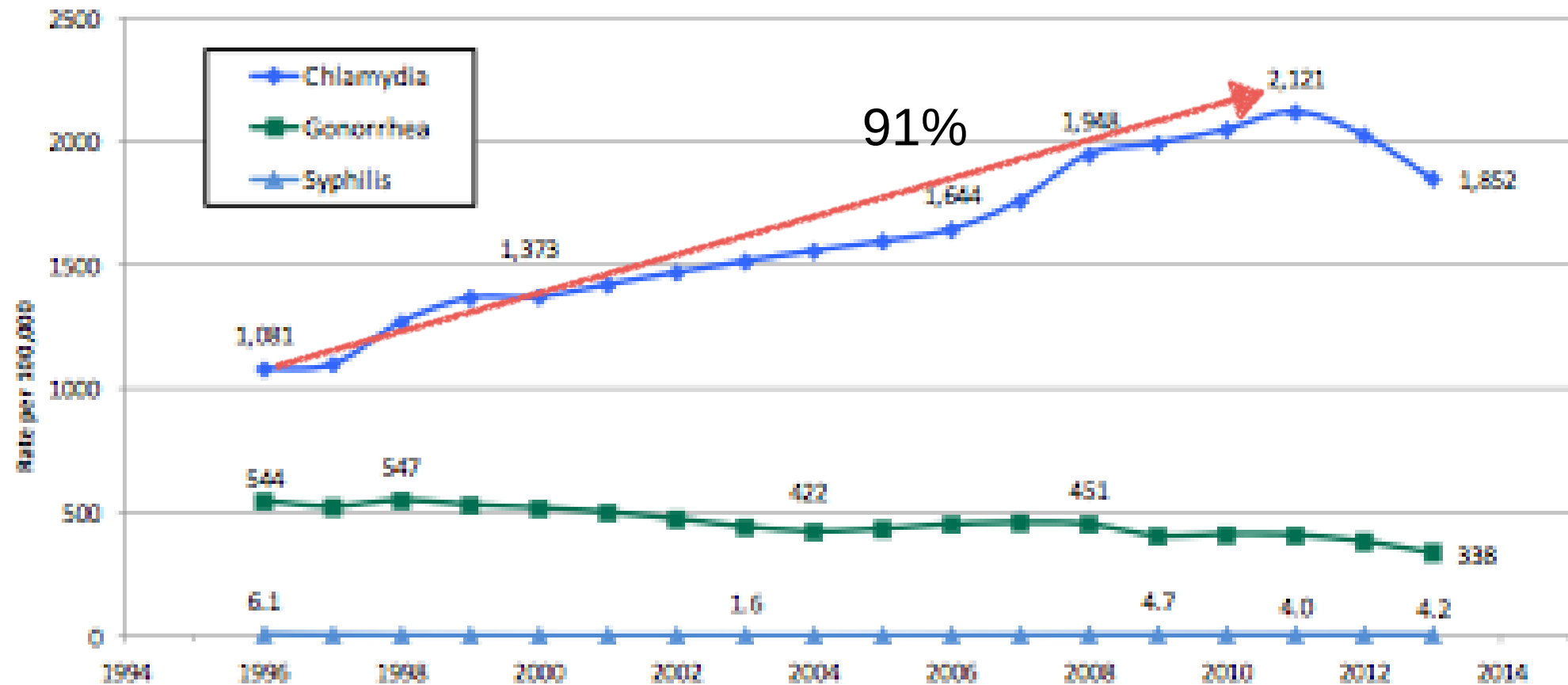
體特質

疾病的防治

生殖科技

Figure 1

Chlamydia, Gonorrhea, and Syphilis Rates (per 100,000), Ages 15 to 19, 1996-2013



Sources: Data for 1996–2000: Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2000. Atlanta, GA: U.S. Department of Health and Human Services, September 2001. Available at <http://www.cdc.gov/std/stats00/default.htm>. Data for 2001–2005: Centers for Disease Control and Prevention. Trends in Reportable Sexually Transmitted Diseases in the United States, Atlanta, GA: Department of Health and Human Services, November 2007. Available at <http://www.cdc.gov/std/stats/toc2006.htm>. Data for 2006–2009: Centers for Disease Control and Prevention. (2011). Sexually transmitted disease surveillance, 2010. Atlanta, GA: U.S. Department of Health and Human Services. Available at <http://www.cdc.gov/std/stats10/toc.htm>.

Data for 2009–2013: Centers for Disease Control and Prevention. (2014) Sexually transmitted disease surveillance, 2013. Atlanta, GA: Department of Health and Human Services. Available at <http://www.cdc.gov/std/stats13/default.htm>.

目前發現超過25種透過性行為感染的疾病

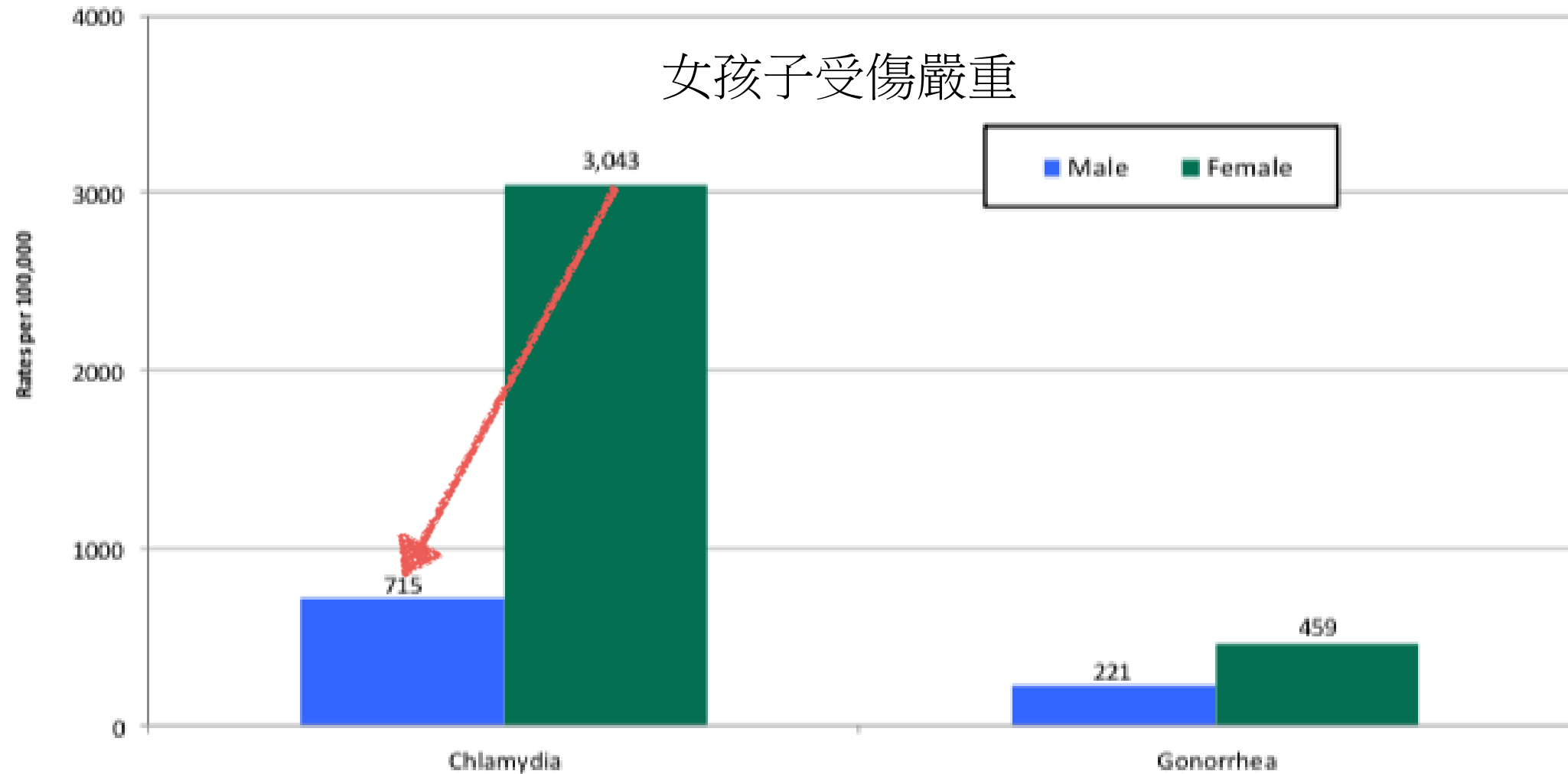
細菌性的：披衣菌、梅毒、淋病

病毒性的：B型肝炎、皰疹、HIV、人類乳突病毒

寄生蟲：陰道滴蟲

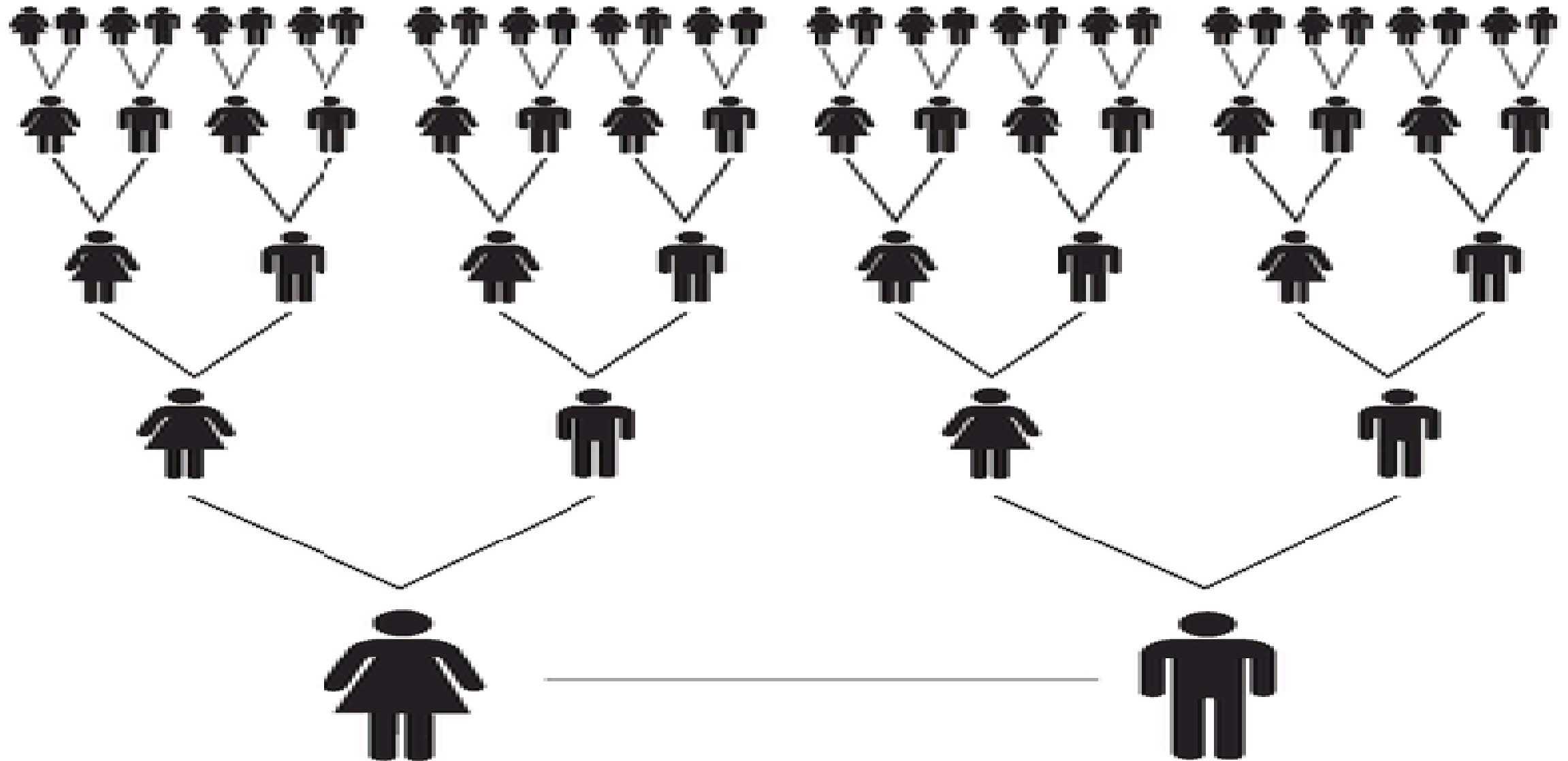
Figure 2

Chlamydia and Gonorrhea Rates (per 100,000), Ages 15 to 19, By Gender, 2013



Source: Centers for Disease Control and Prevention. (2014) *Sexually transmitted disease surveillance, 2013*. Atlanta, GA. Department of Health and Human Services. Available at: <http://www.cdc.gov/std/stats13/default.htm>.

Why don't sex educators emphasize that casual sex and multiple partners is a health hazard?



安全性行為 五項條件

雙方同意

非剝削利用

誠實

愉悅

保護措施

性教育的目的，就是要保護自己與孩子！

同性戀是天生的？

- **同性戀（ Homosexuality ）這一個名詞，最先是出現於1869年，Karl Maria Kerbeny**
 - **1886年 Richard von Krafft-Ebing**
- <性精神病理>**

- **十九世紀以前，以國家之力明文禁止**
- **十九世紀末期同性性行為除罪化以及病理化的企圖。**
- **二十世紀末至到現在，同性運動的政治化與法制化。**

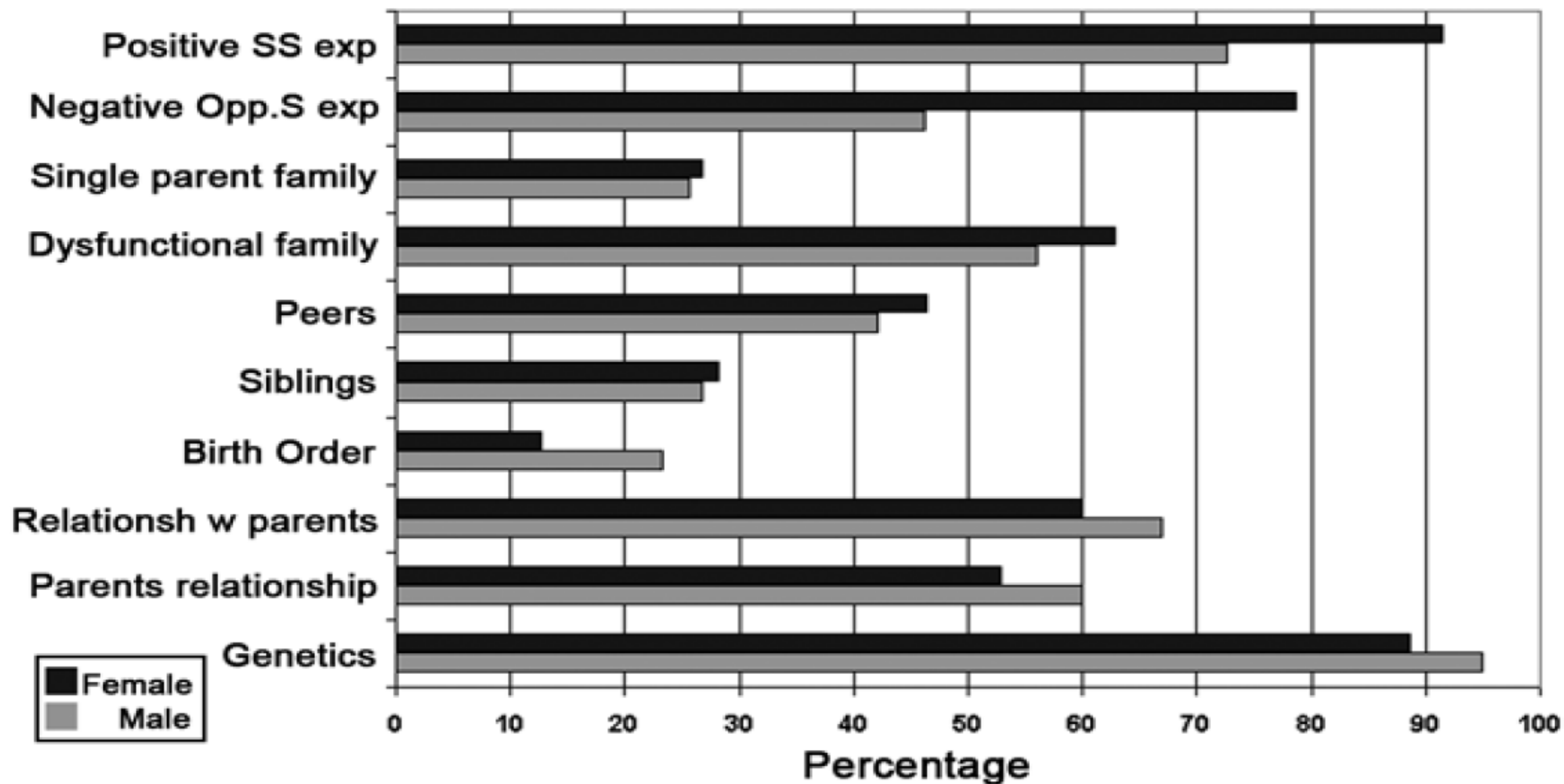


Figure 25. Factors thought by gay and lesbian people to have had some causal connection to their SSA

NEWS



HOMOSEXUALITY: BORN OR BRED?

BY **NEWSWEEK STAFF** ON 2/23/92 AT 7:00 PM

Gelman D.

have a profound impact on how the rest of us think about homosexuality. Scanning the brains of 41 cadavers, including 19 homosexual males, LeVay determined that a tiny area believed to control sexual activity was less than half the size in the gay men than in the heterosexuals. It was perhaps the first direct evidence of what some gays have long contended—that whether or not they choose to be different, they are born different.

Two years ago he was recruited for an ambitious study of homosexuality in twins, undertaken by psychologist Michael Bailey, of Northwestern University, and psychiatrist Richard Pillard, of the Boston University School of Medicine. Published last December, only months after LeVay's work, the results showed that if one identical twin is gay, the other is almost three times more likely to be gay than if the twins are fraternal—suggesting that something in the identical twins' shared genetic makeup affected their sexual orientation.

But instead of resolving the debate, the studies may well have intensified it. Some scientists profess not to be surprised at all by LeVay's finding of brain differences. "Of course it [sexual orientation] is in the brain," says Johns Hopkins University psychologist John Money, sometimes called the dean of American sexologists. "The real question is, when did it get there? Was it prenatal, neonatal, during childhood, puberty? That we do not know."

In the gay community itself, many welcome the indication that gayness begins in the chromosomes. Theoretically, it could gain them the civil-rights protections accorded any "natural" minority, in which the legal linchpin is the question of an "immutable" characteristic. could lift the burden of self-blame from their parents. "A genetic component in sexual orientation says, 'This is not a fault, and it's not your fault,'" says Pillard.

modern study. The author believes that the most promising studies for providing a biological basis for sexual orientation are **1.** his own research on differences in brain structure, although they are not yet replicated, along with **2.** Hamer's studies (5) of genetic linkages and **3.** Pillard's studies (6) of familial patterns.

LeVay's chapter on how the American Psychiatric Association removed homosexuality from the list of mental illnesses in 1973 is interesting. He rightly emphasizes that the change was based on scientific evidence, although the need to consider removing it was fueled by social and political pressures.

Psychiatric Service
Vol.48, No. 7
p.962, 1997



腦結構的分析-下視丘前葉第三神經元群

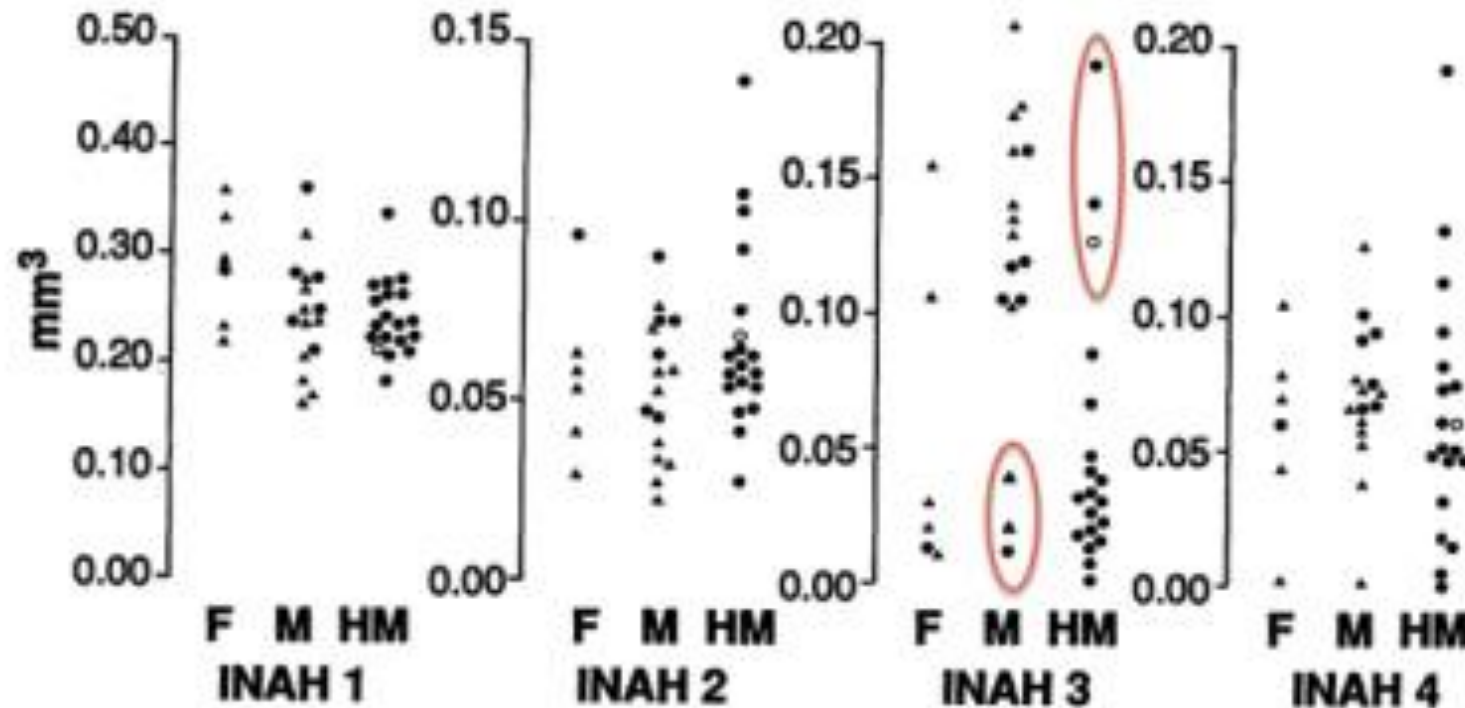


Fig. 2. Volumes of the four hypothalamic nuclei studied (INAH 1, 2, 3, and 4) for the three subject groups: females (F), presumed heterosexual males (M), and homosexual males (HM). Individuals who died of complications of AIDS, ●; individuals who died of causes other than AIDS, ▲; and an individual who was a bisexual male and died of AIDS, ○. For statistical purposes this bisexual individual was included with the homosexual men.

