
# 從醫學看性教育


# 蔡志東

國防醫學院生命科學所博士

中央研究院細胞與個體生物學研究所博士後

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）

# 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

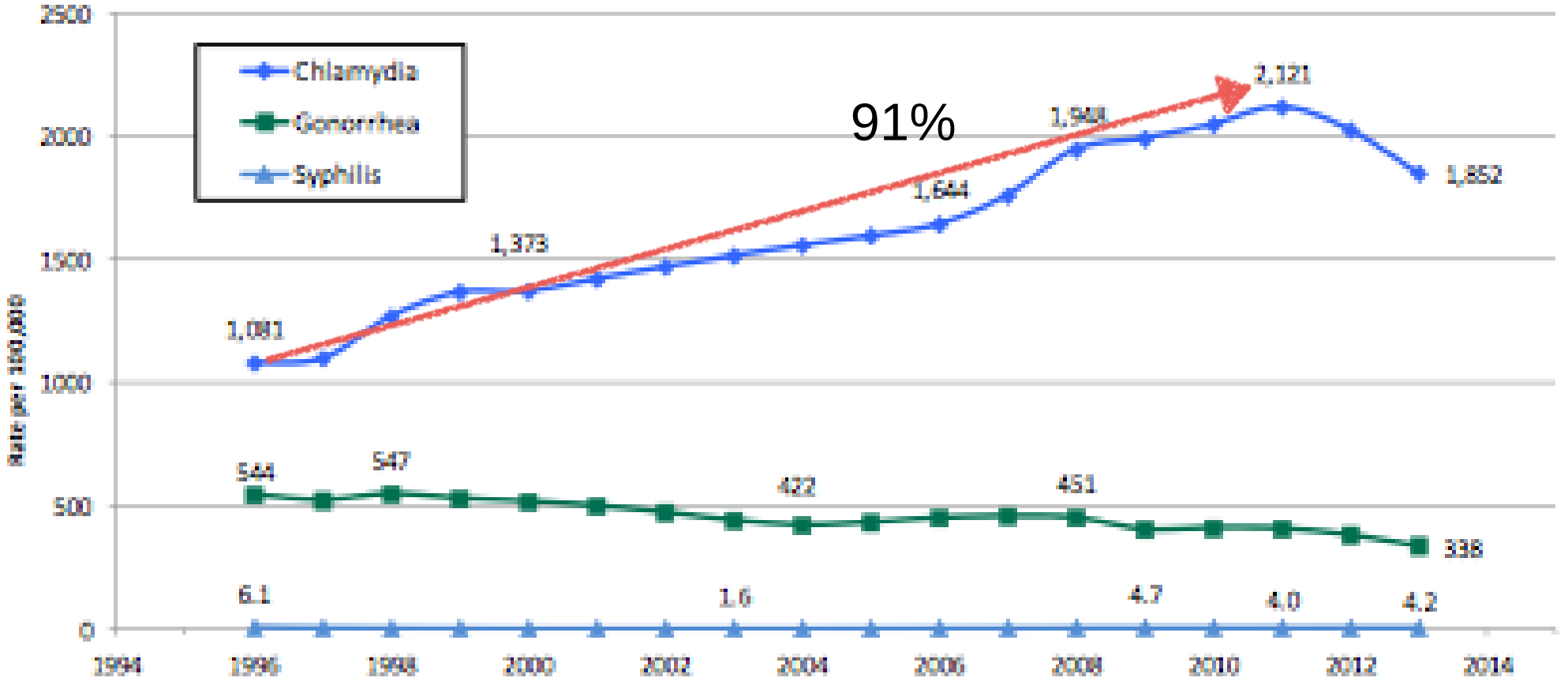
研究生理發展與身體特質

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.