個人結論是

- 1. 下視丘前葉第三神經元群（ INAH3 ）的大小差異是性傾向的誘因還是結果，在本論文中是無法確定的。**
- 2. 下視丘前葉第三神經元群（ INAH3 ）的大小差異和性傾向的關聯是否有第三因素的介入，在本論文是無法確定的。**

“我沒有證明同性戀是基因的或是找到變成同性戀的原因。我沒有表示同性戀是生來如此的，這是大多數民眾誤解了我的研究。我也沒有找到同性戀的腦部結構，INAH3要說單純是同性戀結構的可能性比不上說成是男人和女人性行為相關的結構。我的研究是暗示，是對未來研究方向的暗示”

The innate and immutable argument finds no basis in science

同性恋是天生的吗？科学家研究同性恋大脑结构证实同性恋是天生的

0

发表于：2013年6月22日

喜欢看飞碟探索UFO之谜吗？
不如现在就去下载《[来自外星人的讯息](#)》电子书
了解ET外星人与[人类的起源](#)真相吧！

1,881次浏览

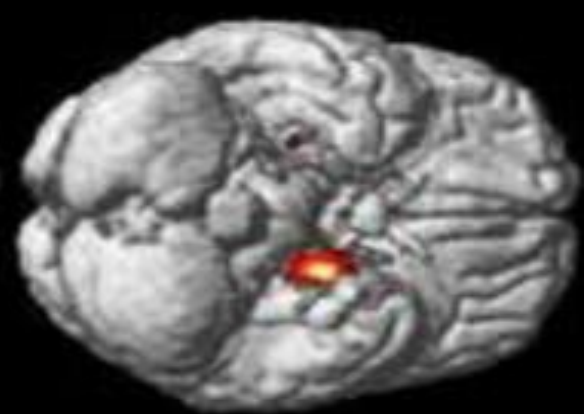
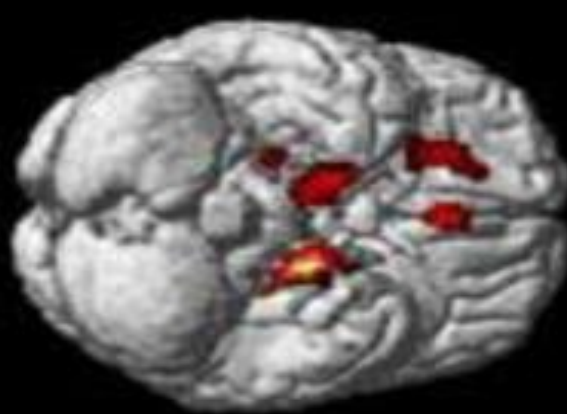
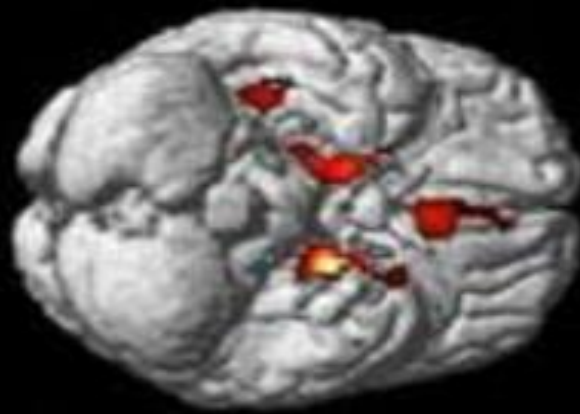
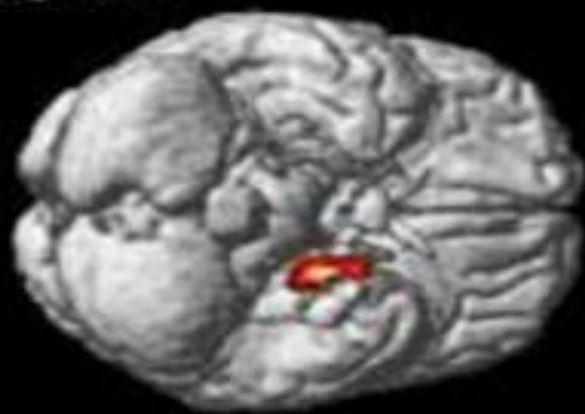
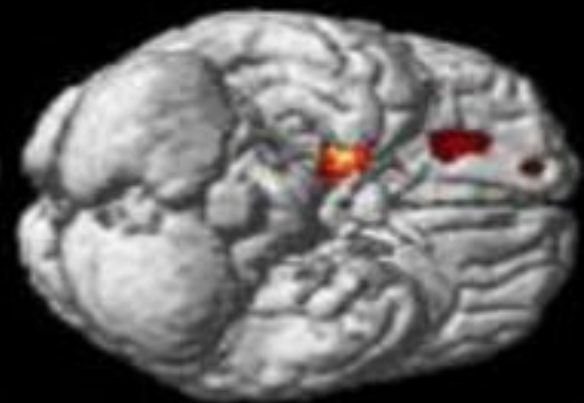
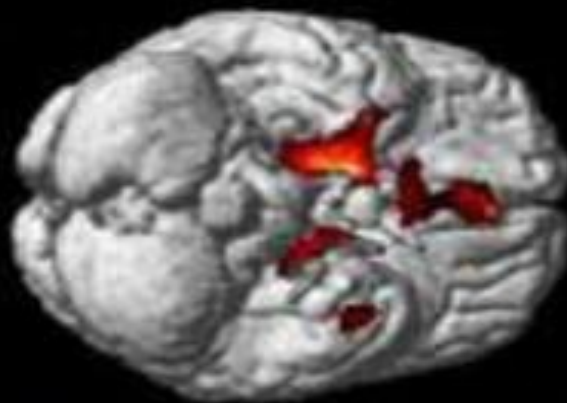
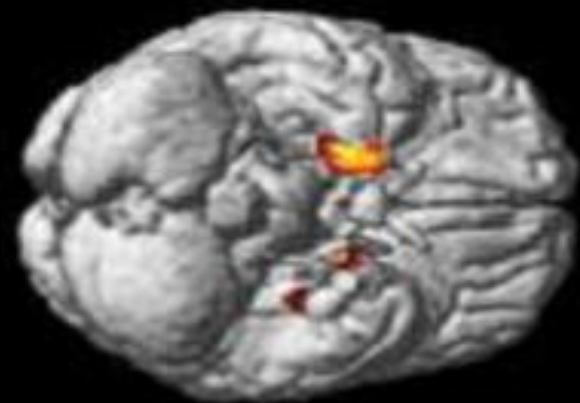
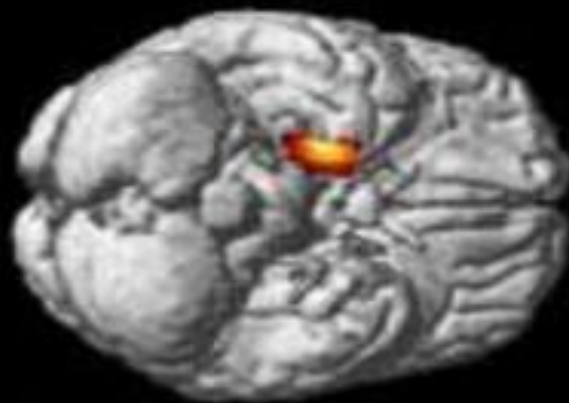
同性恋是天生的吗？[科学家研究同性恋大脑结构证实同性恋是天生的](#)

文章目录 [\[隐藏\]](#)

- 1 若你是同性恋，生来就是同性恋
- 2 雷尔利安运动评论《[同性恋是天生的吗？科学家研究同性恋大脑结构证实同性恋是天生的](#)》



瑞典斯德哥尔摩大脑研究所的研究员针对九十名志愿者利用脑部核磁共振测量了左右脑的大小。

HeM**HeW****HoM****HoW****L amygdala****R amygdala****0**  **6.0**

Some physical attributes of the homosexual brain resemble those found in the opposite sex. These images show the amygdala in heterosexual men and women (labeled HeM and HeW) and homosexual men and women (labeled HoM and HoW)

(Image: National Academy of Sciences, PNAS)

雙胞胎研究

Table 3.—Relatives' Sexual Orientation and Age			
	Subsample		Adoptive Brothers
	Monozygotic	Dizygotic	
Homosexual, No./total (%)*	29/56 (52)	12/54 (22)	6/57 (11)
Homosexual (confirmed), No./total (%)†	25/50 (50)	11/46 (24)	6/31 (19)
Mean ($\pm$ SD) age, y	33.8 $\pm$ 7.8	34.6 $\pm$ 11.0	30.0 $\pm$ 10.6

*This figure includes relatives diagnosed as being either homosexual or bisexual according to the algorithm discussed in the text.

†This figure includes relatives who participated in the study and who gave their sexual orientation as either homosexual or bisexual.

Bailey 後期 (2000年) 他獲准向在澳洲雙胞胎登記處登記了的雙胞胎寄出問卷, 調查他們的性偏好及性經驗。 Bailey之後所作的研究得到的數據比之前的更低。

Table 1
Probandwise Concordances for Two Criteria of Nonheterosexual Orientation

Proband's sex and criterion	Monozygotic				Same-sex dizygotic				Opposite-sex dizygotic			
	<i>n</i> pairs			Probandwise concordance	<i>n</i> pairs			Probandwise concordance	<i>n</i> pairs			Probandwise concordance
	++	+-	--		++	+-	--		++	+-	--	
Male												
Strict (Kinsey ≥ 2)	3	24	260	20.0	0	16	146	0.0	2	17	287	10.5
Lenient (Kinsey ≥ 1)	9	30	260	37.5	1	30	146	6.3	3	24	287	11.1
Female												
Strict (Kinsey ≥ 2)	3	19	539	24.0	1	17	293	10.5	2	9	287	18.2
Lenient (Kinsey ≥ 1)	14	65	539	30.1	8	37	293	30.2	3	23	287	11.5

Note. Figures for the strict criteria exclude pairs in which 1 twin had a Kinsey score of 1. For opposite-sex twins, probandwise concordances represent the rates of nonheterosexuality in the opposite-sex twins of the probands.

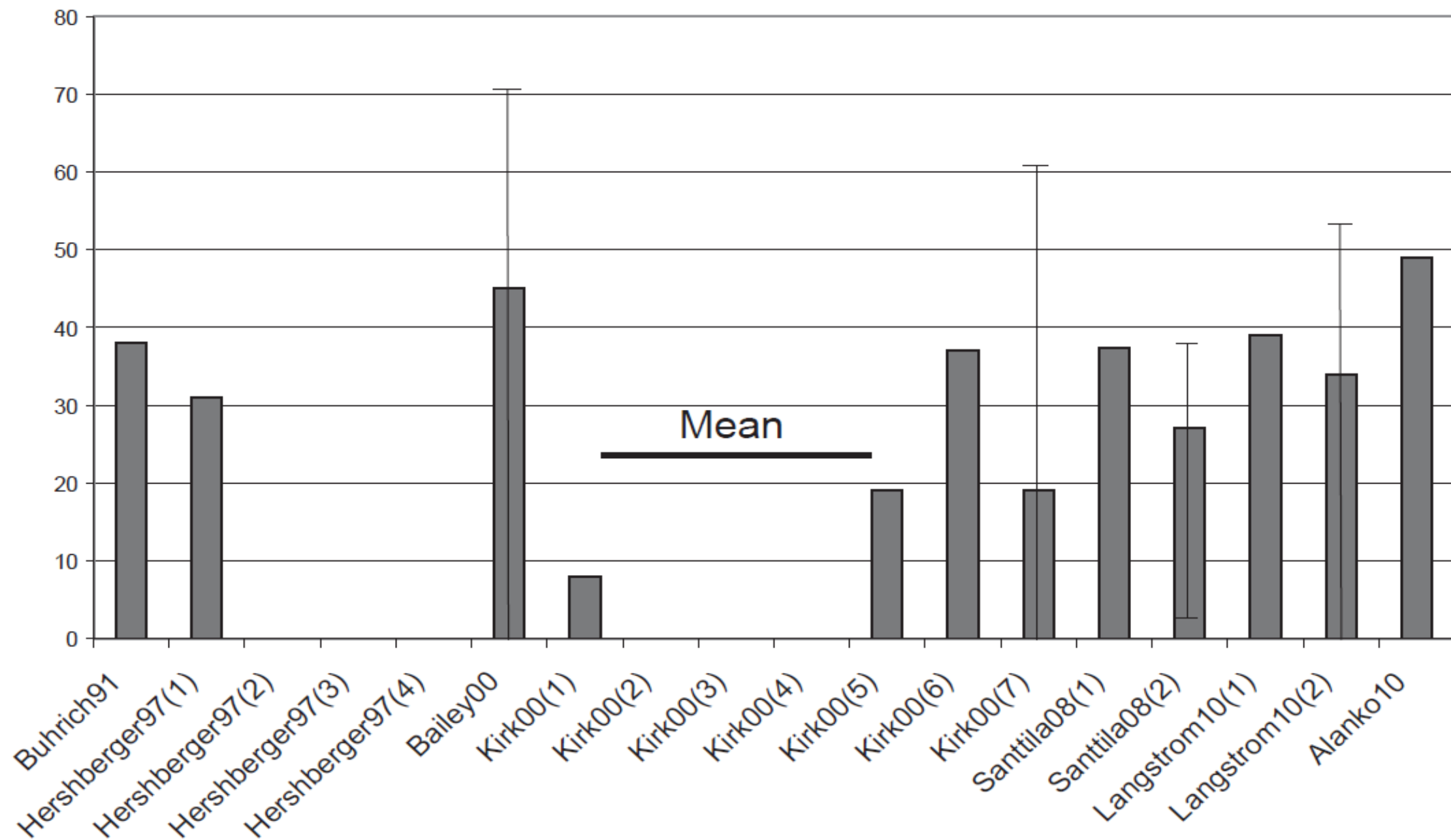
Table 1 Probandwise Concordances for Two Criteria of Nonheterosexual Orientation

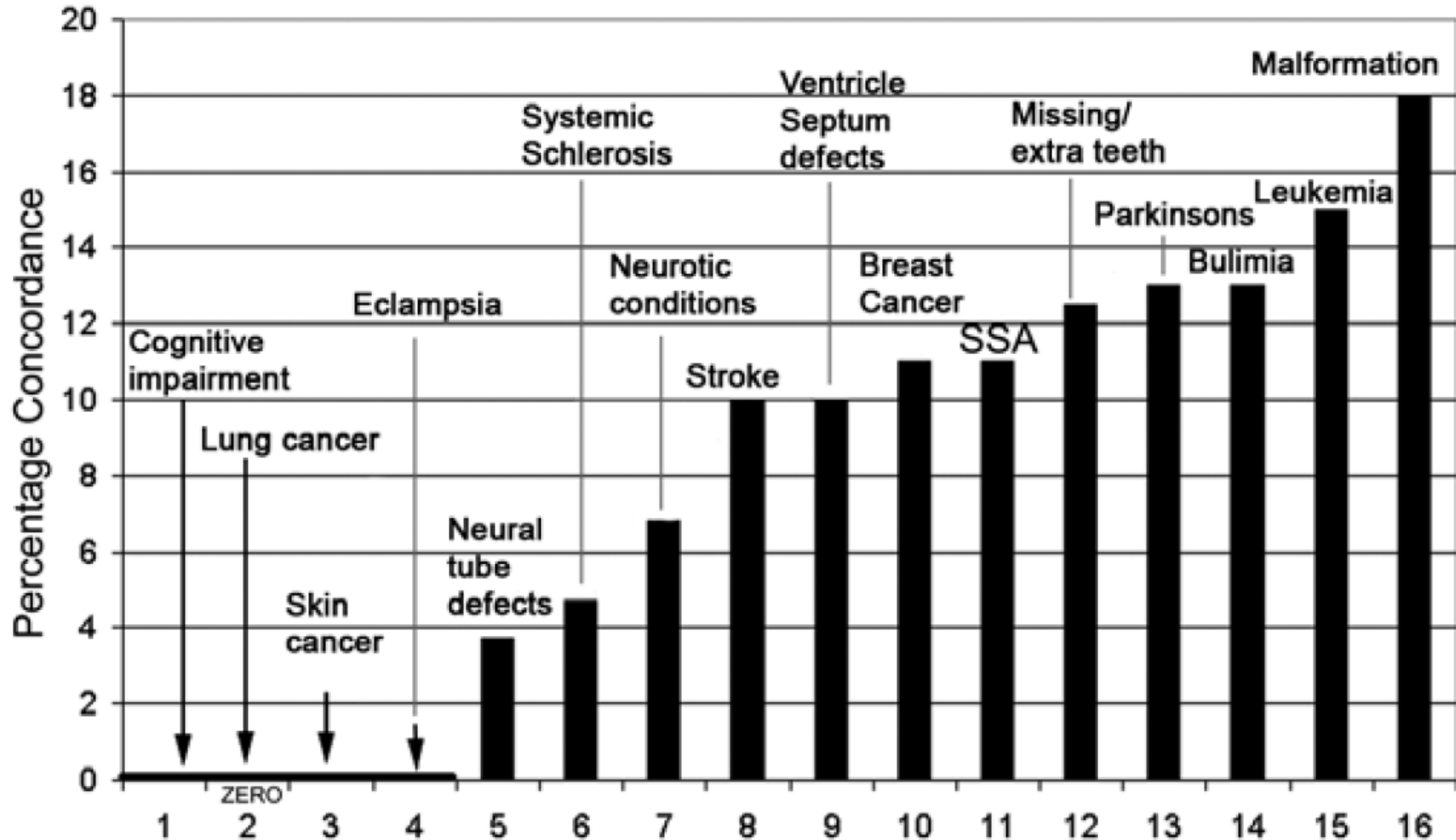
22% 異卵雙胞胎同性戀者的兄弟是同性戀

11% 被領養的同性戀者的兄弟是同性戀

9.2% 男同性戀者的非雙胞胎親兄弟是同性戀

Percentage







DARROW MONTGOMERY

**科學家本人不認為找到確切的基因，
只認為說有較高的統計可能有基因存在。**

同性戀不單純是基因的....環境也扮演了角色。

沒有單一的主控基因使得人變成同性戀。

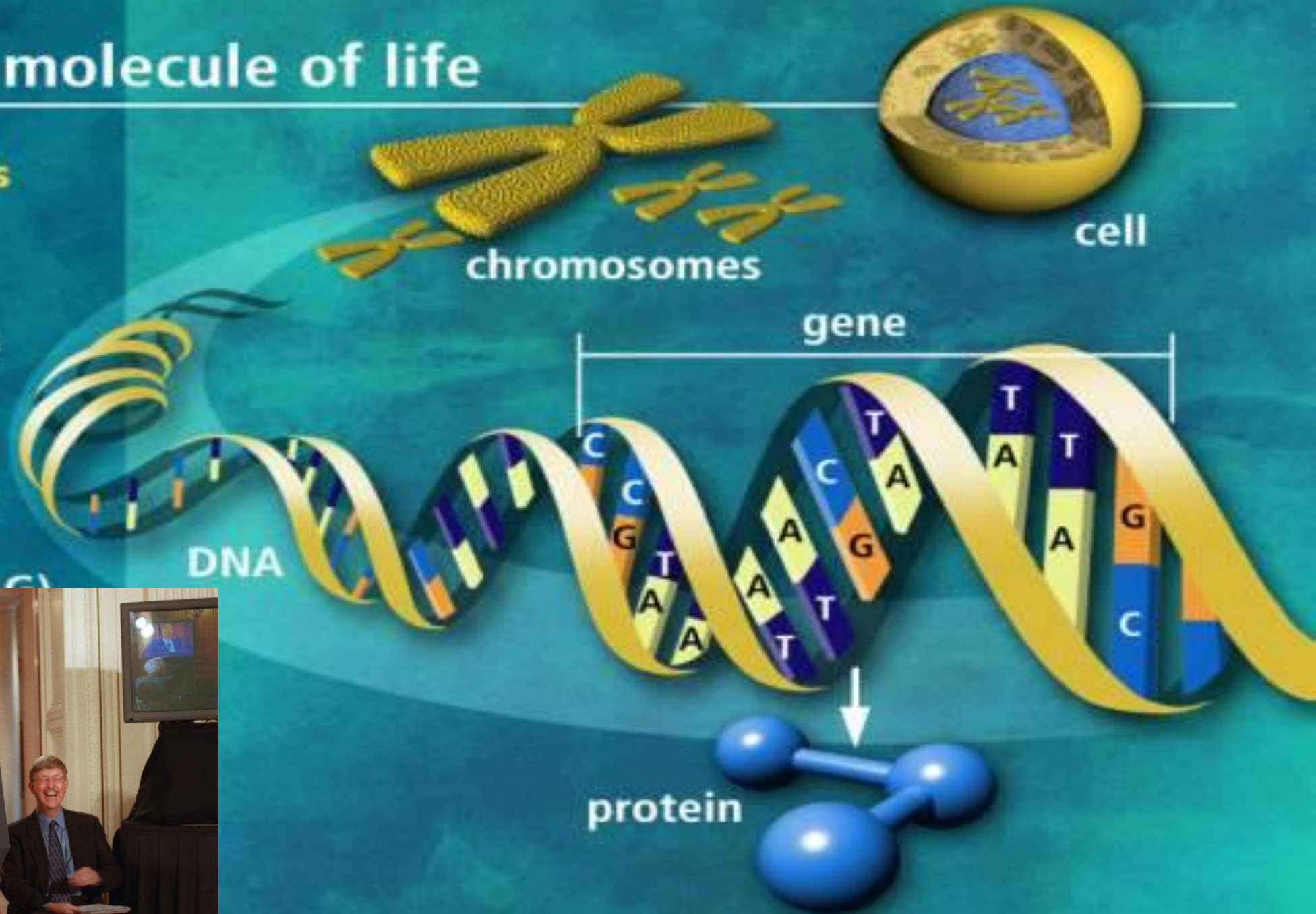
我不認為我們能夠預測誰將來會是同性戀。

DNA the molecule of life

Trillions of cells

Each cell:

- 46 human chromosomes
- 2 meters of DNA
- 3 billion DNA subunits (the bases: A, T, C, G)



性傾向的變化

TABLE I. COMPILATION AND OVERALL AVERAGE OUTCOME
OF RECENT SURVEYS OF REORIENTATION THERAPY CONSUMERS

<i>Survey</i>	<i>N</i>	<i>Number and percent reporting exclusive opposite-sex attraction shift fully successful</i>
Nicolosi et al. (2000b) ¹	318	114 (36%)
Shidlo & Schroeder (2002)	202	8 (4%)
Spitzer (2003) ²	183	96 (52%)
Total	703	218 (31%)

1. There was a total $N = 883$ for the entire study; however, only 318 reported being exclusively homosexual pre-treatment and 114 of these reported themselves exclusively heterosexual post-treatment.
2. There was a total $N = 200$ for the entire study; however, only 183 were included in calculations of exclusive post-treatment opposite-sex attraction.

狄恩哈默

生物學是非道德性的，對於判斷對與錯是沒有幫助的。只有人，因著他們的價值觀與信仰，才能判斷甚麼是道德的，又甚麼不是道德的。

同性性行為的危機

Research article

Open Access

A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people

Michael King^{*1,2}, Joanna Semlyen¹, Sharon See Tai³, Helen Killaspy^{1,2}, David Osborn^{1,2}, Dmitri Popelyuk¹ and Irwin Nazareth^{3,4}

2008

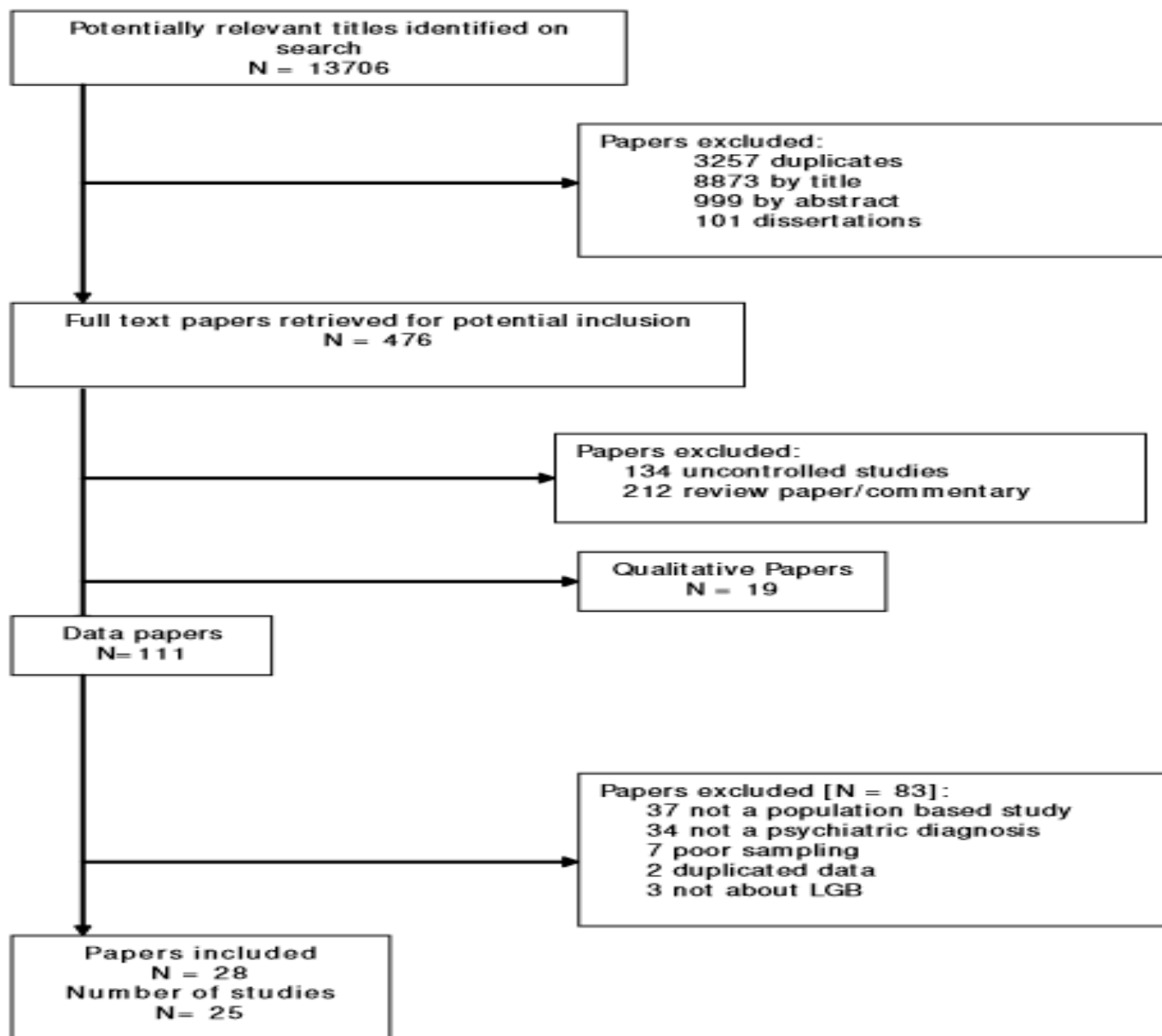
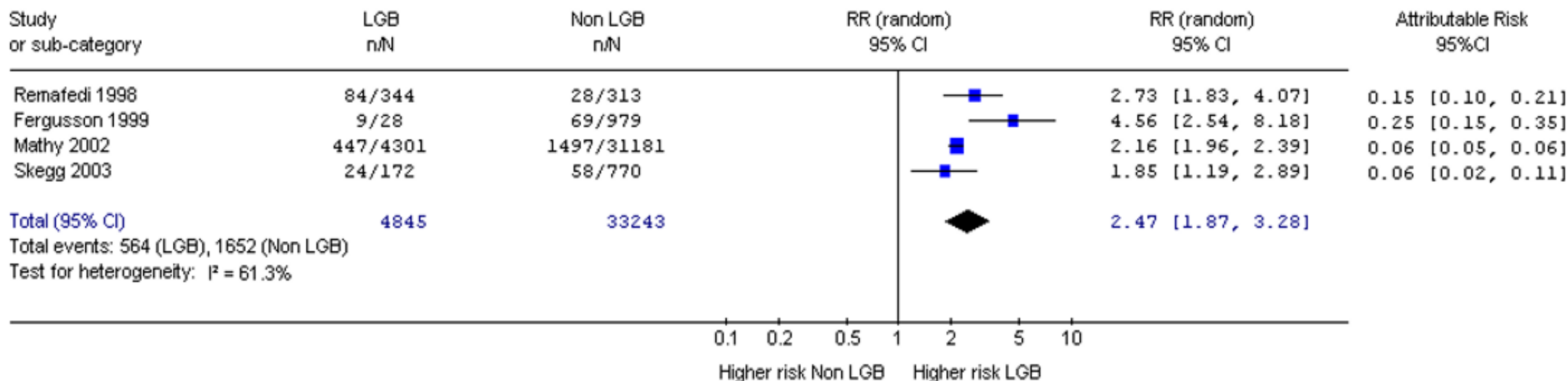


Figure 1
Study inclusion process.

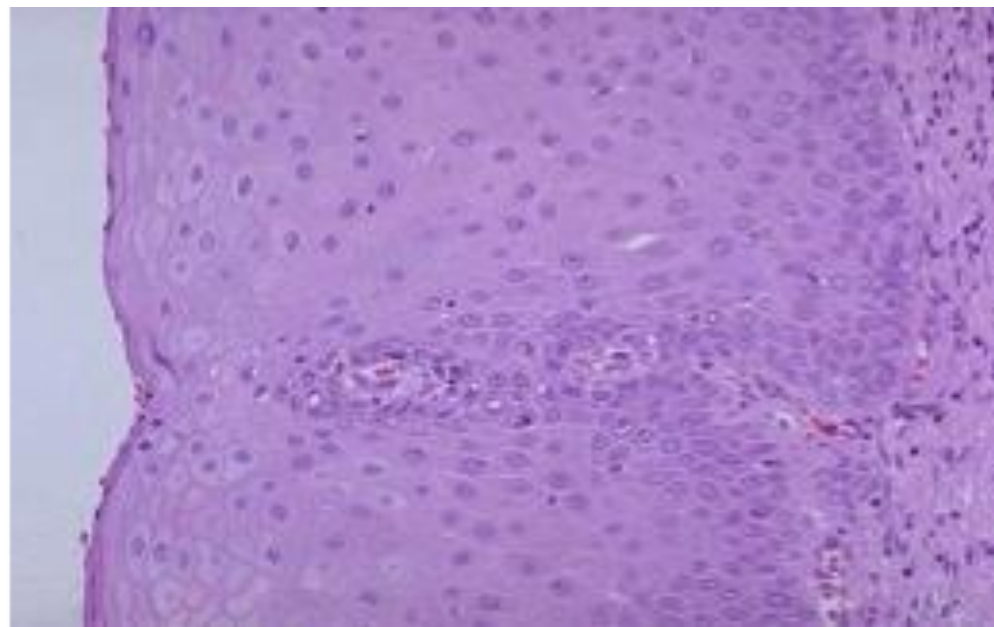
Suicide attempts (lifetime prevalence) in men and women



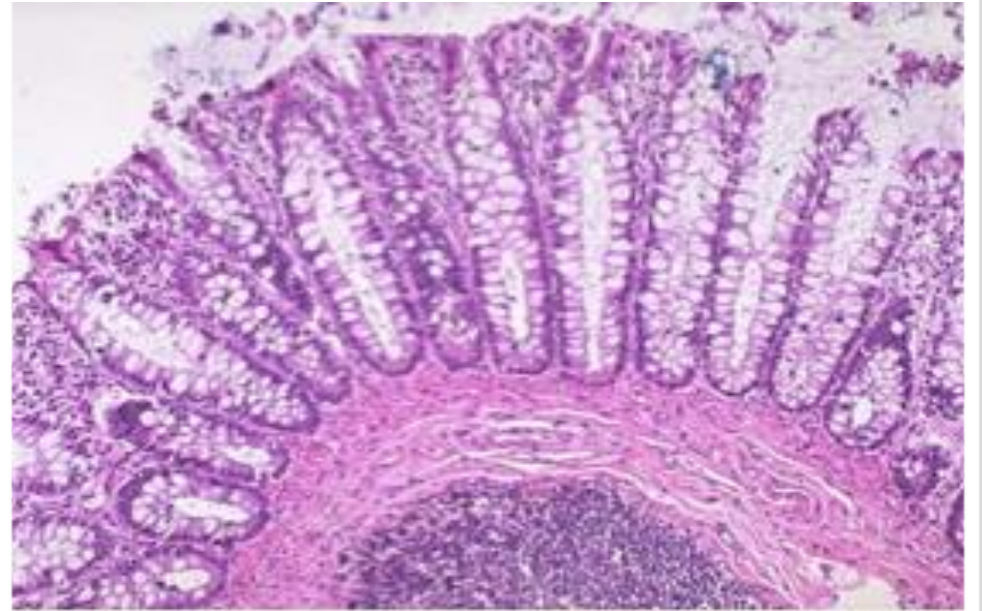
- **自殺意圖 LGB 是超過兩倍**
- **憂鬱、焦慮失衡 LGB 是超過 1.5 倍(過去12個月或是一段生活時間)**
- **酒精或是藥物濫用 LGB 是超過 1.5 倍(過去12個月或是一段生活時間)**
- **LB 女性特別依賴藥物**
- **GB 男性特別容易有自殺意圖**

陰道組織

- 陰道黏膜是由多層緊密 連結的細胞所組成之上皮覆蓋。
- 陰道內的這層上皮具有夠強的韌度來抵抗 擠壓,也有足夠的厚度承受摩擦,並很快 新陳代謝修復。
- 此外,性交時陰道會分泌潤滑液,減少磨 擦力與損傷。



- **肛門黏膜只由一層從直腸接續而來、薄薄的圓柱狀上皮所包覆,形成一條「只宜出不宜進」的柔軟通道。**
- **性交時肛門不會分泌潤滑液。**



本國籍感染人類免疫缺乏病毒者依危險因子統計表

危險因子	本月通報數			本年個案數			2015年個案數			2014年個案數			歷年累計個案數 ※1		
	女	男	總計(%)	女	男	總計(%)	女	男	總計(%)	女	男	總計(%)	女	男	總計(%)
異性間性行為	4	17	21 (9.29%)	18	78	96 (9.63%)	50	214	264 (11.35%)	47	207	254 (11.36%)	951	4,698	5,649 (17.64%)
男男間性行為	0	132	132 (58.41%)	0	753	753 (75.53%)	0	1,924	1,924 (82.68%)	0	1,904	1,904 (85.19%)	0	18,933	18,933 (59.12%)
血友病	0	0	0 (0%)	0	0	0 (0%)	0	0	0 (0%)	0	0	0 (0%)	0	53	53 (0.17%)
注射藥癮者(不含搖頭族)	0	2	2 (0.88%)	1	17	18 (1.81%)	13	68	81 (3.48%)	10	42	52 (2.33%)	906	6,016	6,922 (21.61%)
接受輸血者	0	0	0 (0%)	0	0	0 (0%)	0	0	0 (0%)	0	0	0 (0%)	11	13	24 (0.07%)
母子垂直感染	0	0	0 (0%)	0	0	0 (0%)	0	0	0 (0%)	2	1	3 (0.13%)	16	17	33 (0.1%)
不詳 ※2	4	67	71 (31.42%)	12	118	130 (13.04%)	2	56	58 (2.49%)	0	22	22 (0.98%)	28	385	413 (1.29%)
總計	8	218	226 (100%)	31	966	997 (100%)	65	2,262	2,327 (100%)	59	2,176	2,235 (100%)	1,912	30,115	32,027 (100%)

※1：含發病數

※2：不詳(尚在疫調中)

一	落實防疫整備，免除疫病威脅	1	愛滋新增感染人數年增率	1	統計數據	愛滋新增感染人數年增率 = (當年度新增感染人數 - 前一年度新增感染人數) ÷ 前一年度新增感染人數 × 100%。 ※扣除藥癮愛滋疫情之影響，近十年來因性行為而感染愛滋的人數，平均年增率在 10% 左右。	5 % 以下
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2. 目標挑戰性：

(1) 愛滋病防治：目前我國愛滋的傳播多數與不安全性行為有關，並以男男間性行為者為主。同志及感染者感受社會的接納度不足，使高危險群對於篩檢或尋求醫療服務却步，加上以二、三級毒品作為娛樂性用藥及網路交友盛行等因素

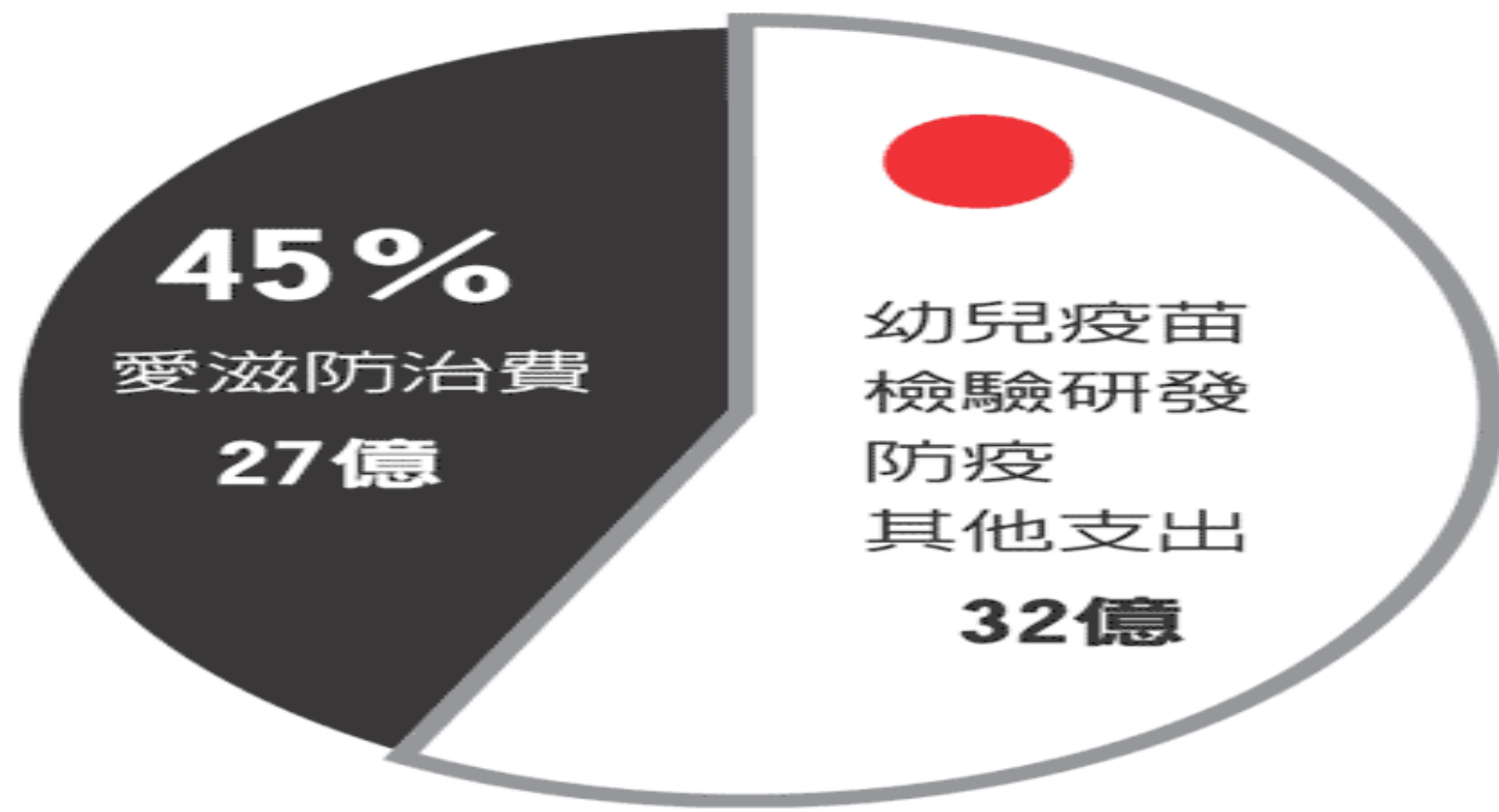
媒體對同性戀的報導-潛移默化

1. 同性戀是先天的，不應該也不無法壓抑
2. 兩情相悅的私事，又不妨礙他人，為什麼禁止？
3. 不斷報導同志在社會被排擠以及壓抑的辛酸
4. 把反對者塑造成偏執、不容忍以及歧視異己的人

疾管局95年~100年愛滋防治費用表

年度	愛滋預算	實際支出	疾管局總預算	占疾管局預算(%)
100年	17.9億元	26.9 億元	59.27億元	45.4
99年	15.2億元	22.8 億元	76.32億元	29.9
98年	14.8億元	18.94億元	63.10億元	30.0
97年	14.8億元	16.22億元	59.87億元	27.1
96年	12.9億元	13.70億元	59.27億元	23.1
95年	12.0億元	11.80億元	53.48億元	22.1

資料來源：衛生署疾管局



101-105年

愛滋防治五年計畫

約二百零七億

(1)人類免疫缺乏病毒相關治療費用1,499,325千元。【係以愛滋病毒感染流行趨勢推估，102年12月存活感染者為22,304人，預估104年底存活感染者約26,523人，以每位感染者平均每年門診醫療費用約13萬元估算；加上估算約7%感染者需住院治療，住院醫療平均費用每人每年以20萬元估計。
$$\left[(26,523 \text{人} \times 130 \text{千元}) + (26,523 \text{人} \times 7\% \times 200 \text{千元}) \right] \times 39.26\%$$
】

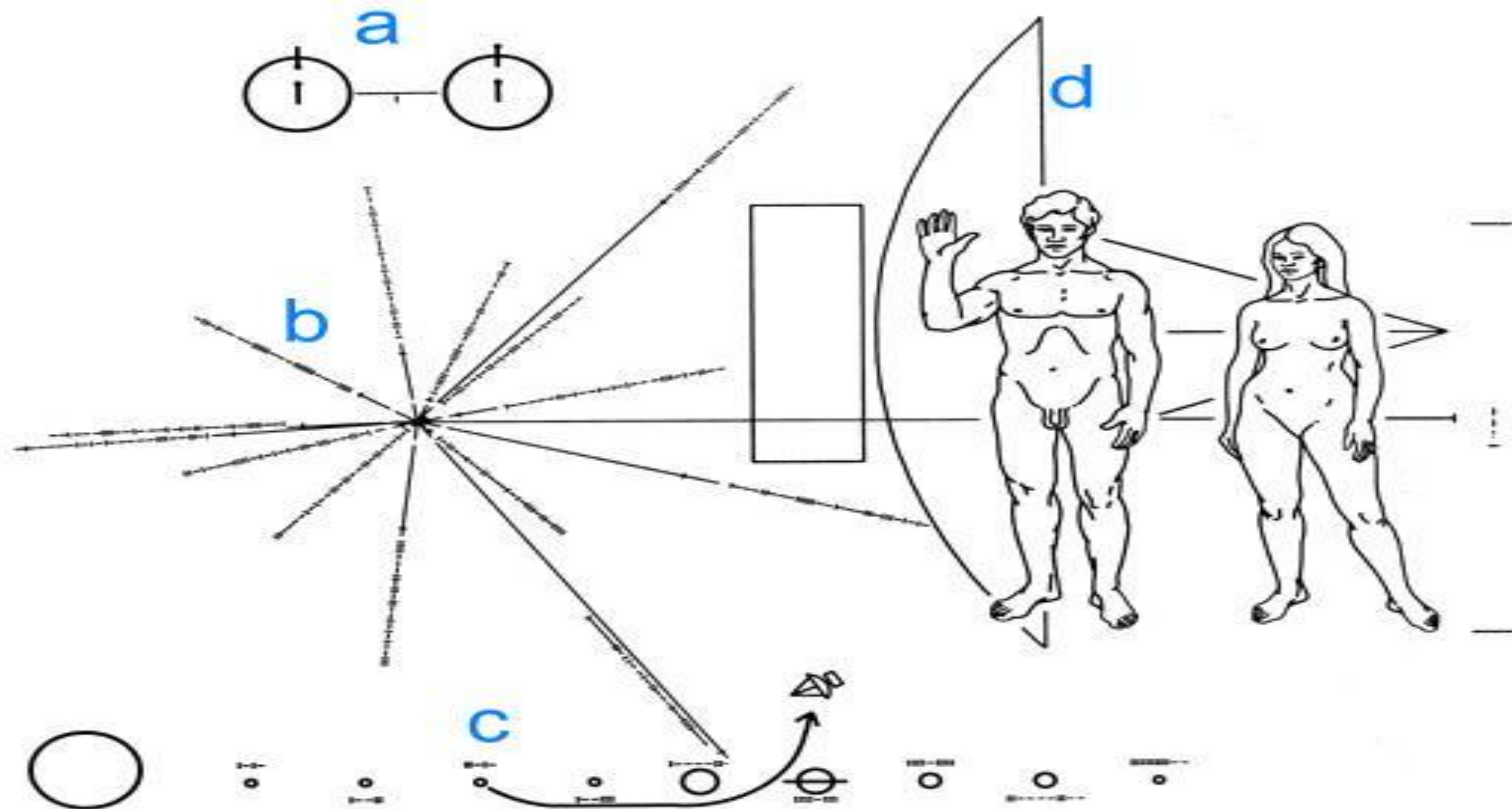
媒體對同性戀的報導--潛移默化

- 1. 同性戀是先天的，不應該也不無法壓抑**
- 2. 兩情相悅的私事，又不妨礙他人，為什麼禁止？**
- 3. 不斷報導同志在社會被排擠以及壓抑的辛酸**
- 4. 把反對者塑造成偏執、不容忍以及歧視異己的人**