Child Trends DATABANK

**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**

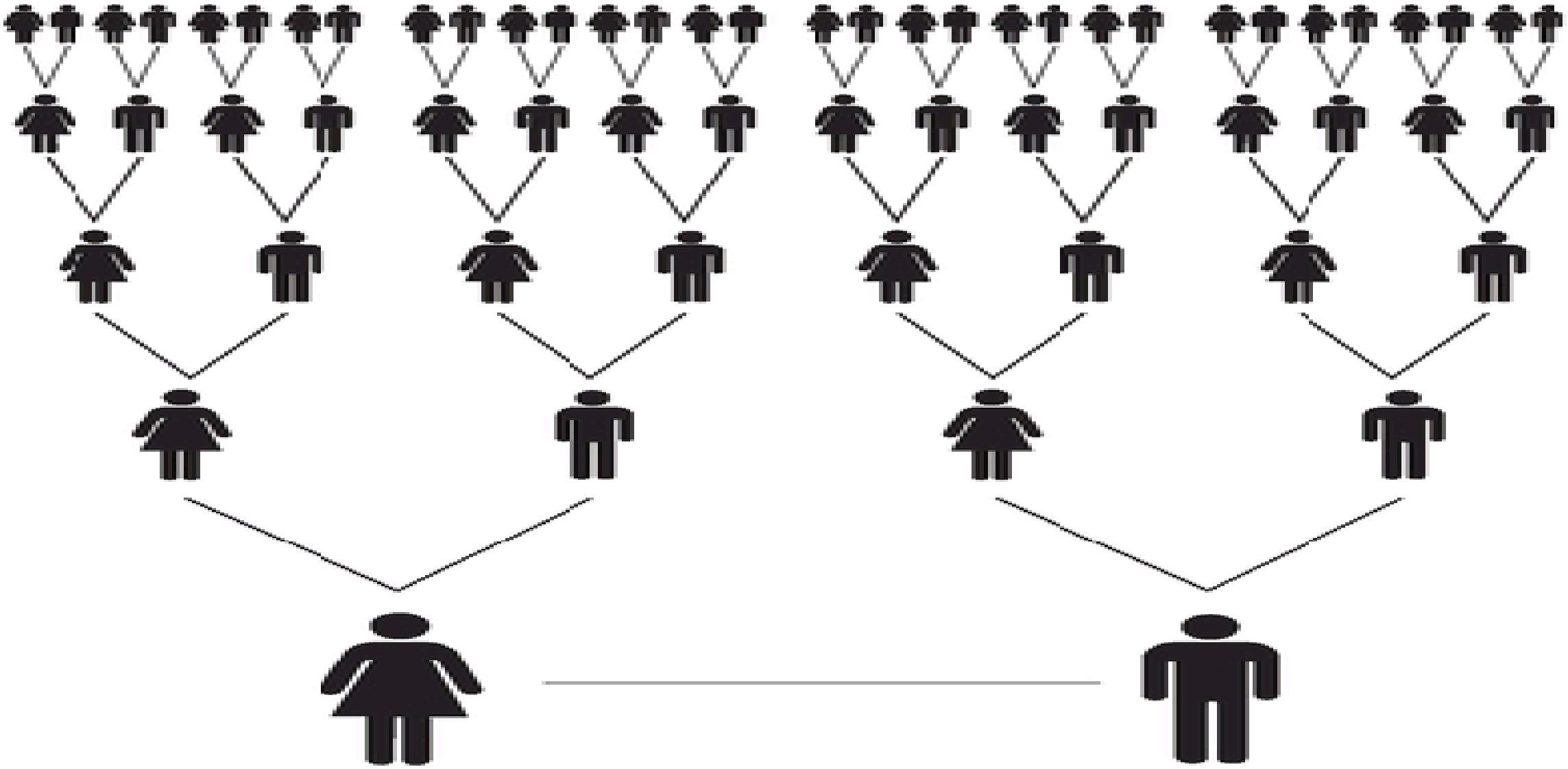
# 子宮頸癌年輕化 若這樣做愛風險變高

2016-07-12 10:01〔即時新聞／綜合報導〕子宮頸癌前病變有越來越年輕的趨勢，根據國民健康署統計，每5位新發的個案中就有1例在20歲至34歲間，醫生提醒，最好要打疫苗和定期接受子宮頸抹片檢查，尤其是性伴侶人數較多、未全程使用保險套等的女性更要注意！

**《Tech Times》報導，美國科學發展協會（AAAS）日前在年會中提出的一項新的研究顯示，男性口交的對象增加，因人類乳突病毒（HPV）而罹患口腔癌及咽喉癌的機率是女性的2倍。霍普金斯大學者杜澤（Gypsyamber D’ Souza）更表示，可能因為女性的陰道在首次接觸HPV時，就已產生免疫機制，但男性卻沒有此能力，中年白人的男性相較於其他種族，感染風險更高。**