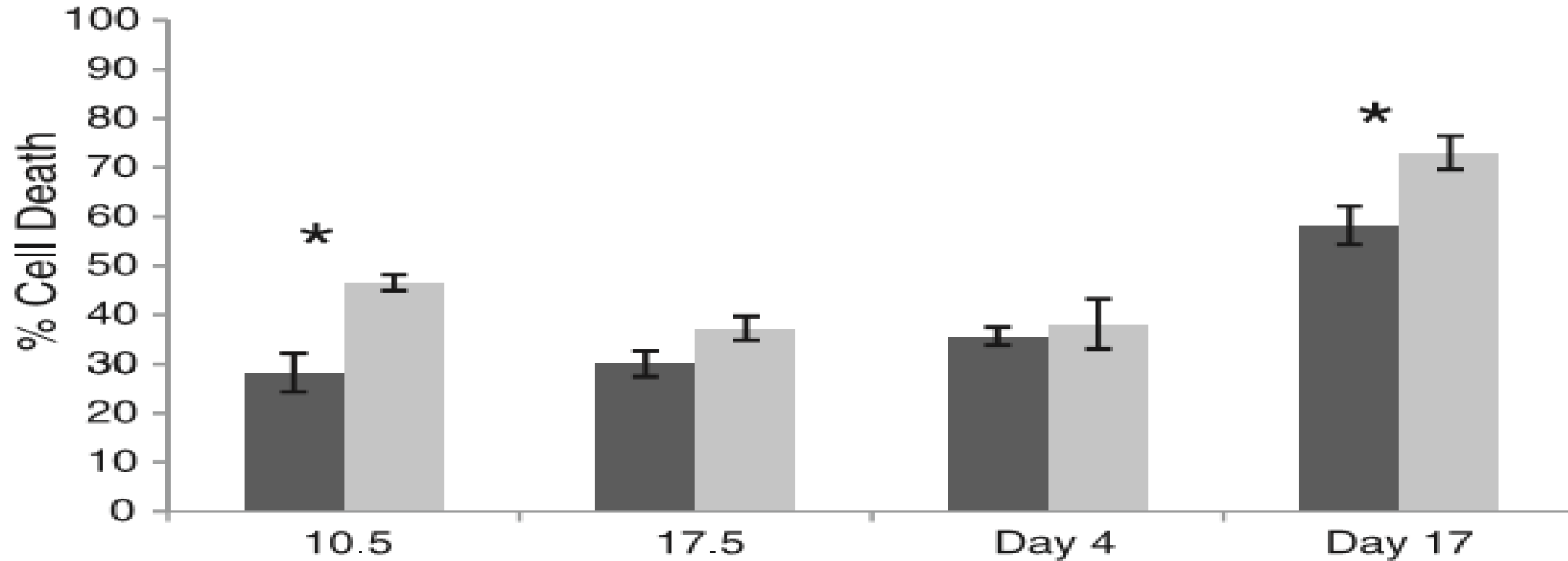
多元性別?

性別天生



身體的發育

- 懷孕八周，睪酮素就開始塑造
- 睪酮素、血管加壓素、副中腎管抑制激素
- 女性腦受雌性激素、黃體素、催產素的作用塑造
女性腦
- 男性費洛蒙

B

The FASEB Journal • Research Communication

Sex of the cell dictates its response: differential gene expression and sensitivity to cell death inducing stress in male and female cells

2009

Carlos Penaloza,* Brian Estevez,* Shari Orlanski,* Marianna Sikorska,[†] Roy Walker,[†] Catherine Smith,[†] Brandon Smith,[†] Richard A. Lockshin,[‡] and Zahra Zakeri^{*,1}

^{*}Queens College and Graduate Center of the City University of New York, Flushing, New York, USA;

[†]Institute for Biological Sciences, National Research Council, Ottawa, Ontario, Canada; and

[‡]Department of Biological Sciences, St. John's University, Jamaica, New York, USA

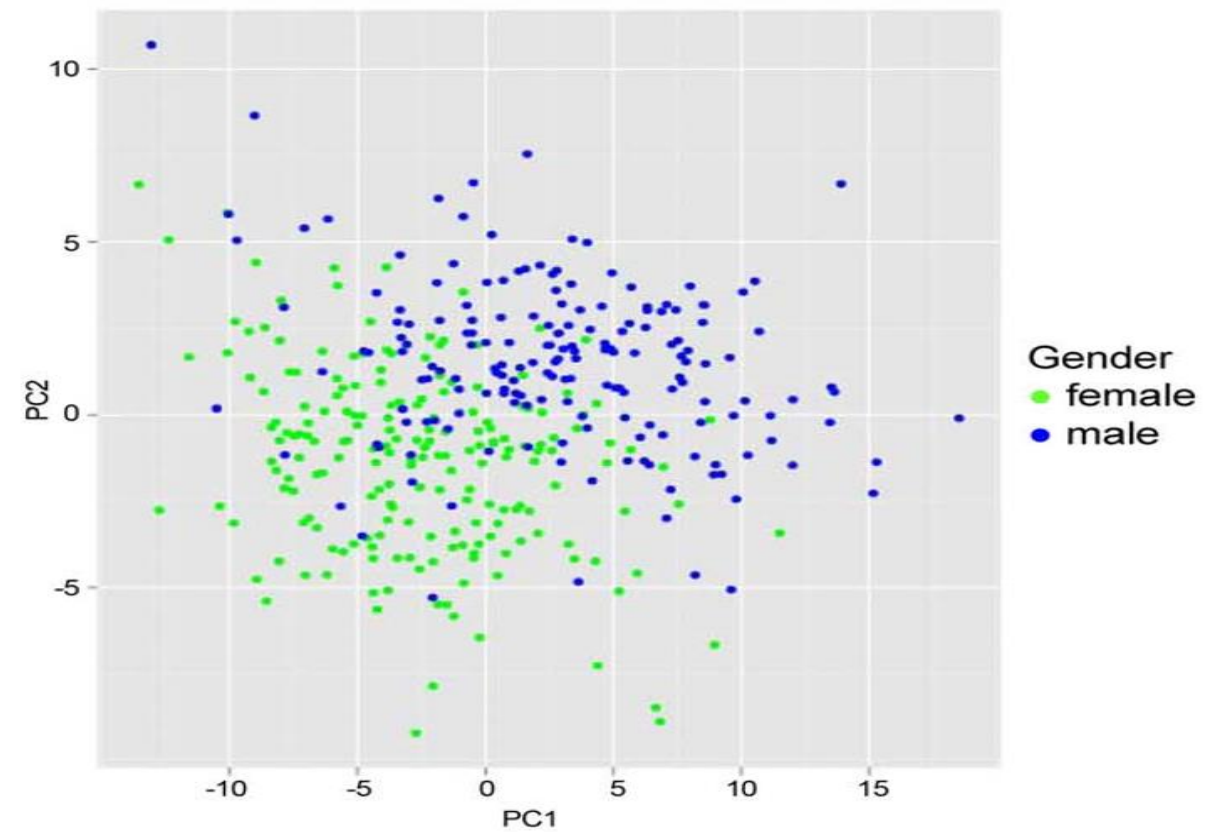
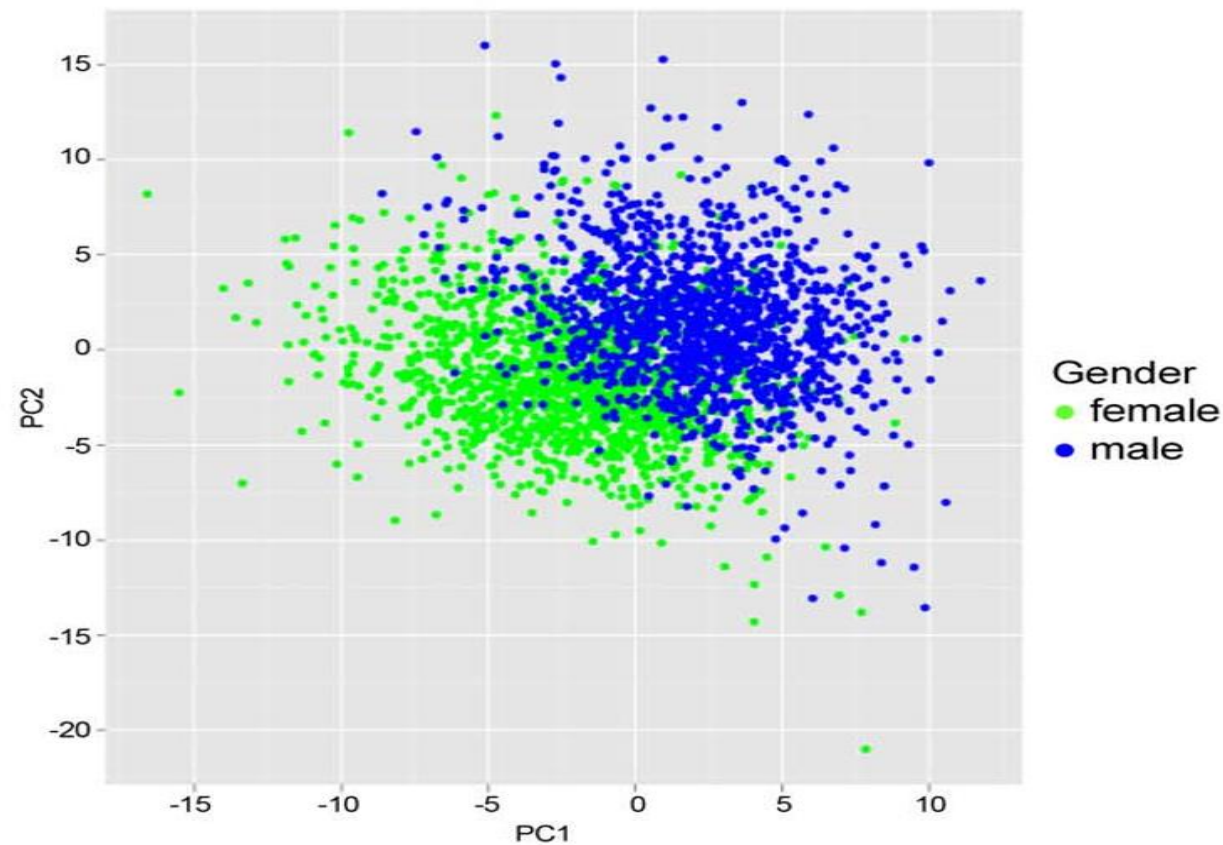


Figure 1. Two dimensional partial least square (PLS) analyses showing the contribution of 131 metabolites in males and females.
doi:10.1371/journal.pgen.1002215.g001

OPEN ACCESS Freely available online

PLOS GENETICS

Discovery of Sexual Dimorphisms in Metabolic and Genetic Biomarkers

2011

Kirstin Mittelstrass¹, Janina S. Ried², Zhonghao Yu¹, Jan Krumsiek³, Christian Gieger², Cornelia Prehn⁴, Werner Roemisch-Margl³, Alexey Polonikov⁵, Annette Peters⁶, Fabian J. Theis³, Thomas Meitinger^{7,8}, Florian Kronenberg⁹, Stephan Weidinger¹⁰, Heinz Erich Wichmann^{11,12,13}, Karsten Suhre^{3,14,15}, Rui Wang-Sattler¹, Jerzy Adamski^{4,16}*, Thomas Illig¹¹*



苯丙醇胺 (phenylpropanolamine)

Cell sex matters

Male and female cells can behave differently — it is time that researchers, journals and funders took this seriously, says **Elizabeth Pollitzer**.

善存[®]

新上市

成人男/女強化配方

專屬營養，健康更升級

增B 增鋅 增鎂 增葉黃素

增鈣 增鐵 增C 增葉黃素



Alex Fung
方力申

艾力克斯 真心推薦



李彩妮

李彩妮 真心推薦



輝瑞生技股份有限公司 台灣總代理 總經理部電話：0900-258000 LIA-CENTRUM-SNP

*台灣各大藥房均有代售

男孩與女孩關注的焦點不同



- 男嬰注意會動的物體
- 女嬰注意人的臉部表情

Sex Differences in Infants' Visual Interest in Toys

Gerianne M. Alexander · Teresa Wilcox · Rebecca Woods

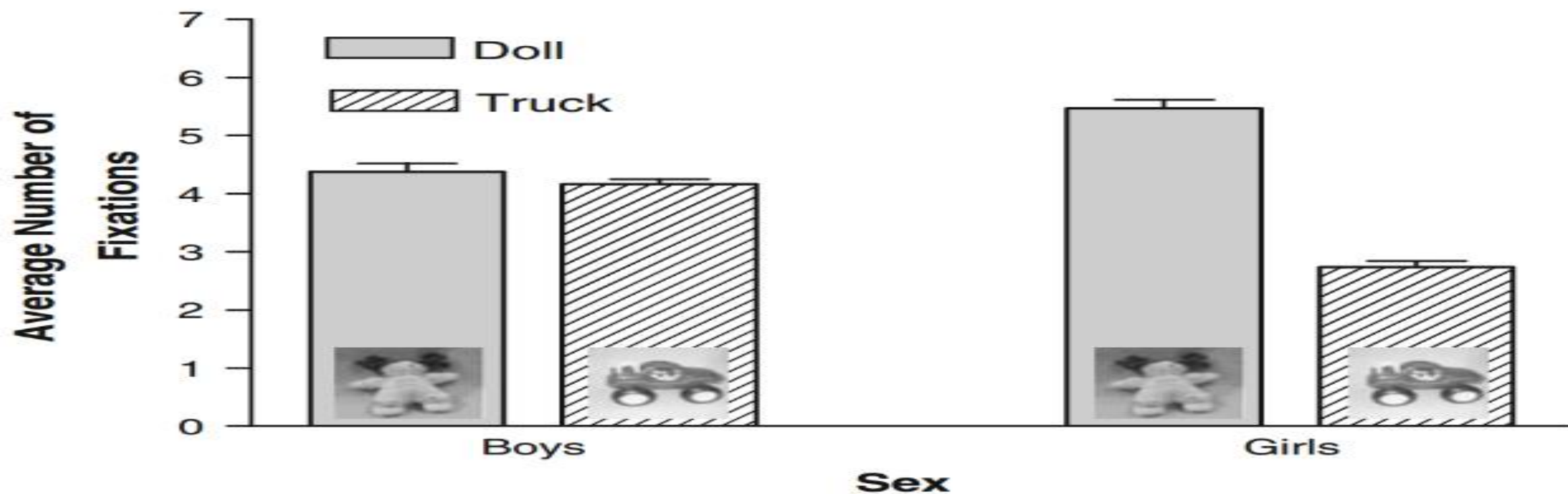
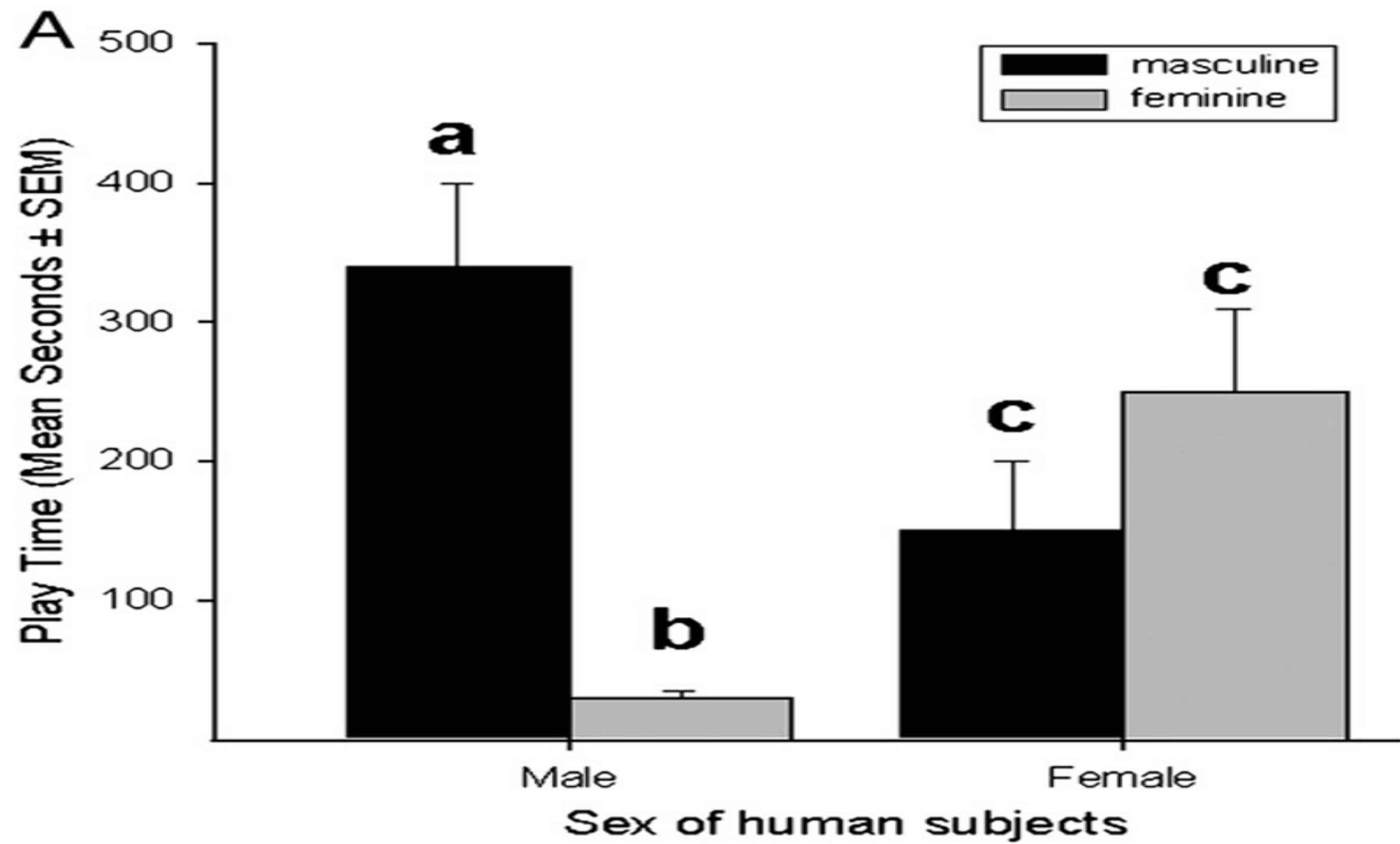


Fig. 1 Infants' visual fixations (mean, SEM) on gender-linked toys showing an early onset of sex-linked object preferences



Gender Comparisons of Preschoolers' Behavior and Resource Utilization in Group Problem Solving

William R. Charlesworth and Claire Dzur
University of Minnesota

TABLE 1
ACTIVITY DURATION AND AFFECT OF GIRLS AND BOYS

	M		t(78)	SD		F(39,39) ^a
	Girls (N = 40)	Boys (N = 40)		Girls (N = 40)	Boys (N = 40)	
Activity duration (sec):						
Viewing film (RU)	56.3	55.7	N.S.	50.1	35.4	2.00*
Cooperating (CP)	177.7	174.5	N.S.	131.4	97.4	2.16**
Bystanding (BY)	214.5	219.8	N.S.	131.4	97.4	1.82*
Affect (%):						
Positive	9	21	4.60**	11	12	N.S.
Neutral	83	71	N.S.	14	16	N.S.
Negative	7	7	N.S.	7	7	N.S.

^a F ratio obtained by dividing the larger variance by the smaller variance.

* $p < .05$.

** $p < .01$.

TABLE 2
BEHAVIOR FREQUENCIES OF GIRLS AND BOYS

	Girls	Boys	t(78)
Verbal behaviors:			
Requests	34	29	N.S.
Appeals to turn-taking	39	19	N.S.
Expresses need	22	10	N.S.
Offers position	38	16	2.50*
Shows concern	10	1	N.S.
Gives positive commands	136	134	N.S.
Gives negative commands	49	23	1.96
Threatens, ridicules	7	7	N.S.
Mean verbal behaviors	8.38	5.98	1.94
Physical behaviors:			
Approaches	35	17	2.59*
Touches, grasps	12	47	3.60**
Blocks	14	23	N.S.
Covers crank/light	27	24	N.S.
Pushes, pulls, hits	10	59	3.99**
Disrupts	64	52	N.S.
Attacks	0	11	N.S.
Approaches/verbalizes	19	11	N.S.
Touches etc./verbalizes	19	43	2.43*
Blocks/verbalizes	7	17	N.S.
Covers/verbalizes	10	19	N.S.
Pushes etc./verbalizes	22	50	2.00*
Mean physical behaviors	5.98	9.32	2.30*

性別是社會化的結果？

- **女性主義學者西蒙波娃**
女人不是生來的，是後來成為
女人。
- **A person is not born a**
woman, but become one.



13. How do you define your gender? The young people we talked with used the following terms; which of these best describes how you define your gender? (Choose as many as you want.)