2016. 02.15

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

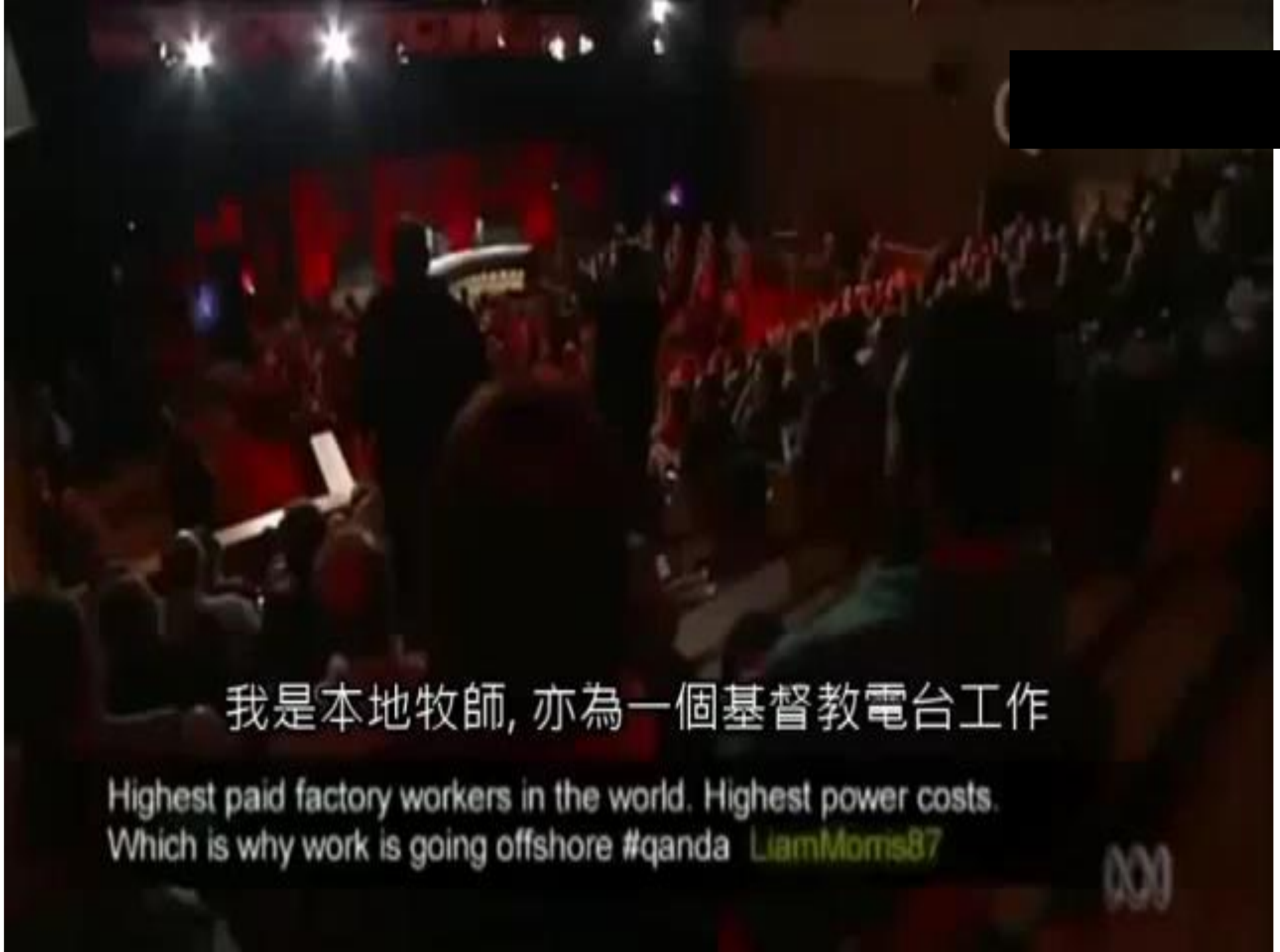
誠實

愉悅

保護措施

**性教育的目的，就是要保護自己與孩子！**

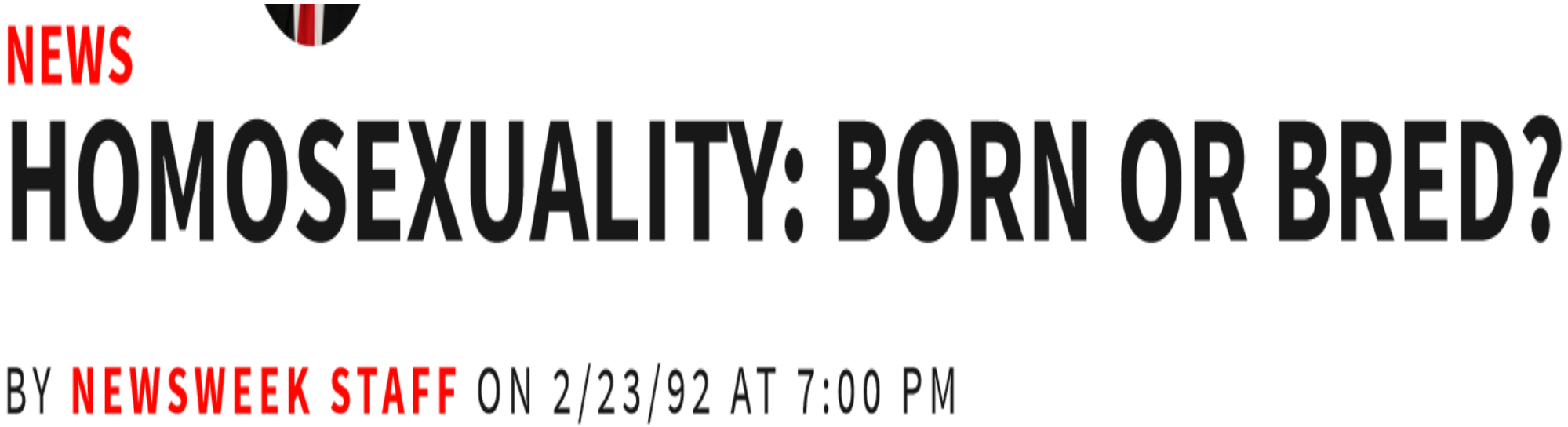
# 同性戀是天生的？


我是本地牧師, 亦為一個基督教電台工作
Highest paid factory workers in the world. Highest power costs.
Which is why work is going offshore #qanda LiamMorris87

- 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。




**1992. 新聞周刊 記者: 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.

**他們生來不同**

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.

**同卵雙胞胎研究顯示，是異卵雙胞胎的高出三倍可能性**

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."

**心理學家約翰慕尼認為同性傾向是存在於腦中的**

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.