- | | | |
|--|---------------------------------------|--|
| ☐ Girl | ☐ Trans-boy | ☐ Genderqueer |
| ☐ Boy | ☐ Gender fluid | ☐ Gender non conforming |
| ☐ Tomboy | ☐ Agender | ☐ Tri-gender |
| ☐ Female | ☐ Androgynous | ☐ All genders |
| ☐ Male | ☐ Bi-gender | ☐ In the middle of boy and girl |
| ☐ (Young) woman | ☐ Non-binary | ☐ Intersex |
| ☐ (Young) man | ☐ Demi-boy | ☐ Not sure |
| ☐ Trans-girl | ☐ Demi-girl | ☐ Rather not say |

Others (please state) _____

Schools should be teaching kids to read and write, not prompting them to consider gender swaps .

Tory MP Andrew Bridgen

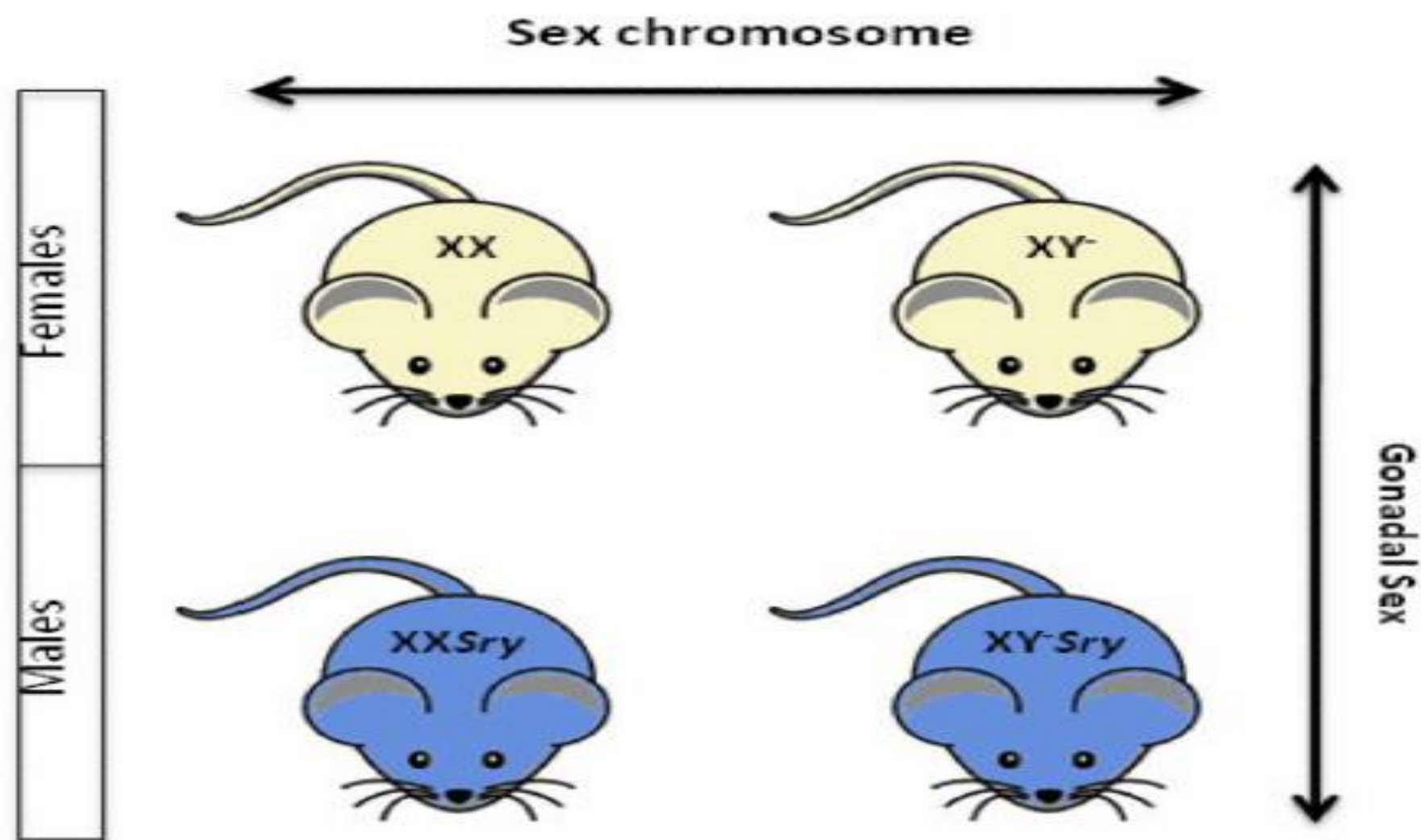
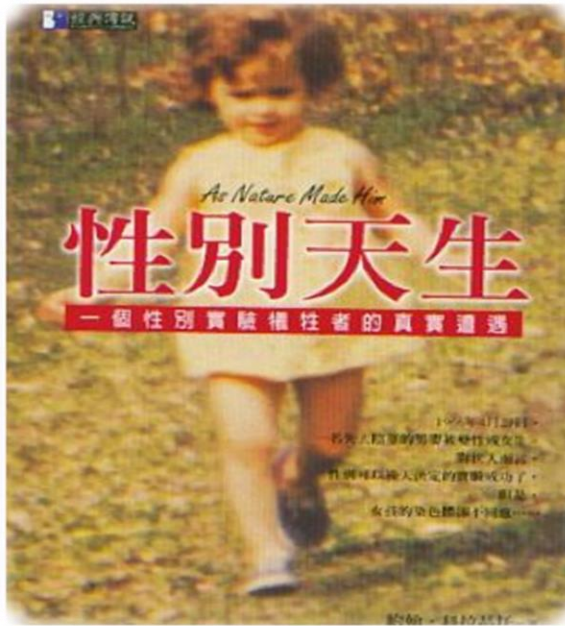


Figure 3.

2x2 comparison in the four core genotypes model. In this comparison, the factors are gonadal sex and sex chromosome complement.

疾病	
阿茲海默症	年老的女性發生率比較高
帕金森氏症	男性比較高發生率 病理上的徵狀是因性別而有不同
自閉症	男比女高
上癮	男性比較高 女性上癮比較容易發展、復發率高
憂鬱	在生育年紀，女性憂鬱是男性的兩倍
焦慮失衡	女性高
精神分裂	男比女多，症狀不同

大衛利馬的故事



John Money

Adult development and quality of life of transgender and gender nonconforming people

*Walter Bockting^a, Eli Coleman^b, Madeline B. Deutsch^c, Antonio Guillamon^d,
Ilan Meyer^e, Walter Meyer III^f, Sari Reisner^{g,h,i}, Jae Sevelius^j, and
Randi Ettner^k*

生命品質

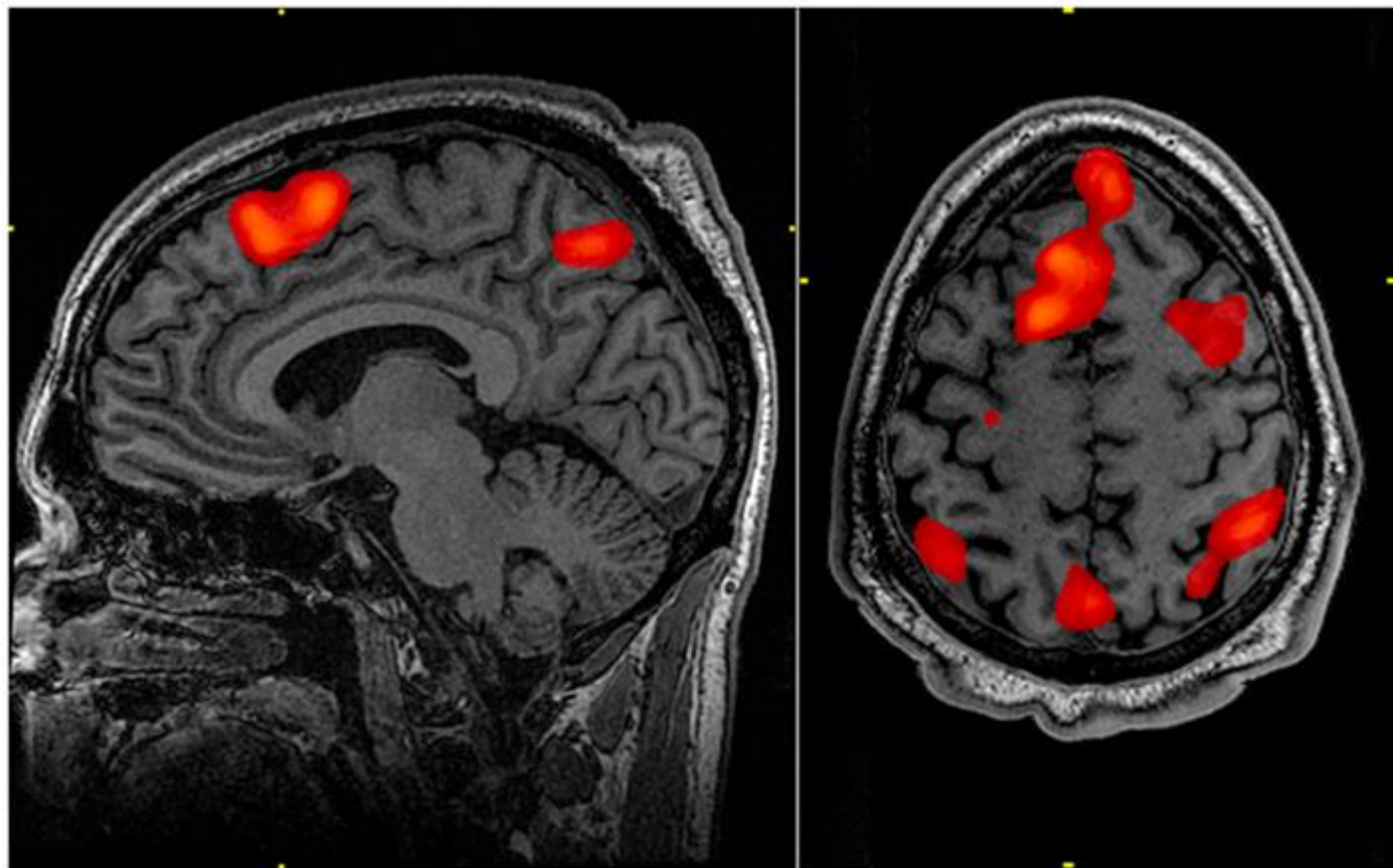
高比例的憂鬱 (44%)

自殺意圖以及嘗試(54 and 31%)

過高的酗酒率 (22%);

大麻使用率 (24%) 以及其他藥物 (12%)