**理論上，要有權力的關鍵是”不可改變的”特質**

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

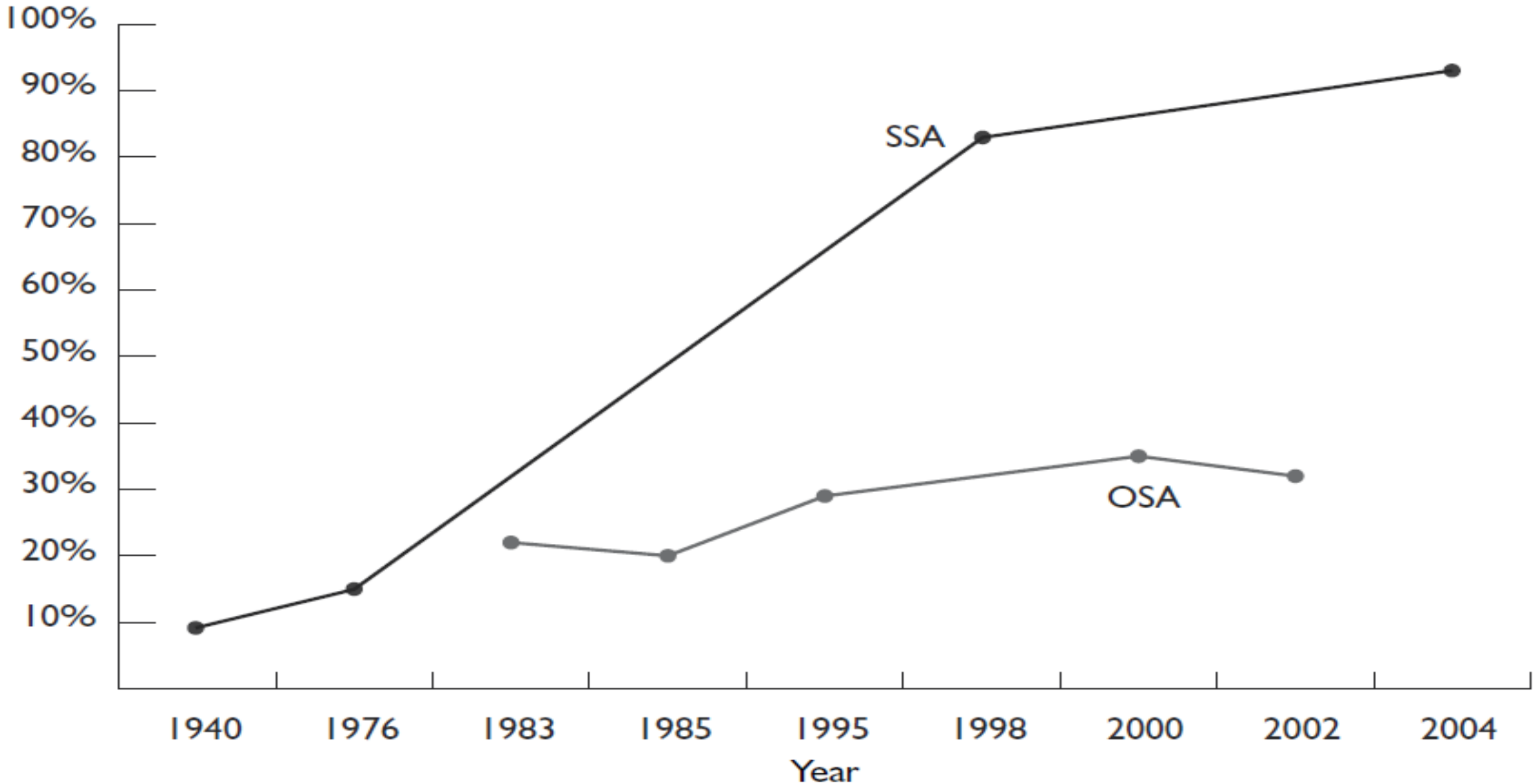
1.腦結構研究

2.染色體研究

3.雙胞胎研究

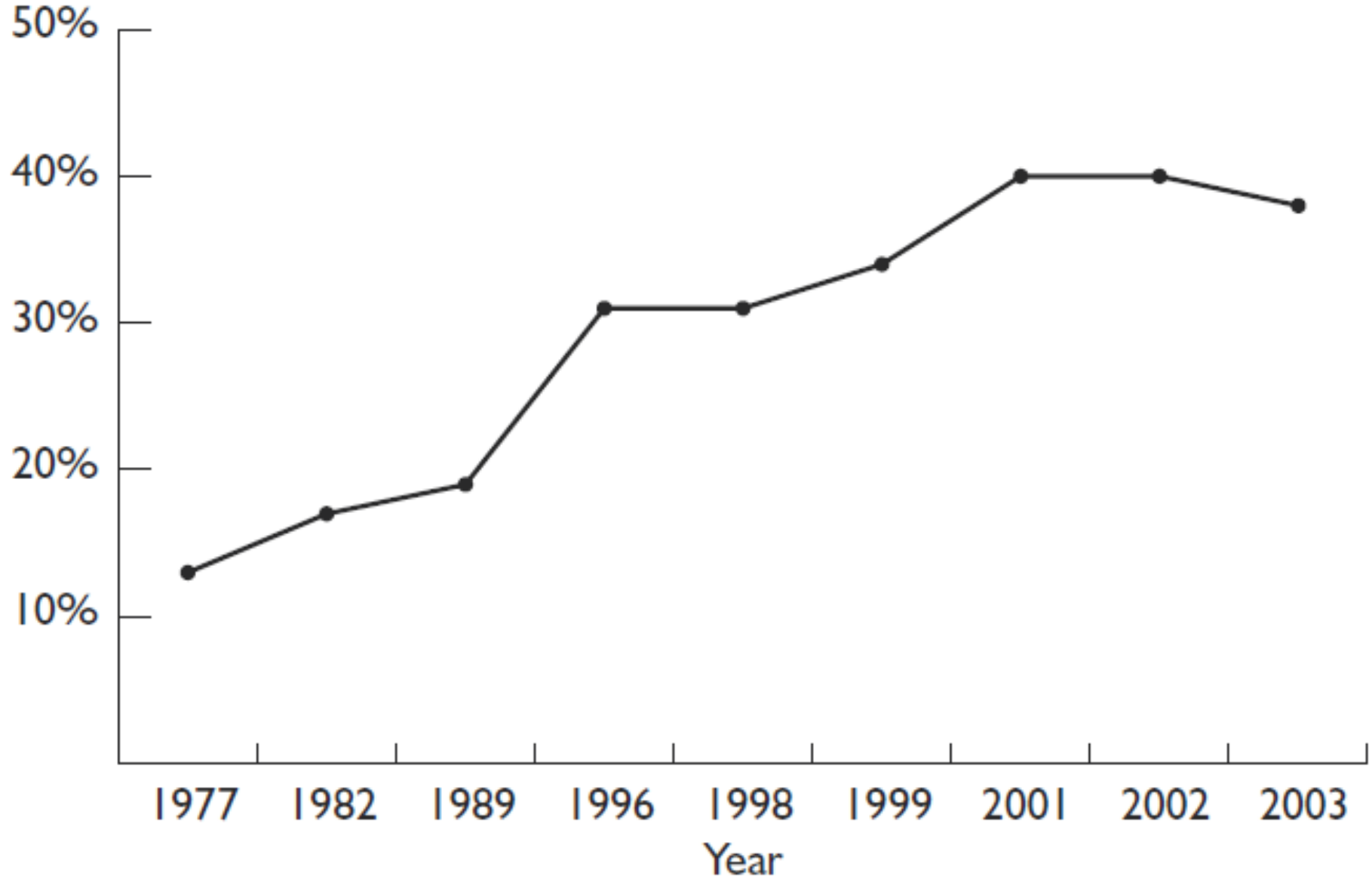
Psychiatric Service
Vol.48, No. 7
p.962, 1997

FIGURE 1. BELIEF IN GENETICS AS A SOURCE OF SSA



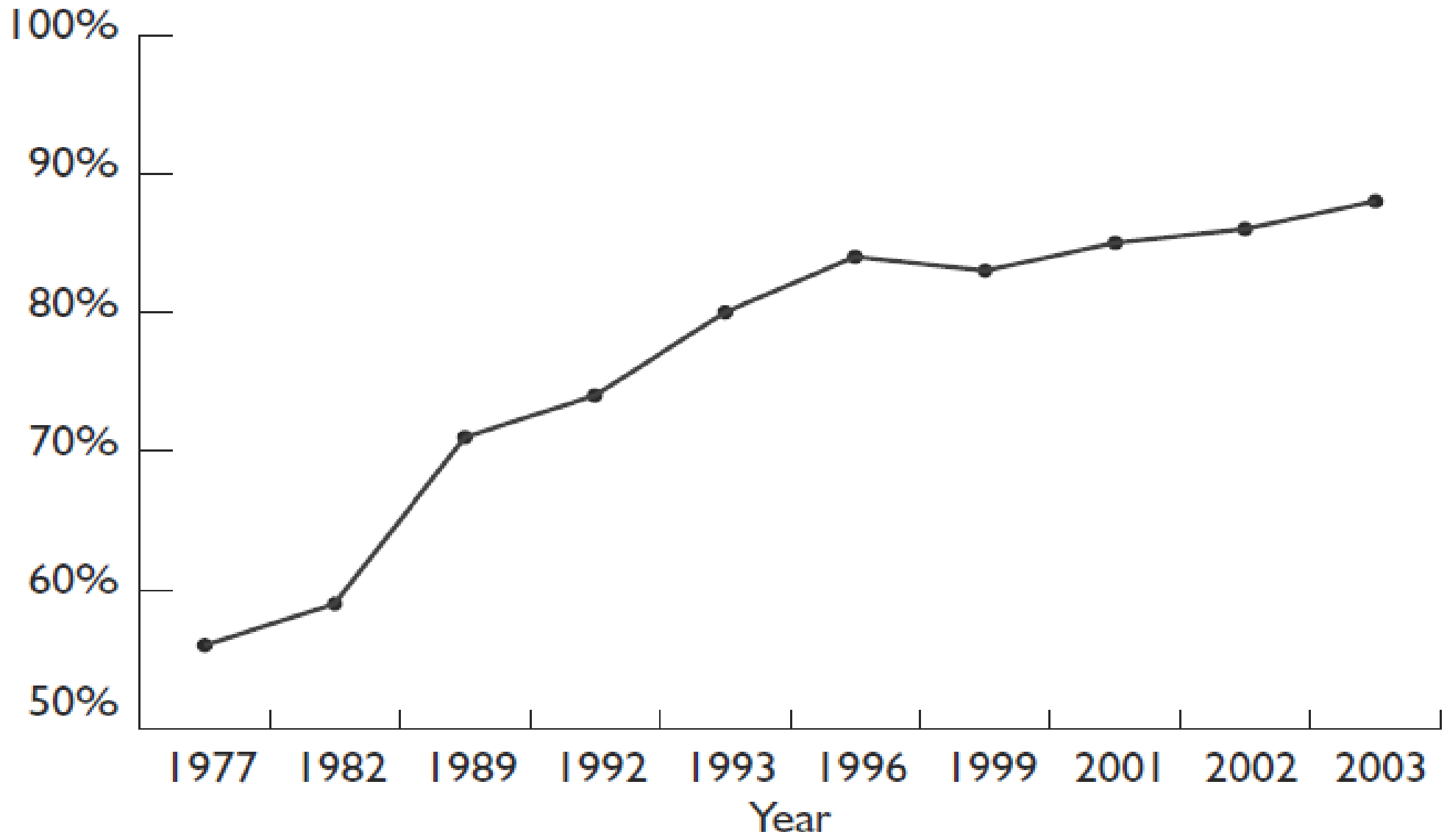

Changes in how same-sex attraction (SSA) individuals have viewed the origins of their trait

FIGURE 2. GALLUP POLL: PEOPLE WITH SSA BORN THAT WAY?




Changes in opinions of the general population about origins of SSA with time (Robinson, 2006).

FIGURE 3. SHOULD SSA PEOPLE HAVE EQUAL ACCESS?




Changing opinions about whether social discrimination against people with SSA should be permitted (Robinson, 2006).

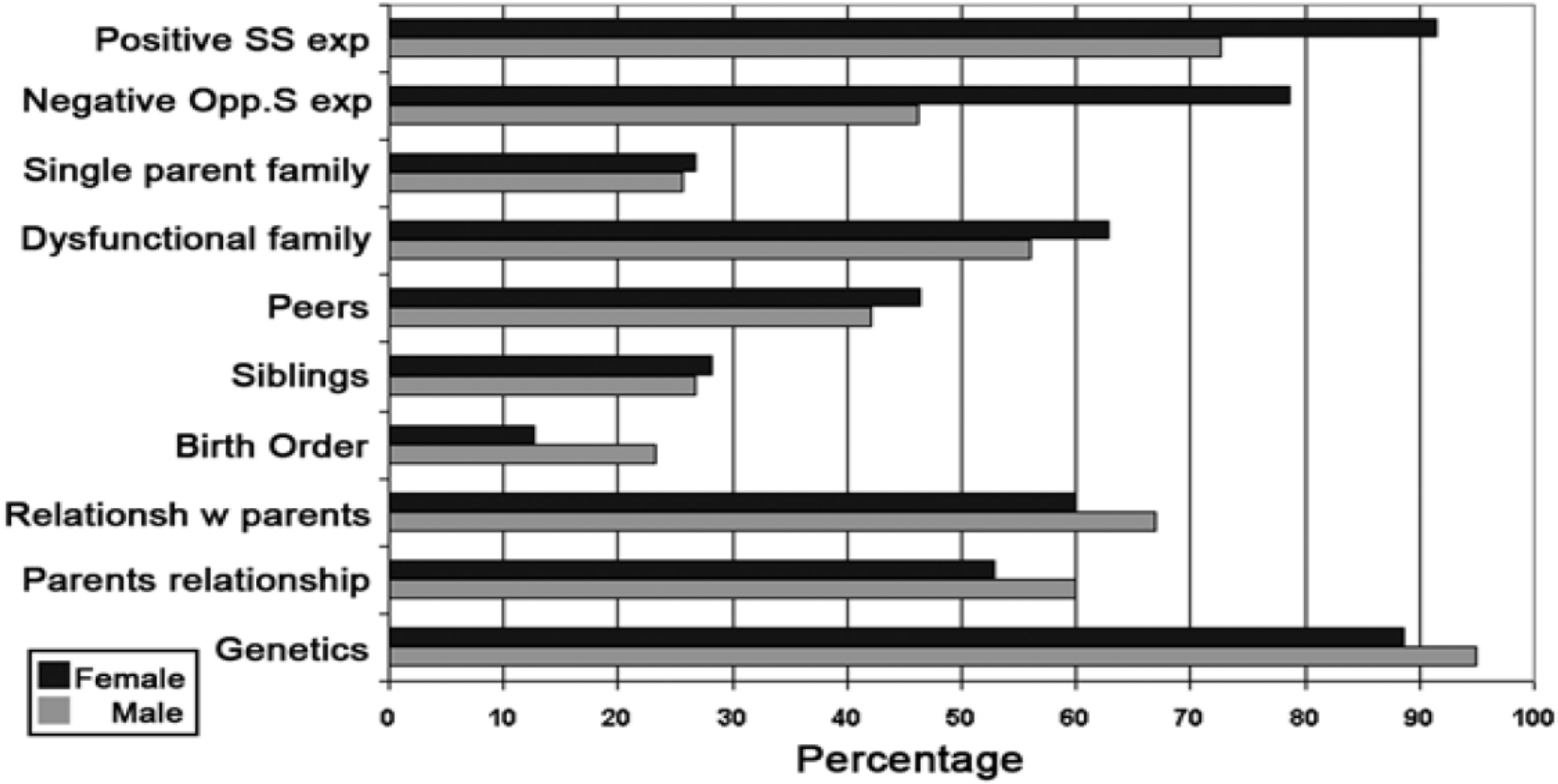



**Figure 25.** Factors thought by gay and lesbian people to have had some causal connection to their SSA

# 腦結構的分析-下視丘前葉第三神經元群

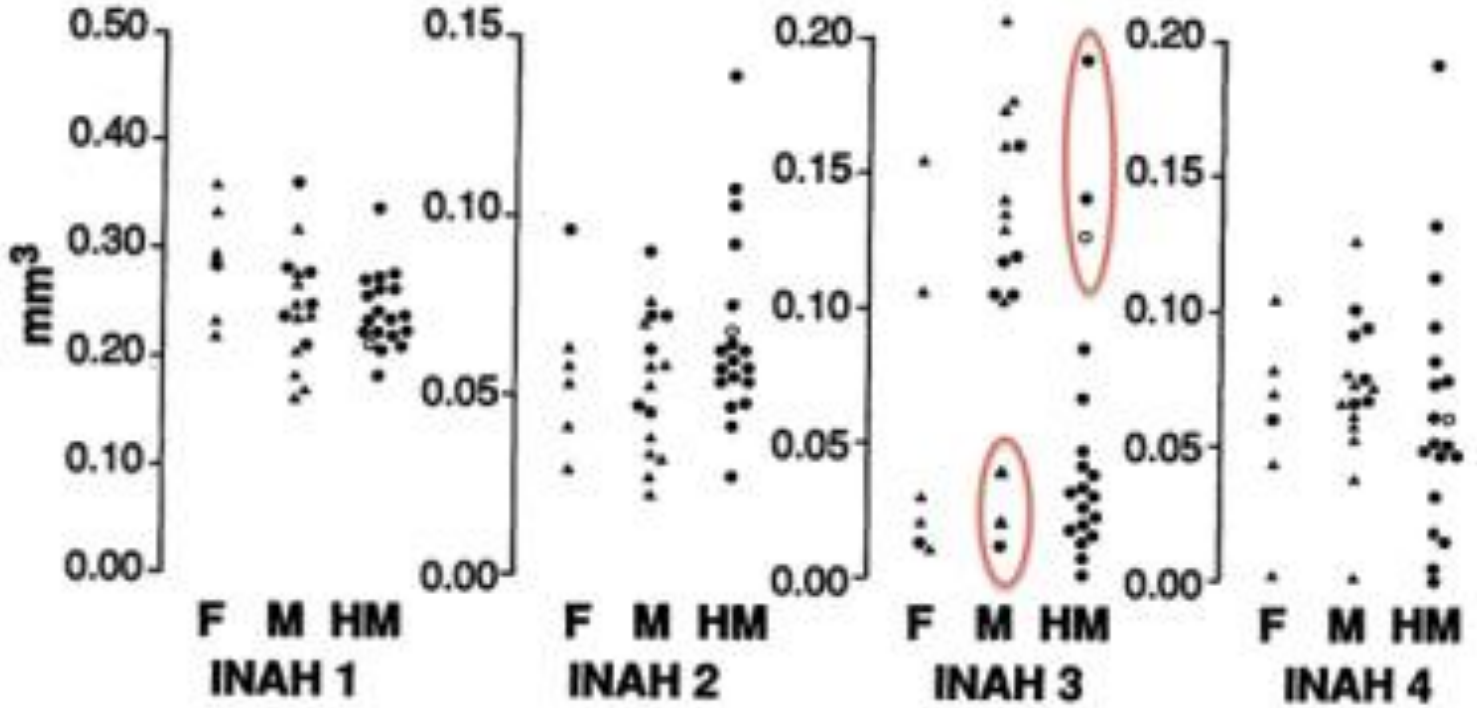



**Fig. 2.** Volumes of the four hypothalamic nuclei studied (INAH 1, 2, 3, and 4) for the three subject groups: females (F), presumed heterosexual males (M), and homosexual males (HM). Individuals who died of complications of AIDS, ●; individuals who died of causes