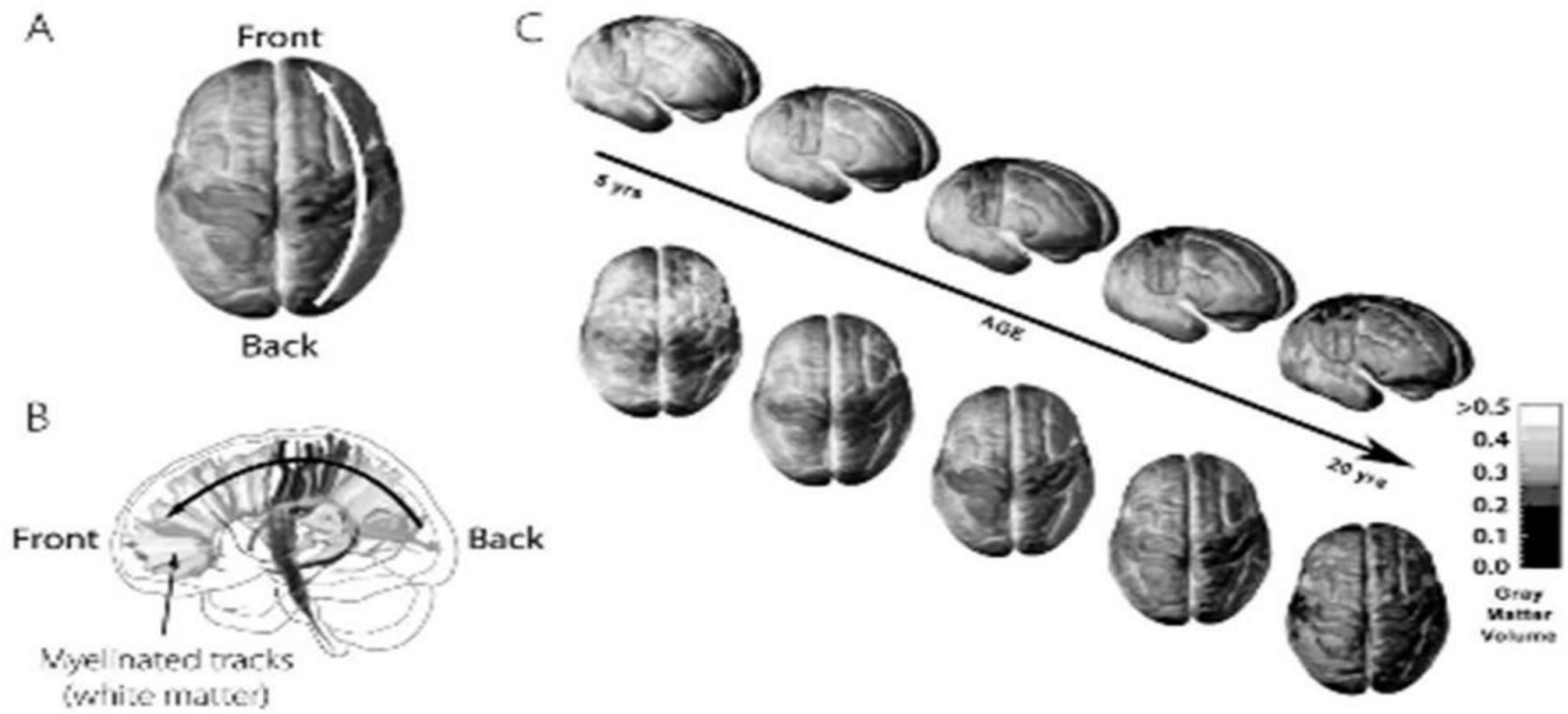
變性男的生命品質比正常男性與女性都低



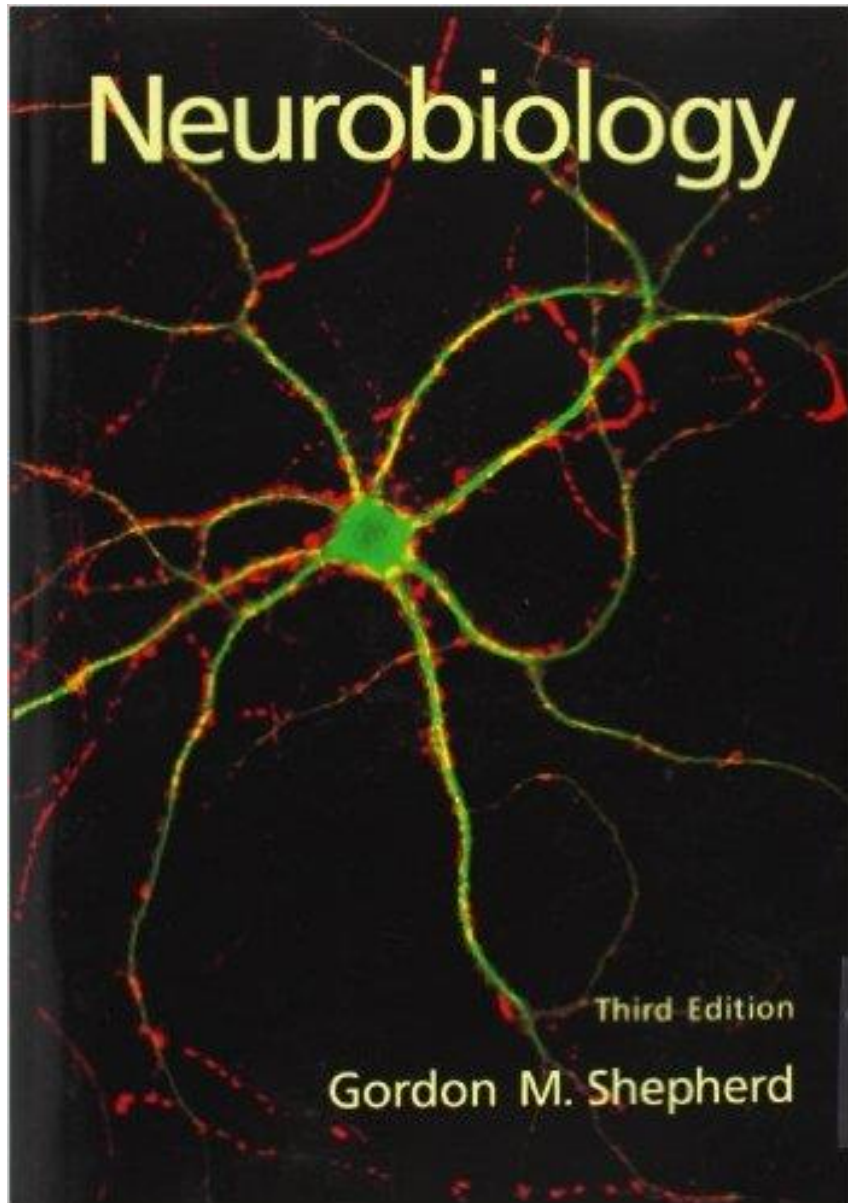
MRI: 核磁共振

fMRI: 功能性核磁共振

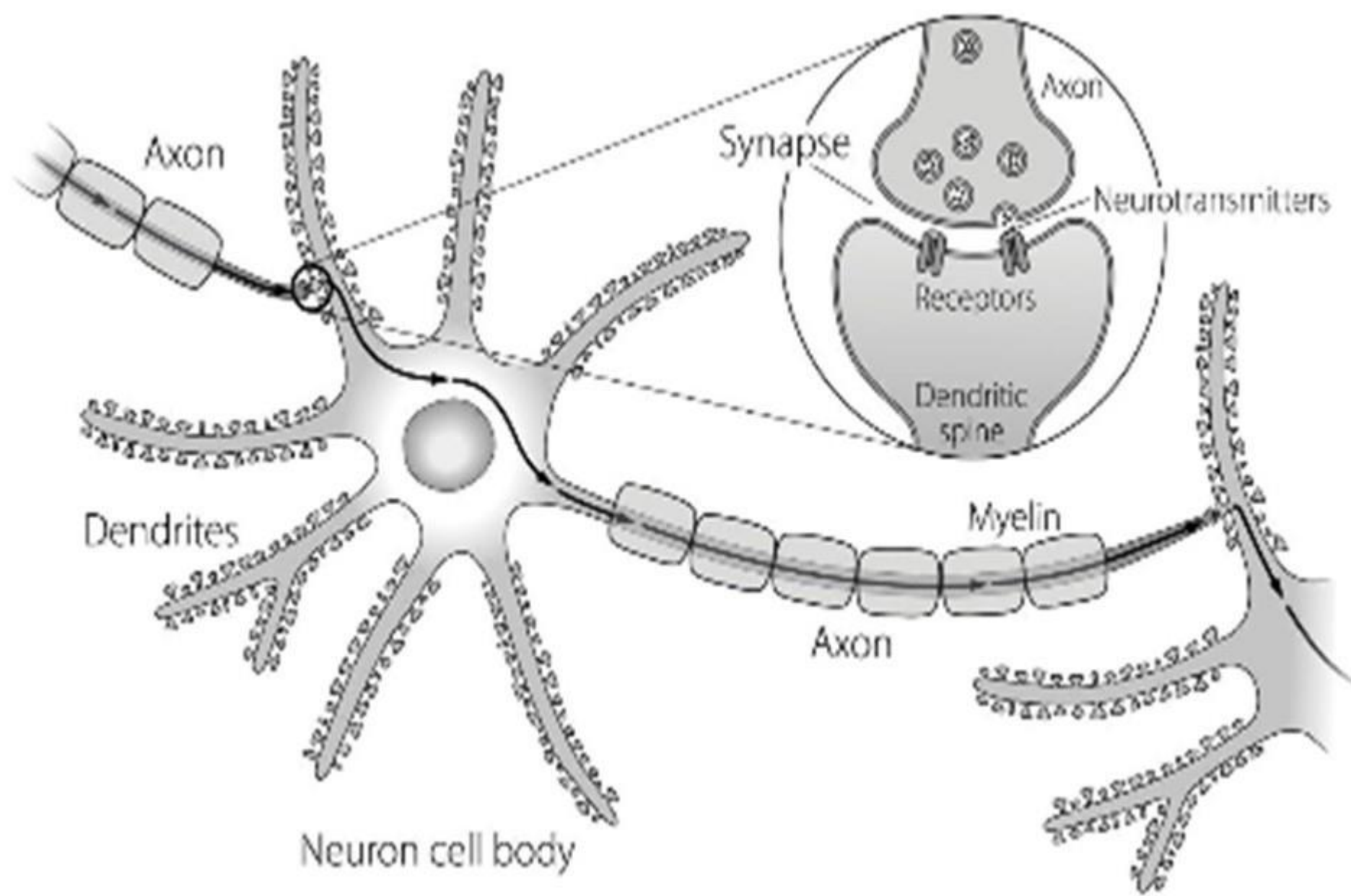
PET: 正电子发射性电子计算机断层显像



大腦成熟發育的趨勢



神經元無法再生長
1994年 教科書



"critical period" of activity-dependent
synaptogenesis and plasticity

% Adult Synapse Function

Excitation

Inhibition

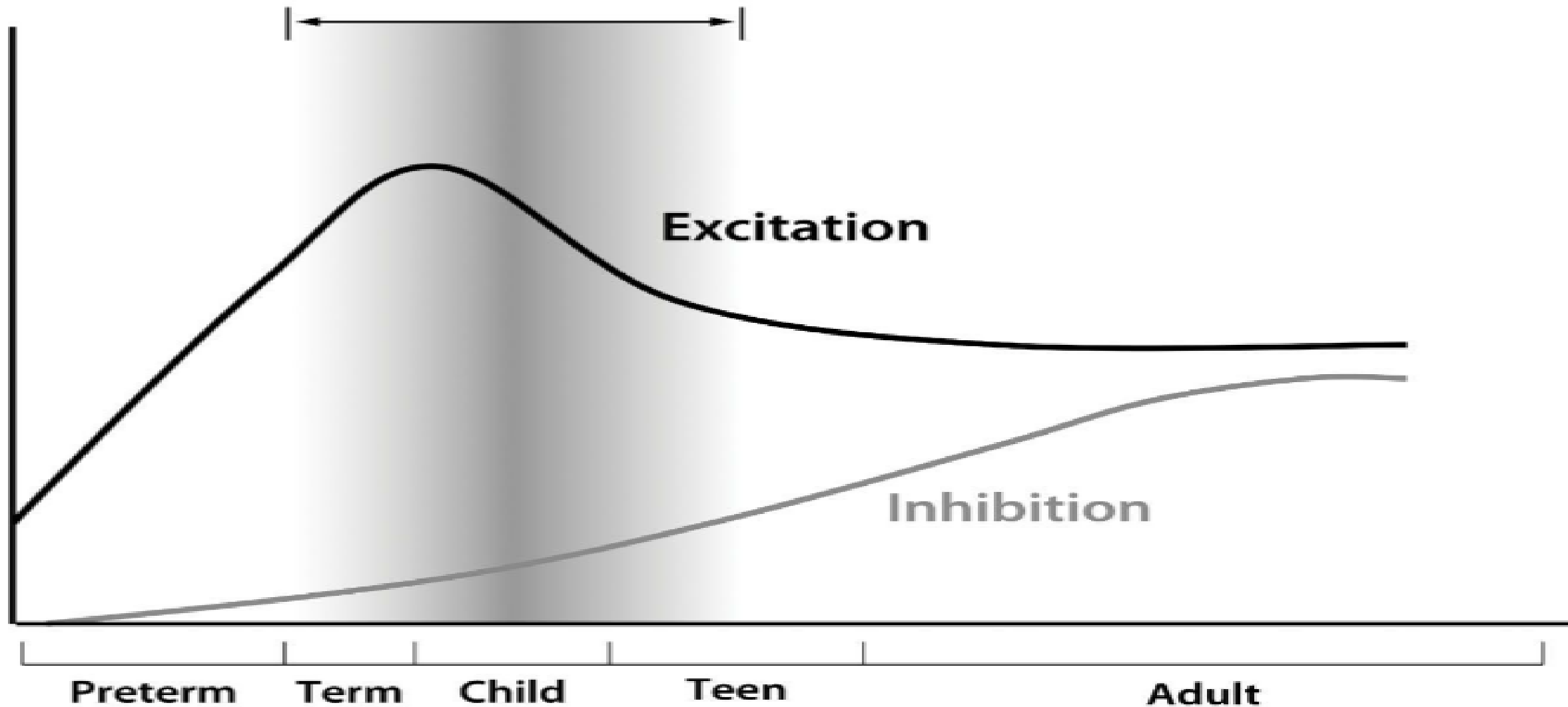
Preterm

Term

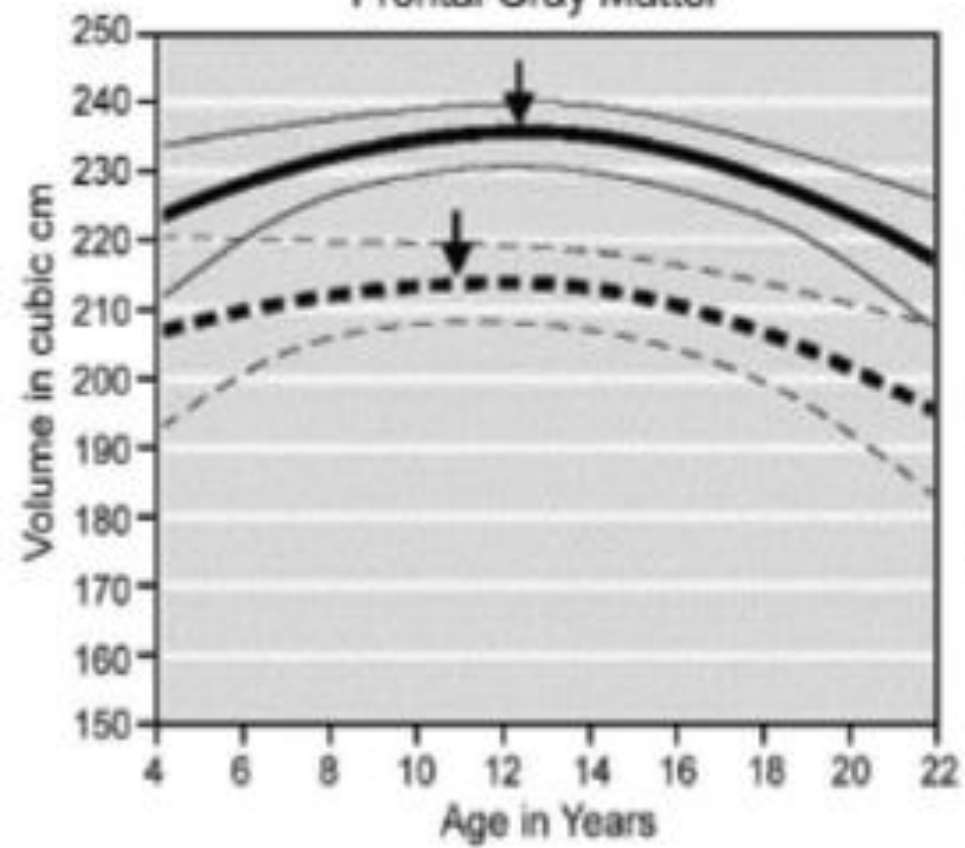
Child

Teen

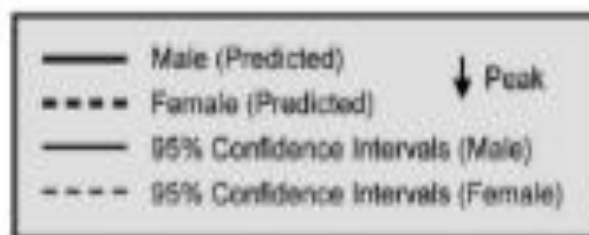
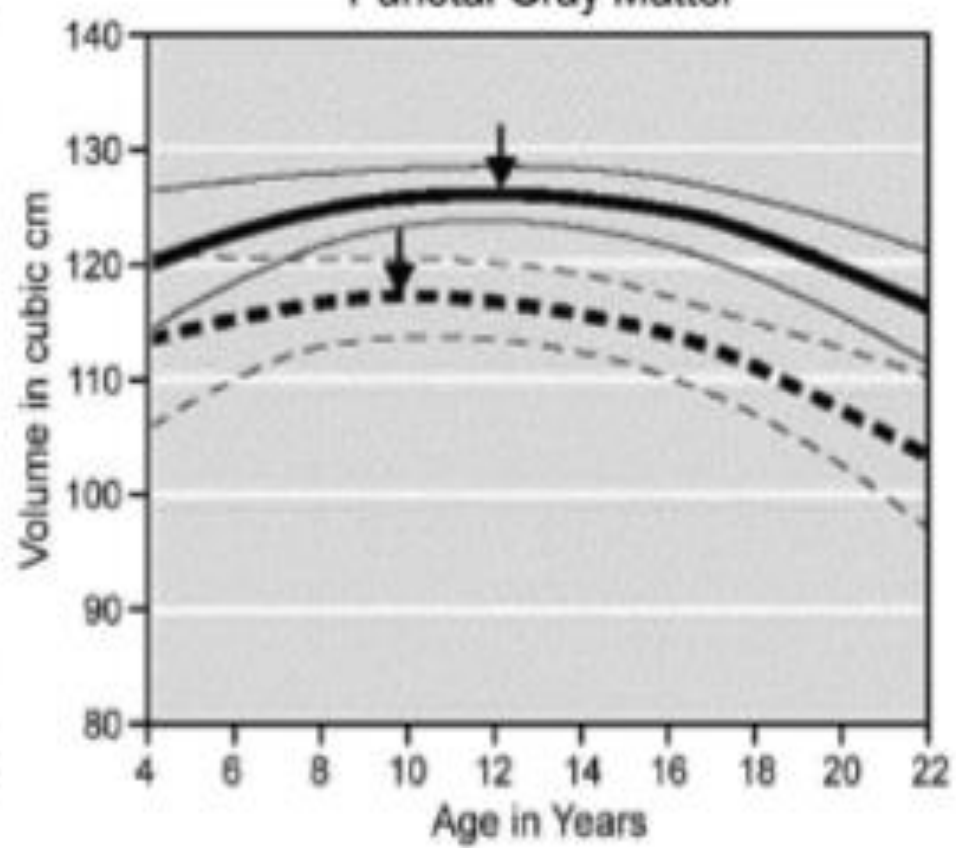
Adult



Frontal Gray Matter

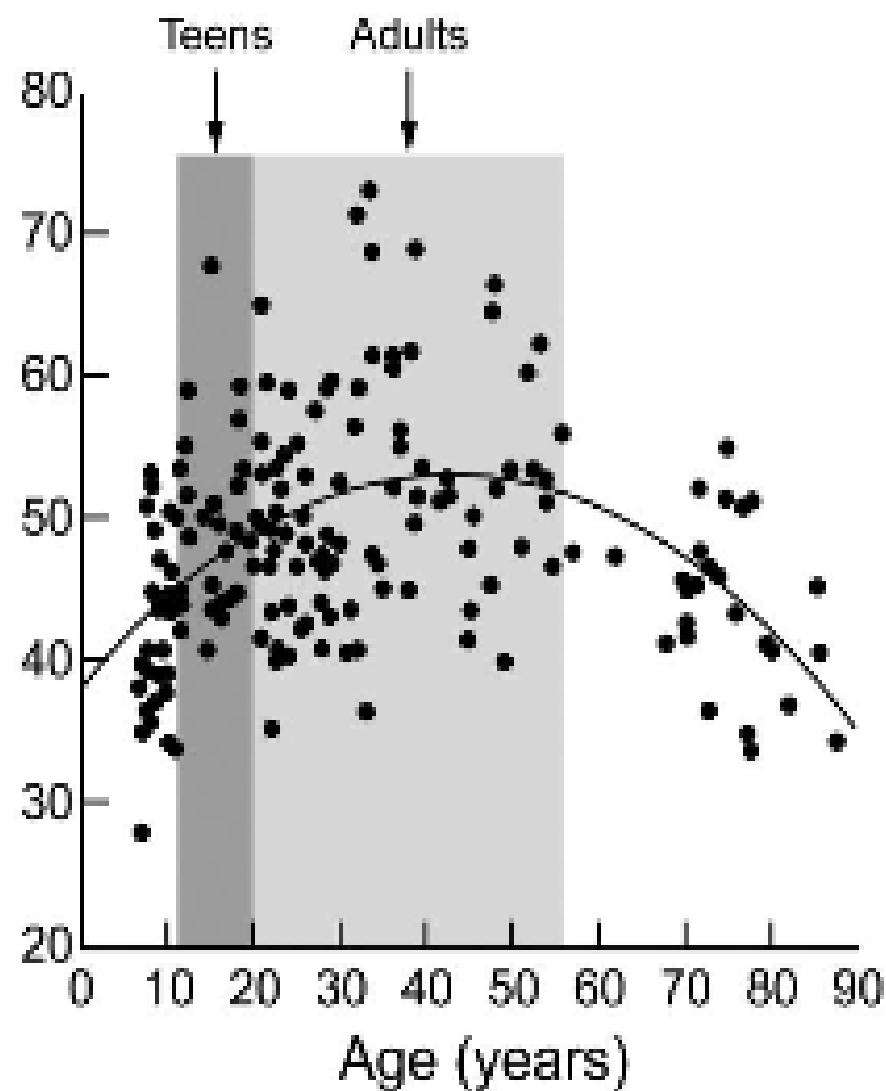
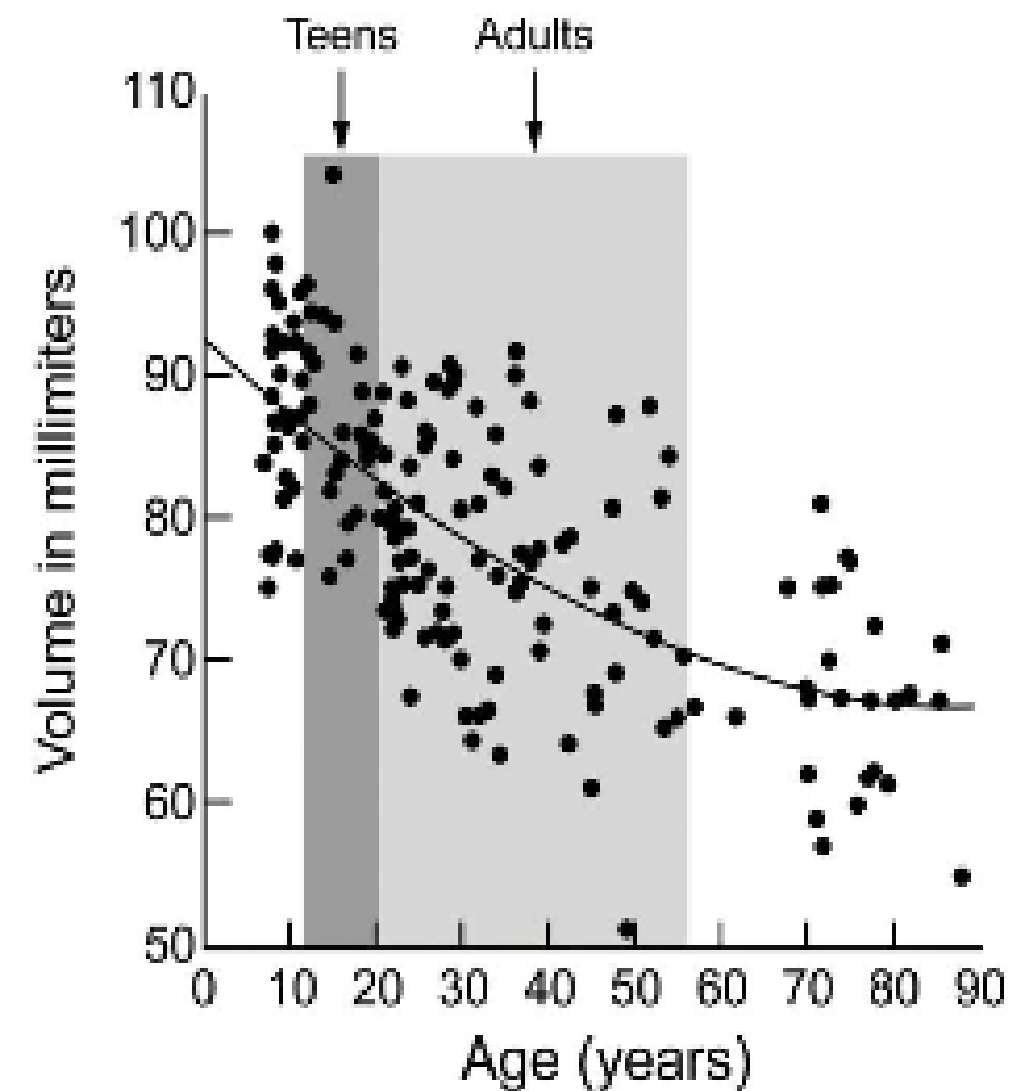


Parietal Gray Matter



Gray matter volume

White matter volume



大腦灰質與白質的變化

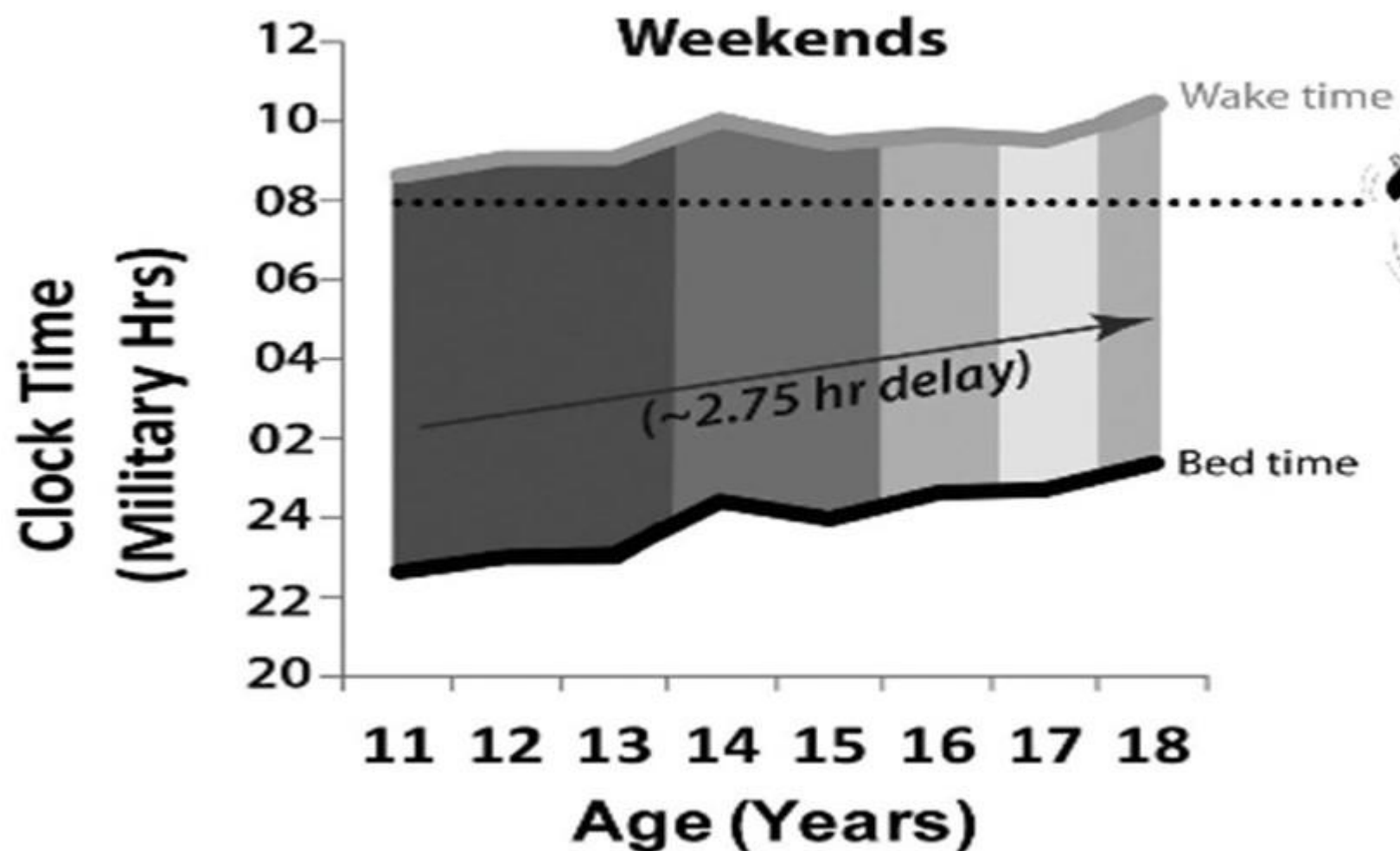
Total Sleep Time:

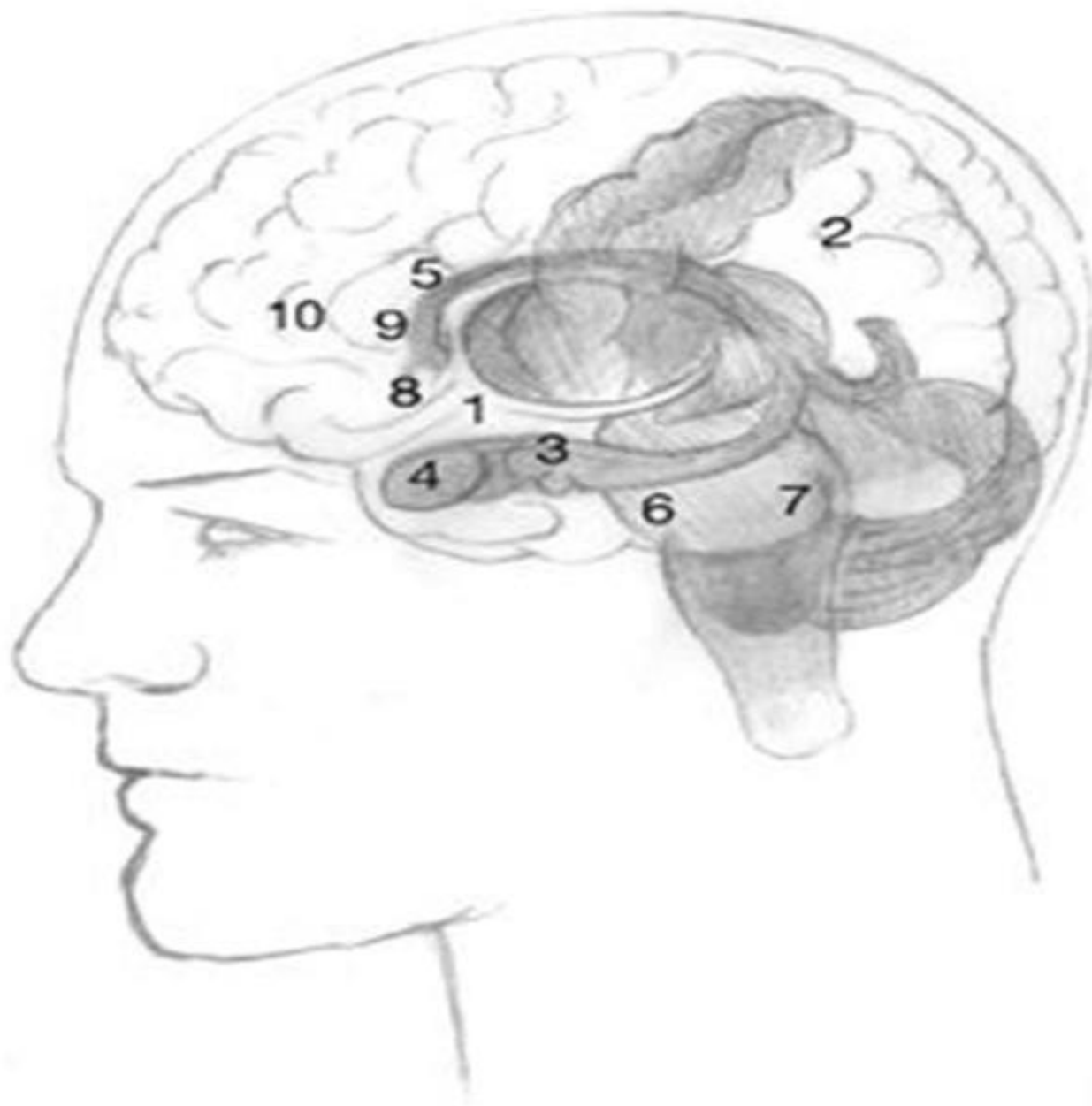
8.5-8.99

9-9.49

9.5-9.99

10-10.49 hrs

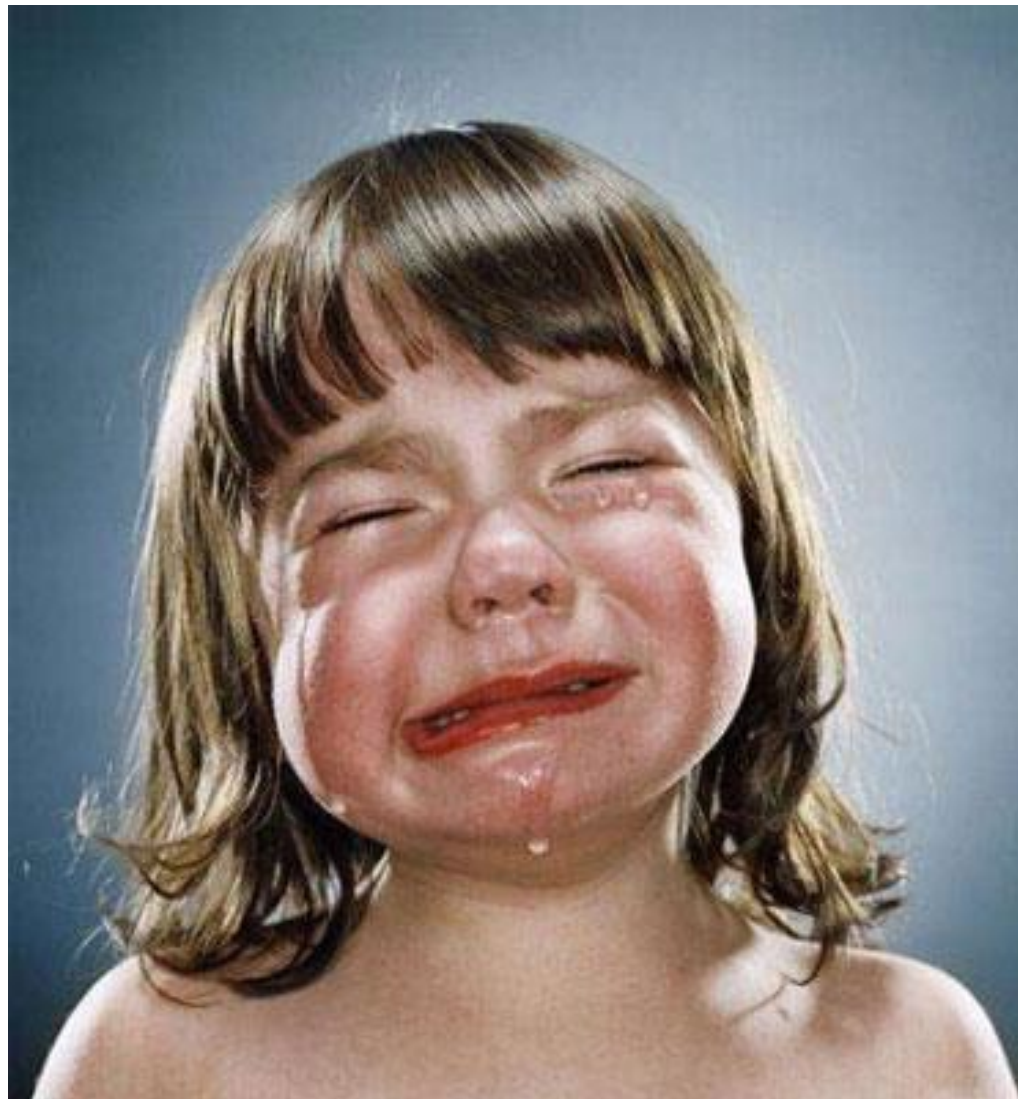




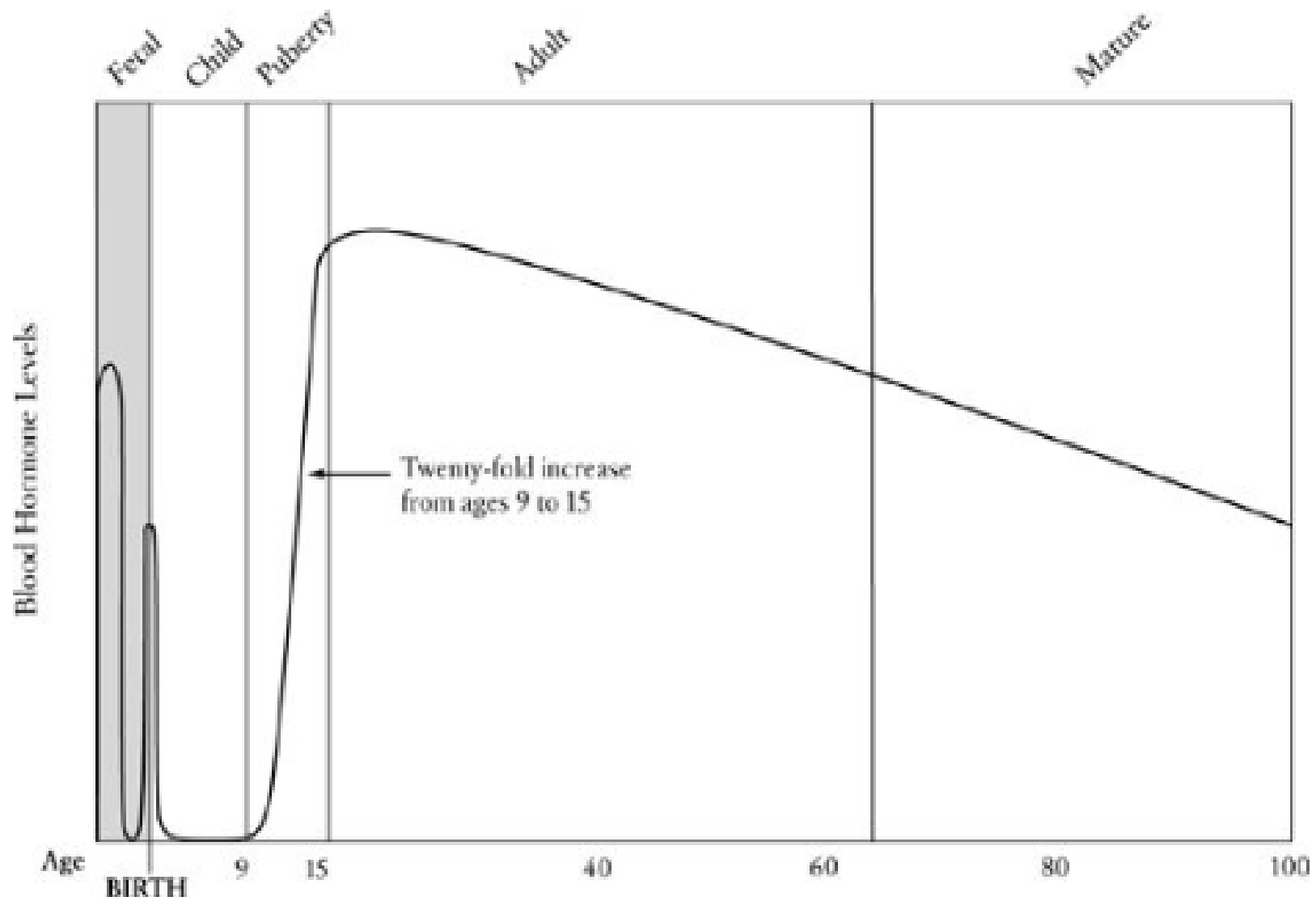
男和女處理情緒的腦部流程不同

8. 鏡像神經元 (MNS)

2. 頂交界區 (TPJ):

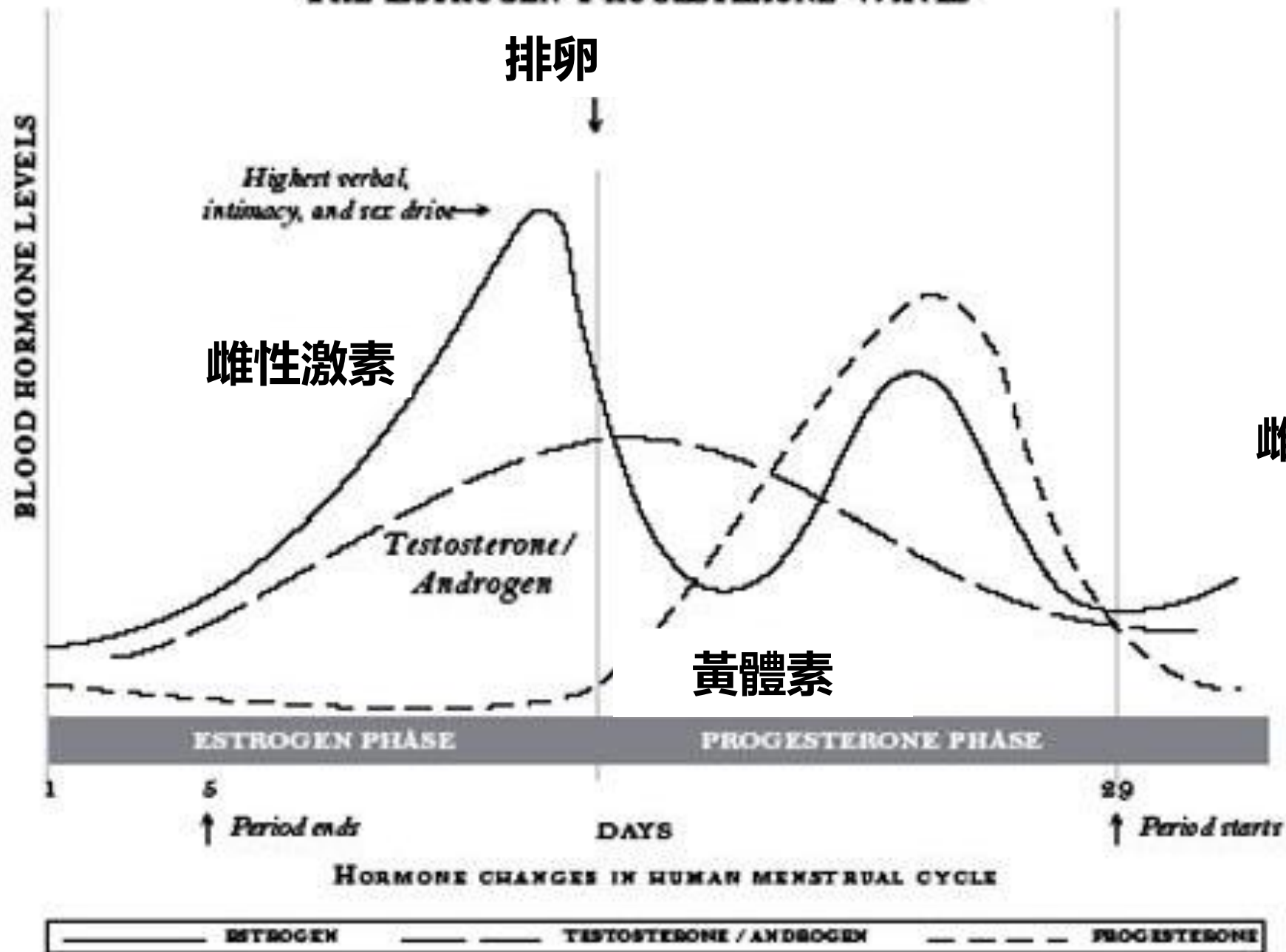


妳不要哭了，我會痛



男性睾酮素的變化

THE ESTROGEN-PROGESTERONE WAVES



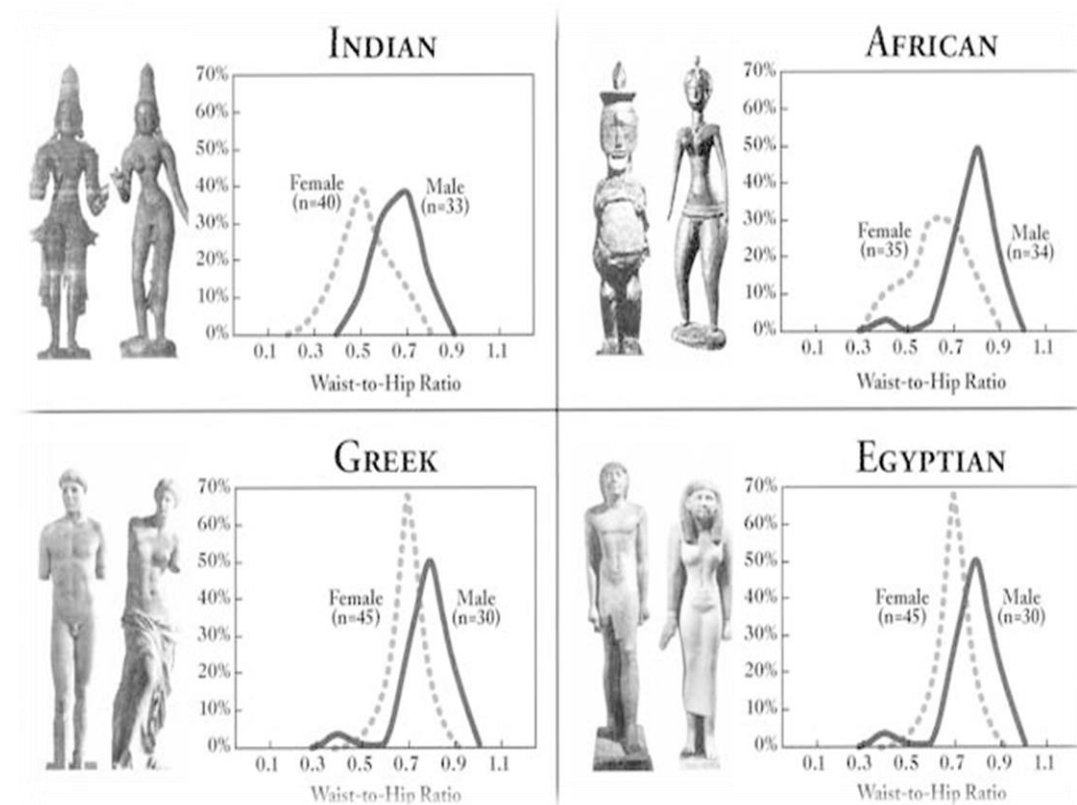
促產素的奧秘

- **不要讓男生擁抱你，除非你預計要信任他**
- **Oxytocin 催產素**
- **20秒**

對性的興趣

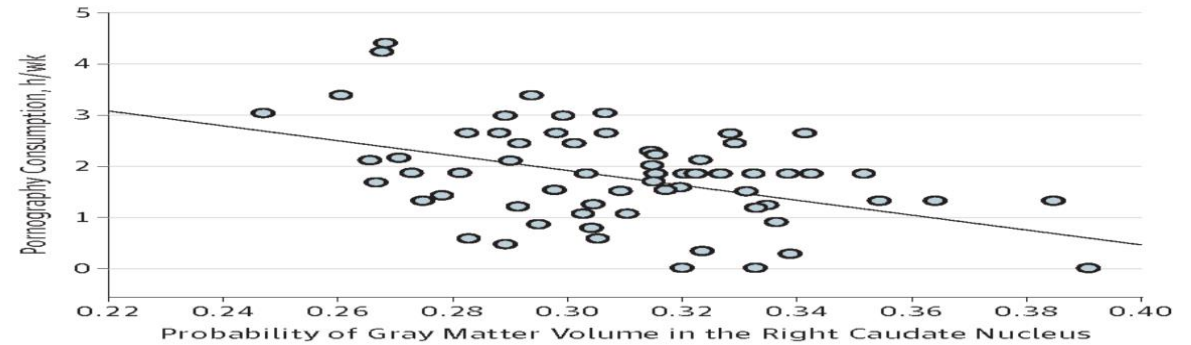
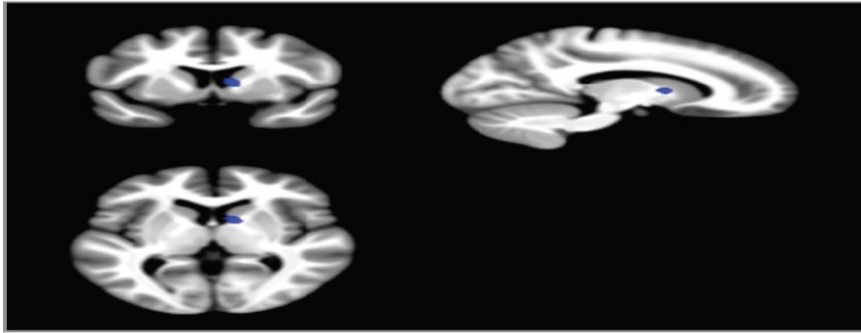
- 11-12 性想像
- 10.75 勃起
- 12.66 春夢
- 13.02 夢遺
- 手淫
 - ✓ 90% 十六歲的男性青少年會進行手淫
 - ✓ 等待機會

男性的目光焦點

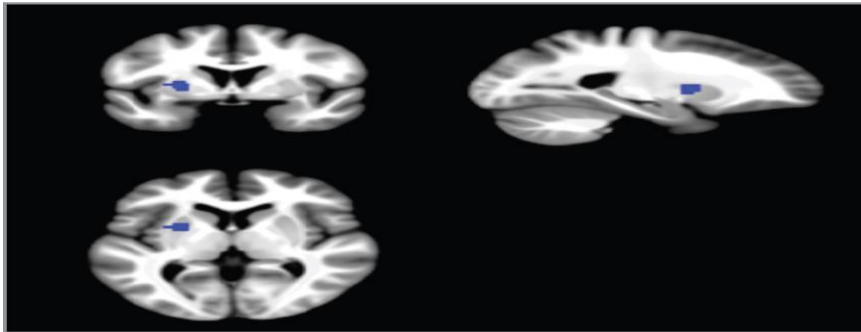


A 片對腦的影響

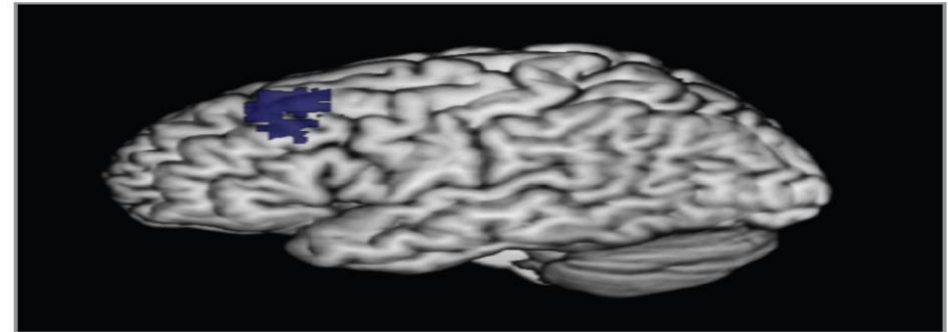
A Gray matter volume correlate of pornography consumption, h/wk



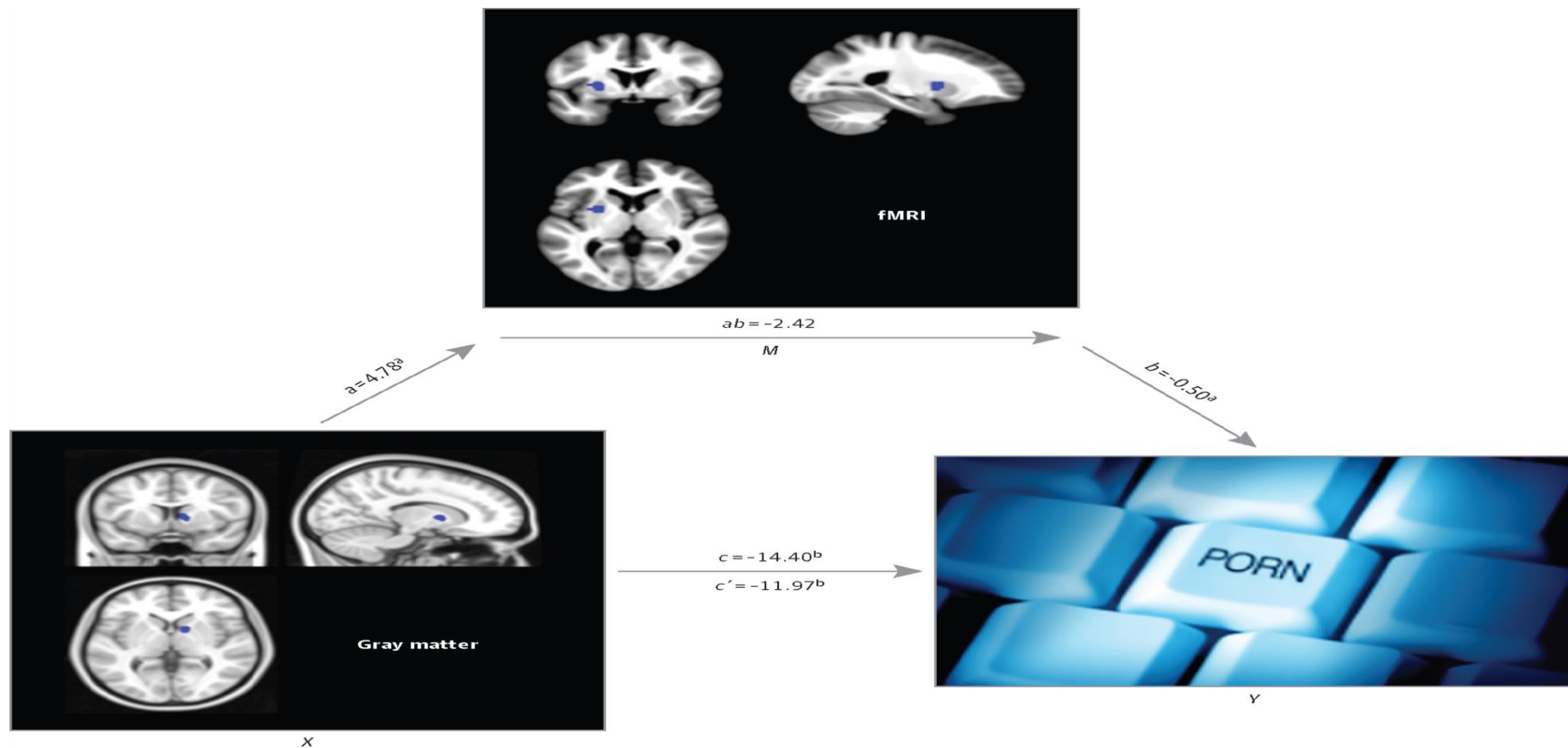
B Blood oxygenation level—dependent correlate of pornography consumption, h/wk during sexual-cue reactivity