other than AIDS, ▲; and an individual 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



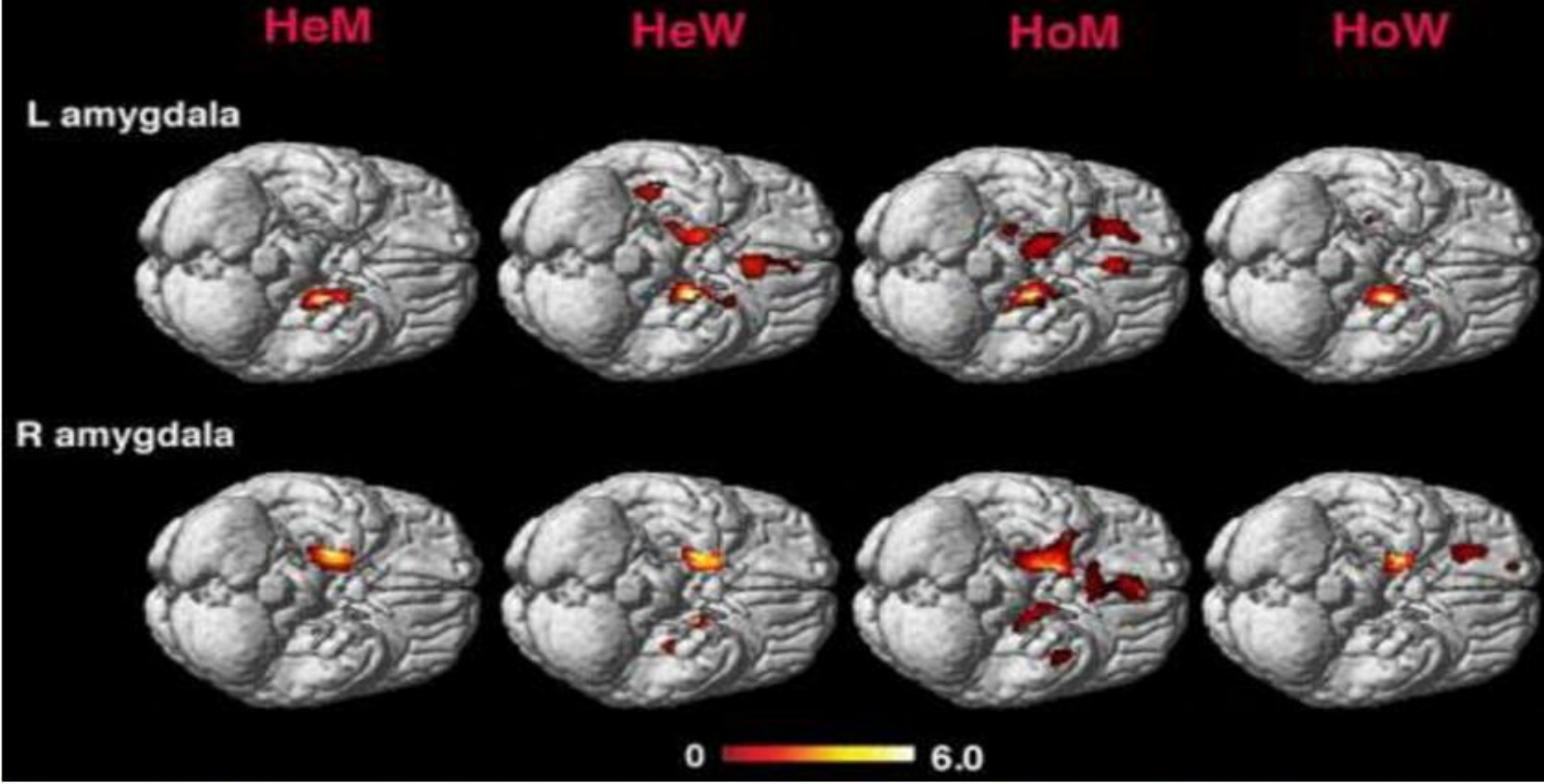
1,881次浏览

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]



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。




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 and women (labeled HoM and HoW)

(Image: National Academy of Sciences, PNAS)

# 男同志 與 女異性性戀者 大腦結構相似

# 男同志與男異性戀者大腦結構不同

# 雙胞胎研究

**Table 3.—Relatives' Sexual Orientation and Age**

| | Subsample | | |
|---|---|---|---|
| | Monozygotic | Dizygotic | Adoptive Brothers |
| 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 (±SD) age, y | 33.8±7.8 | 34.6±11.0 | 30.0±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.

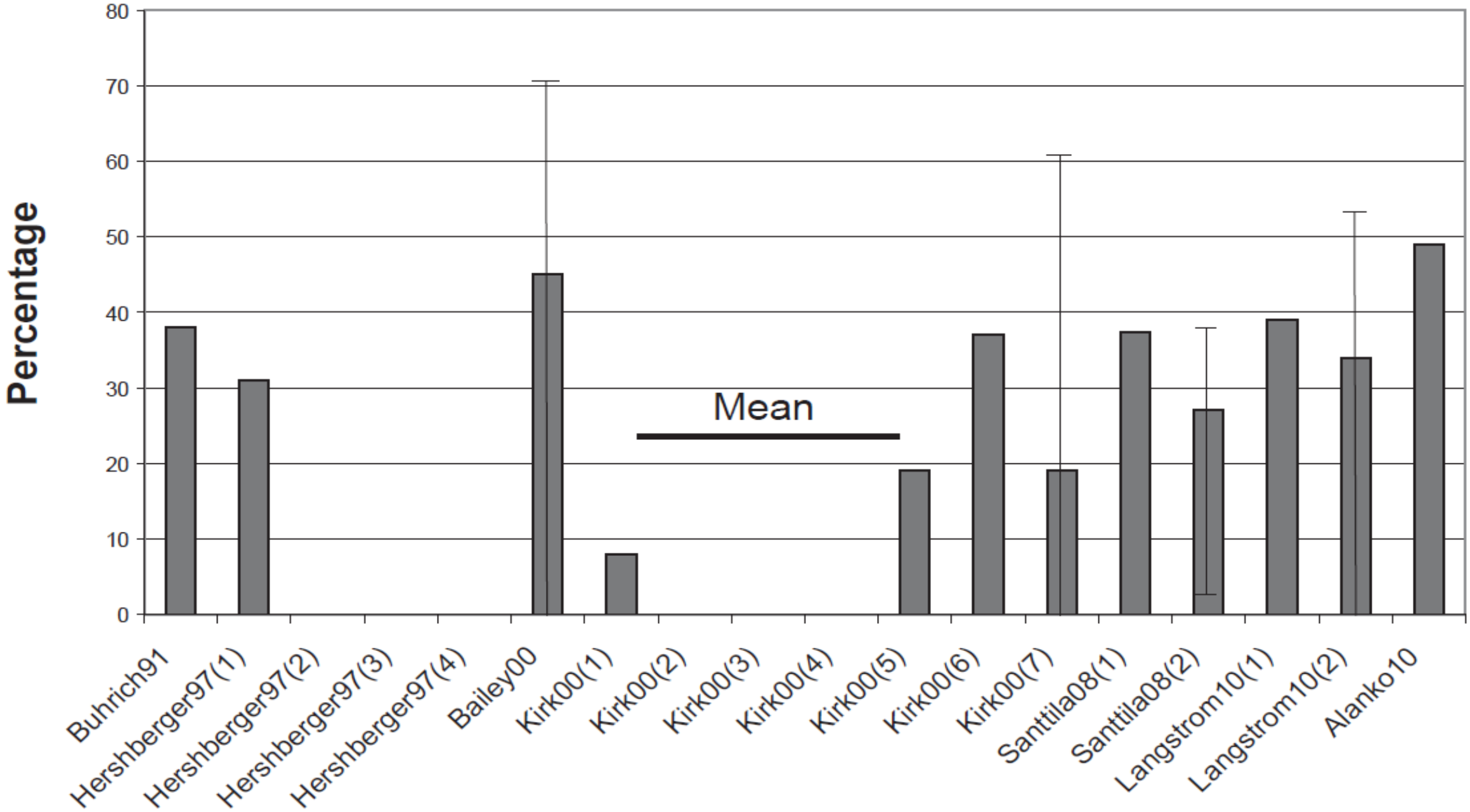
**Bailey 後期 (2000年) 他獲准向在澳洲雙胞胎登記處登記了的雙胞胎寄出問卷, 調查他們的性偏好及性經驗。 Bailey之後所作的研究得到的數據比之前的更低。**

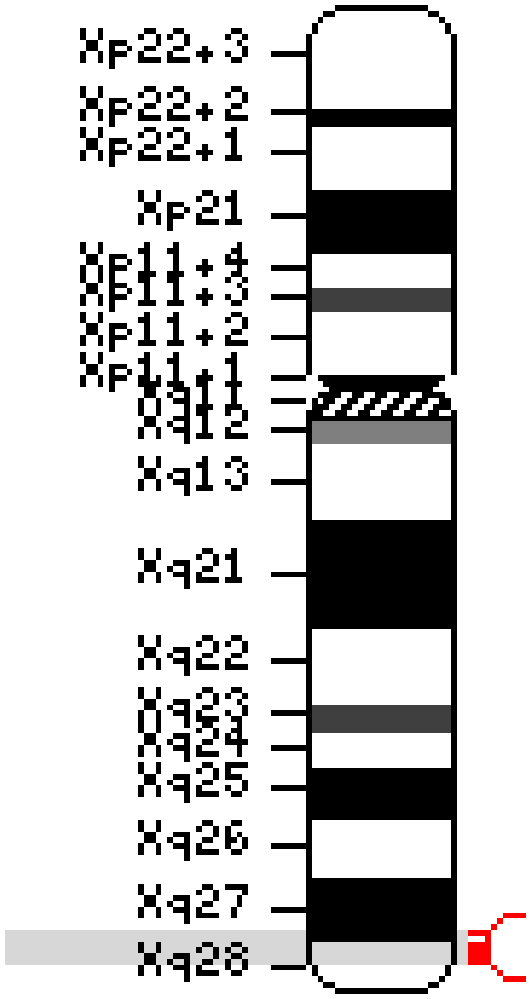
Table 1
*Probandwise Concordances for Two Criteria of Nonheterosexual Orientation*

| Proband's sex and criterion | Monozygotic | | | | Same-sex dizygotic | | | | Opposite-sex dizygotic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *n* pairs | | | Probandwise concordance | *n* pairs | | | Probandwise concordance | *n* 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


Percentage
80
70
60
50
40
30
20
10
0
Mean
Buhrich91
Hershberger97(1)
Hershberger97(2)
Hershberger97(3)
Hershberger97(4)
Bailey00
Kirk00(1)
Kirk00(2)
Kirk00(3)
Kirk00(4)
Kirk00(5)
Kirk00(6)
Kirk00(7)
Santtila08(1)
Santtila08(2)
Langstrom10(1)
Langstrom10(2)
Alanko10


Xp22.3
Xp22.2
Xp22.1
Xp21
Xp11.4
Xp11.3
Xp11.2
Xp11.1
Xq11
Xq12
Xq13
Xq21
Xq22
Xq23
Xq24
Xq25
Xq26
Xq27
Xq28


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

# 性傾向的變化

## Table 1. Compilation and Overall Average Outcome of Recent Surveys of Reorientation Therapy Consumers

| *Survey* | *N* | *Number and percent reporting exclusive opposite-sex attraction shift fully successful* |
|---|---|---|
| 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.