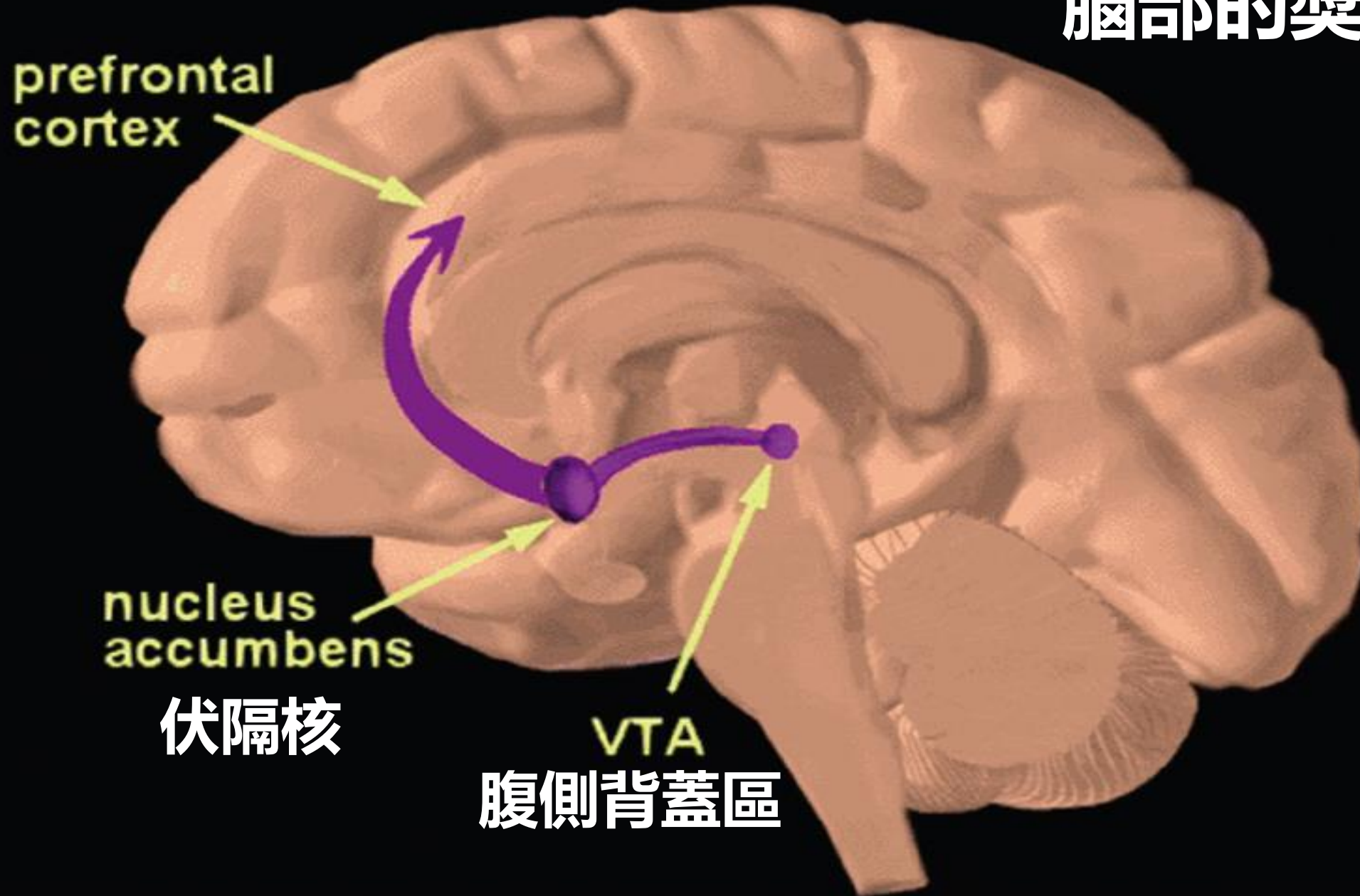
C Right caudate functional-connectivity correlate of pornography consumption, h/wk



A 片對腦的影響



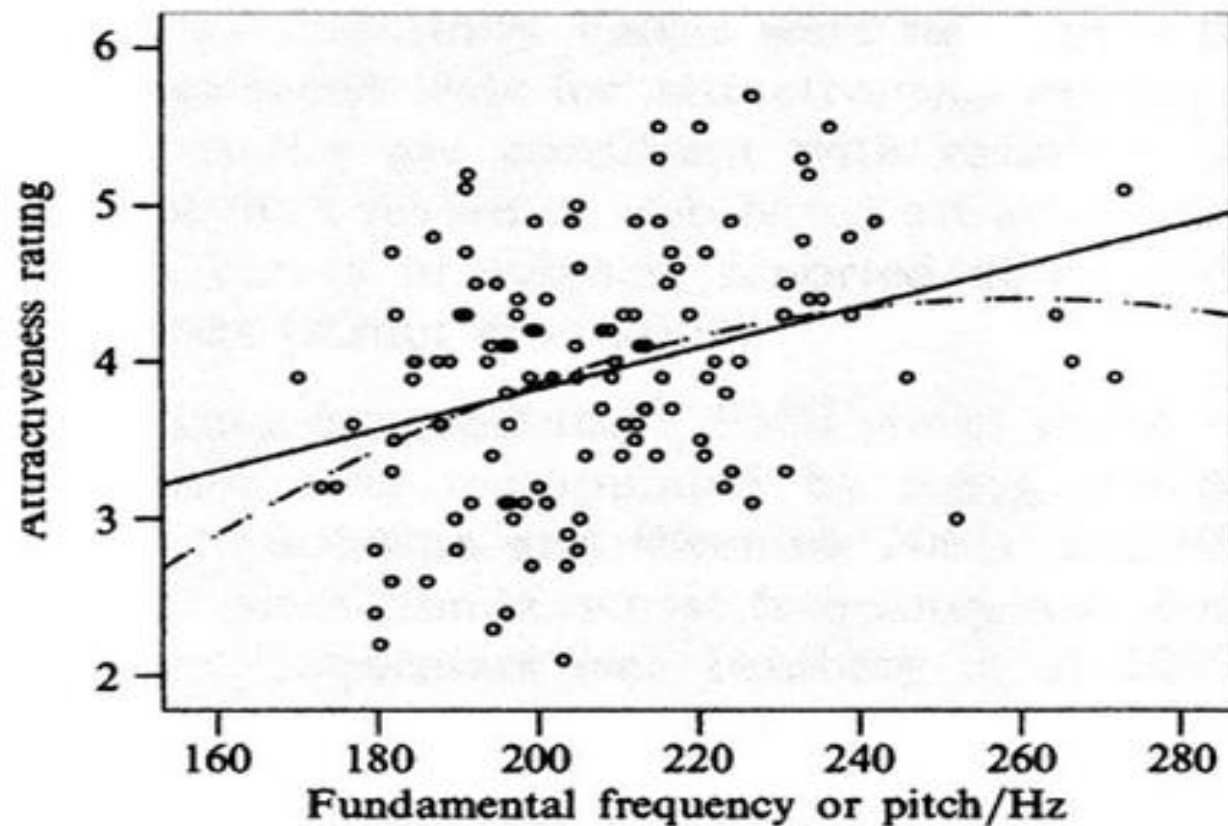
腦部的獎賞途徑



行為性的成癮

- 賭博
- 上網沉迷
- 電玩沉迷
- 色情影片沉迷
- 性成癮

男性激素影響聽覺



- 抑制背景噪音的傾向
- 被高音高的人吸引
- 父親對嬰兒哭聲的敏感度變化

激素影響人對於臉部表情的解讀



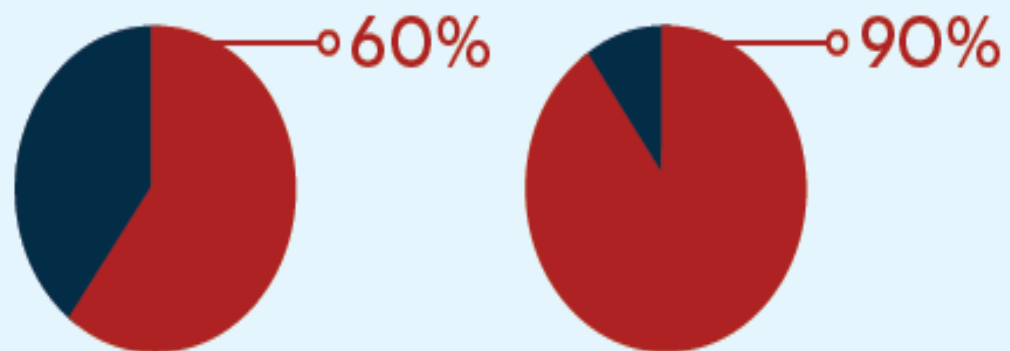
大腦的兩大情緒中心的作用
杏仁核以及下視丘

男女的對話題材差異

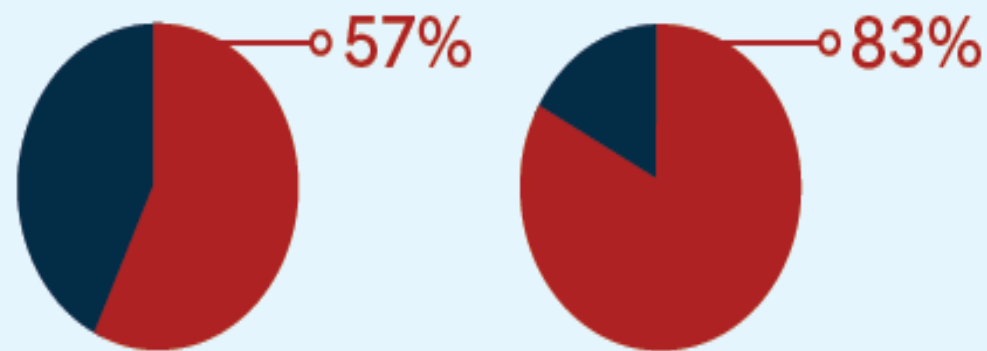


- 睪酮素治療的人，會越來越少話。
- 如果不行就裝酷

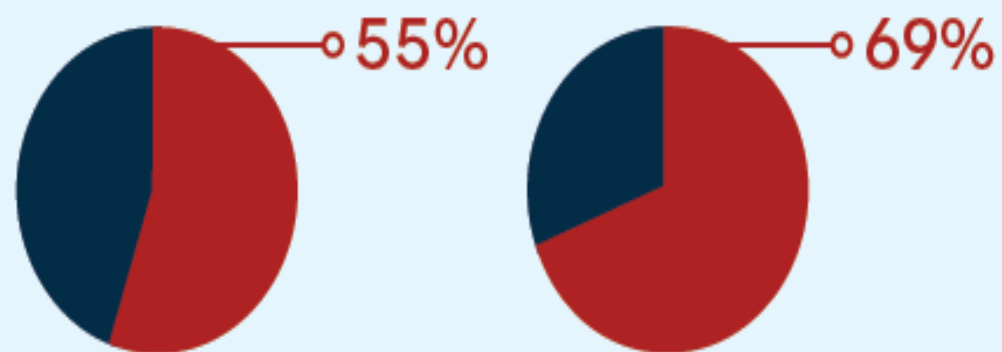
PORN ADDICTION STARTS AT A YOUNG AGE⁵



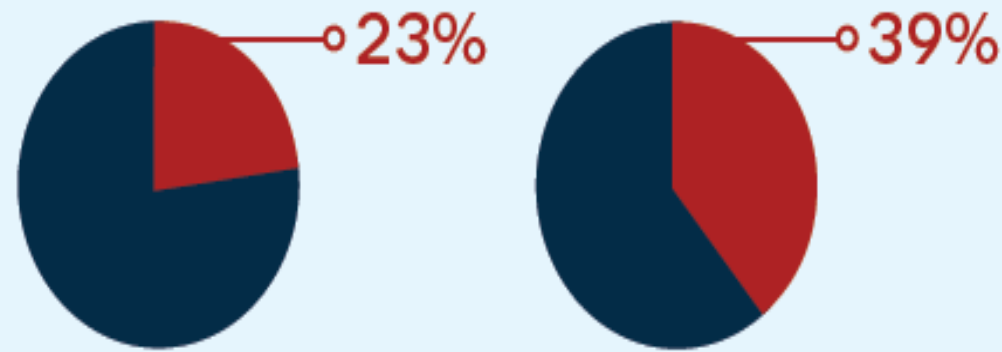
By age 18, 90% of boys and 60% of girls are exposed to Internet pornography.



57% of girls and 83% of boys have seen group sex on the Internet.

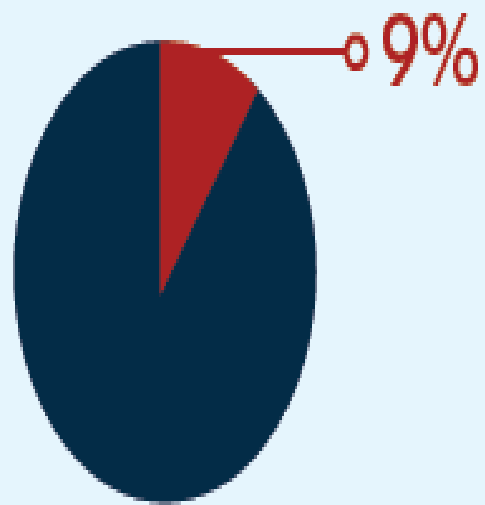


55% of girls and 69% of boys have seen porn showing same-sex intercourse.

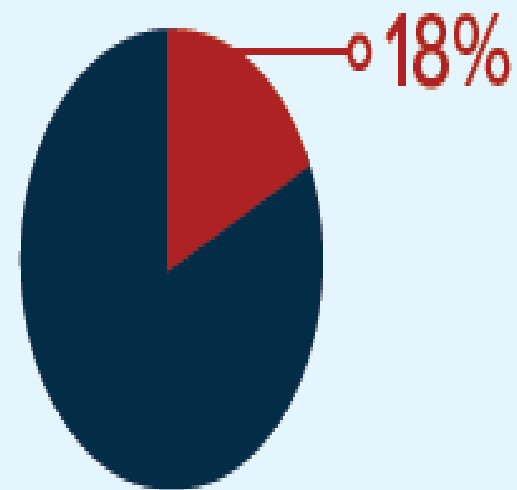
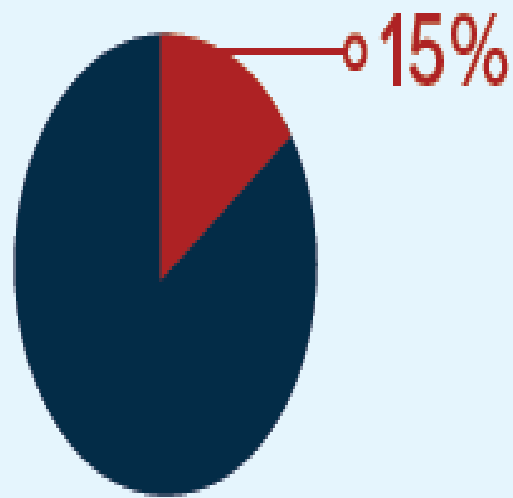


23% of girls and 39% of boys have seen online sex acts involving bondage.

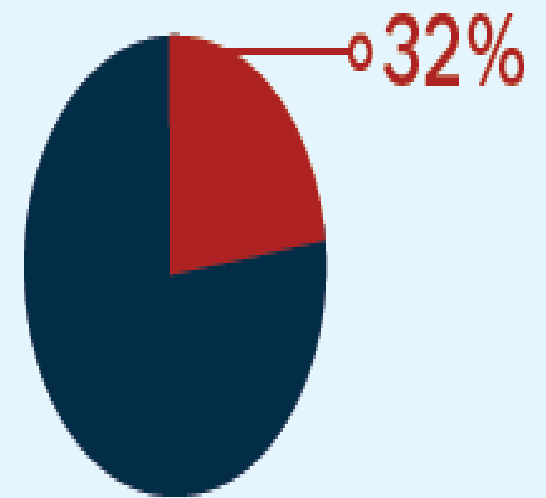
THE LARGEST CONSUMERS OF INTERNET PORNOGRAPHY ARE KIDS AGES 12 TO 17.⁶



9% of girls and 15% of boys
have seen child pornography.



18% of girls and 32% of boys have
viewed bestiality on the Internet.



手淫是健康的？

影響	文獻
增進憂鬱徵狀	Cyranowski et al., 2004
比較少快樂	Das, 2007
較差的身體以及心理健康	Costa & Brody, 2011
性功能障礙	Brody. 2009
關係不滿足以及對伴侶表較少關愛	Brody, 2010
增加攝護腺癌危險	Brody, 2010



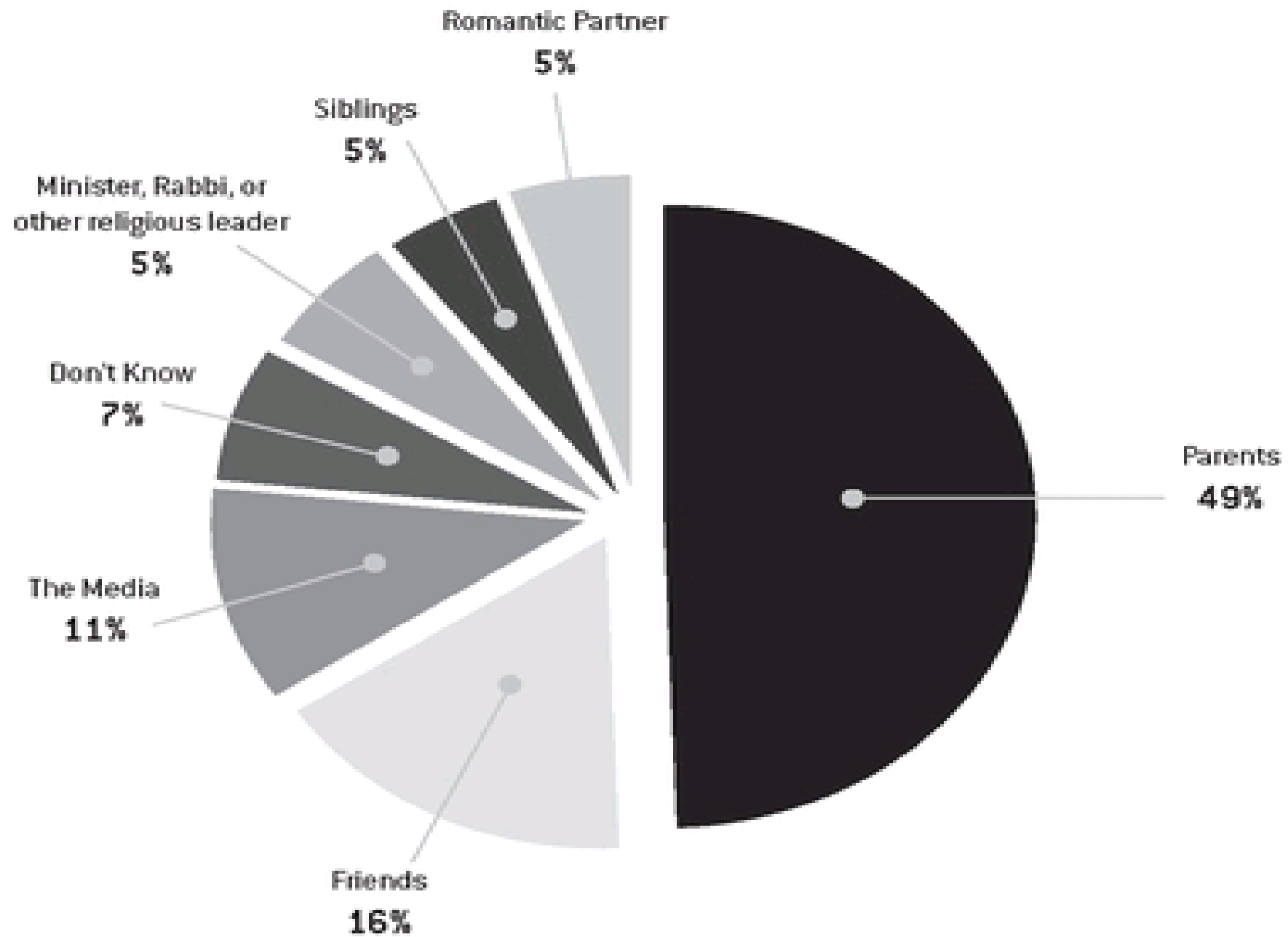
- 媽媽請不要再抱我
- 親吻是性的前奏



明知道，為什麼還做？

青春期是培養人生關鍵能力的時刻

- **情緒的火花**
- **社交活動的投入**
- **創新**
- **創意性的冒險**



Protecting Adolescents From Harm

Findings From the National Longitudinal Study on Adolescent Health

Michael D. Resnick, PhD; Peter S. Bearman, PhD; Robert Wm. Blum, MD, PhD; Karl E. Bauman, PhD; Kathleen M. Harris, PhD; Jo Jones, PhD; Joyce Tabor; Trish Beuhring, PhD; Renee E. Sieving, PhD; Marcia Shew, MD, MPH; Marjorie Ireland, PhD; Linda H. Bearinger, PhD, MS; J. Richard Udry, PhD

Variables	Emotional Distress		Suicidality		Violence	
	Grades 7-8 (<i>P</i> Value)	Grades 9-12 (<i>P</i> Value)	Grades 7-8 (<i>P</i> Value)	Grades 9-12 (<i>P</i> Value)	Grades 7-8 (<i>P</i> Value)	Grades 9-12 (<i>P</i> Value)
Family	n=1785	n=3760	n=1790	n=3789	n=1787	n=3758
Parent-family connectedness	-.37 (<.001)	-.33 (<.001)	-.17 (<.001)	-.24 (<.001)	-.21 (<.001)	-.13 (<.001)
Parent-adolescent activities	.06 (<.01)	.04 (<.05)	...	...	...	...
Parental presence	-.07 (<.01)	-.06 (<.001)	...	...	...	...
Parental school expectations	-.07 (<.01)	-.08 (<.001)	...	...	...	-.07 (<.001)
Recent family suicide attempts/completions	.09 (<.01)	.07 (<.001)	.12 (<.001)	.06 (<.001)	.13 (<.001)	.07 (<.001)
Household access to guns†	...	...	...	.13 (<.001)	.14 (<.01)	.27 (<.001)