2012年5月17日，世界衛生組織駐美洲的辦事處，泛美洲衛生組織，就性傾向治療和嘗試改變個人性傾向的方法，發表一份用詞強烈的英文聲明《為一種不存在的疾病治療》（"Cures" for an Illness that Does Not Exist）。

- 聲明強調，同性戀性傾向乃人類性傾向的其中一種正常類別，而且對當時人和其親近的人士都不會構成健康上的傷害，所以同性戀本身並不是一種疾病或不正常，並且無需要接受治療。
- 世界衛生組織在聲明中再三指出，改變個人性傾向的方法，不單沒有科學證據支持其效果，而且沒有醫學意義之餘，並會對身體及精神健康甚至生命形成嚴重的威脅，同時亦是對受影響人士的個人尊嚴和基本人權的一種侵犯。
- 世界衛生組織亦藉發表該聲明提醒公眾，雖然有少數人士可以能夠在表面行為上限制表現出自身的性傾向，但個人性傾向本身一般都被視為個人整體特徵的一部分和不能改變；所以，是十分重要的去，阻止採用那些視同性戀為「偏差」或「選擇」並且因而可以透過「意志力」或「治療」去改變的理論。
- 聲明內容同時譴責提供性傾向治療的醫護人員，是把他們自己與社會偏見看齊，並且反映他們對個人性傾向和性健康議題的絕對無知。世界衛生組織亦提醒各國的醫護人員，如果向同性戀者指出他們是患上「缺陷」並且需要尋求改變，是等同於違反醫學道德的第一道原則：「首要的事，不要造成傷害（First, do no harm）」[31]。
- 世界衛生組織同時透過聲明呼籲各地政府，應強烈反對當地的診所和醫院提供性傾向治療，並應立法懲處或制裁提供性傾向治療的醫療機構。
- 世界衛生組織並且建議各地政府應多向公眾進行個人性傾向教育，以消除公眾對同性戀者的性傾向歧視[32]。

### 台中市政府 ［編輯］

2016年5月13日，台中市政府衛生局行文呼籲各醫療單位，尊重多元性別，嚴禁扭轉性傾向的迴轉治療並提供民眾舉發管道。5月17日，臺中市性別平等委員會提案通過，認定以任何形式（醫療或民俗方法）進行的「多元性傾向矯正治療」違法，並在會議中決議提請衛福部函釋[34]。

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。

# Scrutinizing Immutability: Researc Sexual Orientation and U.S. Legal Advocacy for Sexual Minorities

Lisa M. Diamond & Clifford J. Rosky

Pages 363-391 | Published online: 17 Mar 2016

2016. 05. 17 Journal of Sex Research

1.性傾向是不可改變的，基於長期的，以及族群的科學研究，證明這樣的強調是不科學的。

2. 根基於”性傾向是不可改變”這一理論之上的爭論是沒有必要的，美國的法律已經提供其他保護少數性傾向族群的保護措施。

3. 對於”性傾向是不可改變的”爭論是不正義的，因為它暗指同性吸引是比其它種性吸引劣等的，因為這樣的立論偏好固定性傾向的人，而不偏好性傾向是不固定的人。

# 同性性行為的危機

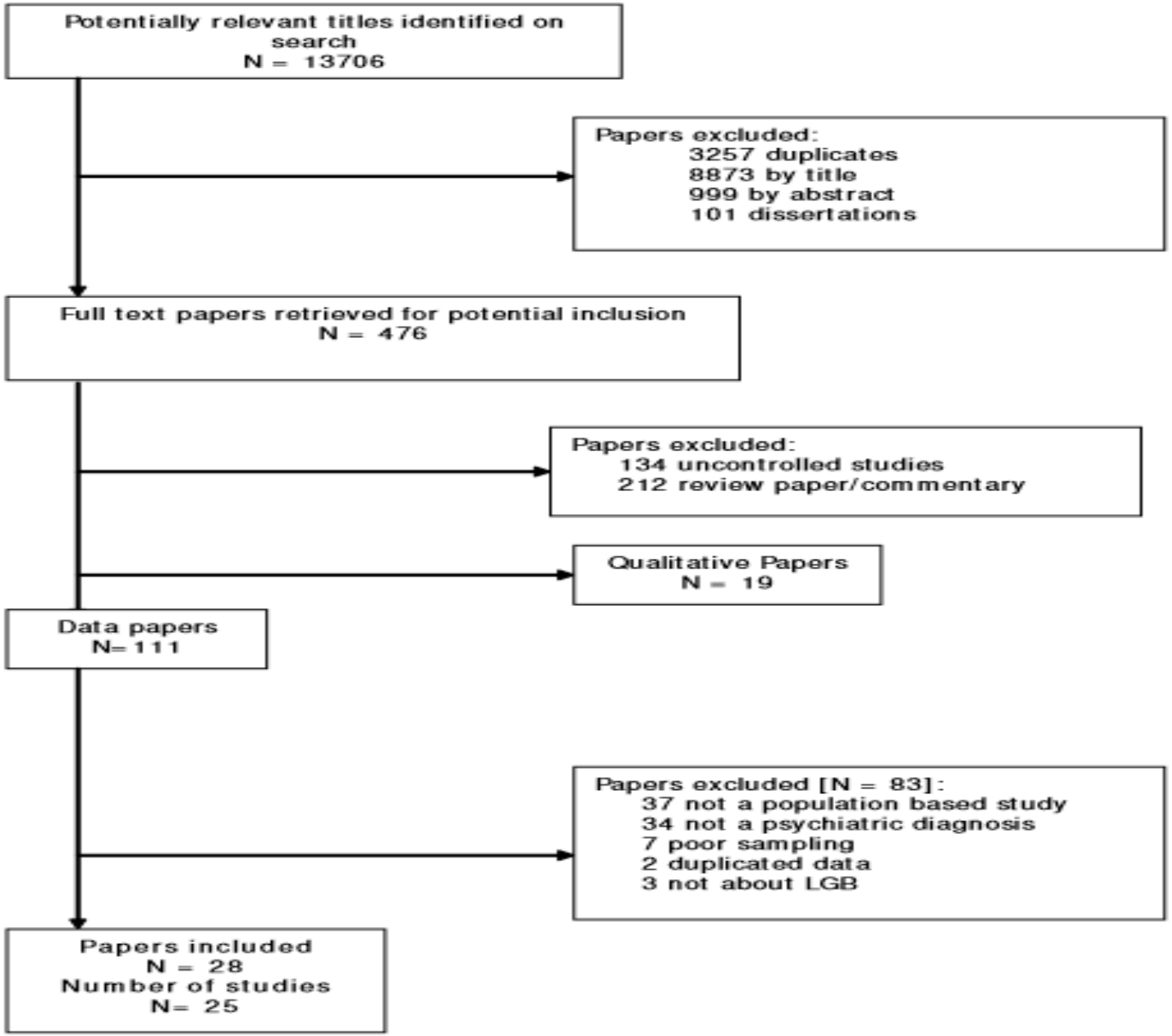



**Figure 1**
**Study inclusion process.**

**BMC Psychiatry**

BioMed Central

Research article

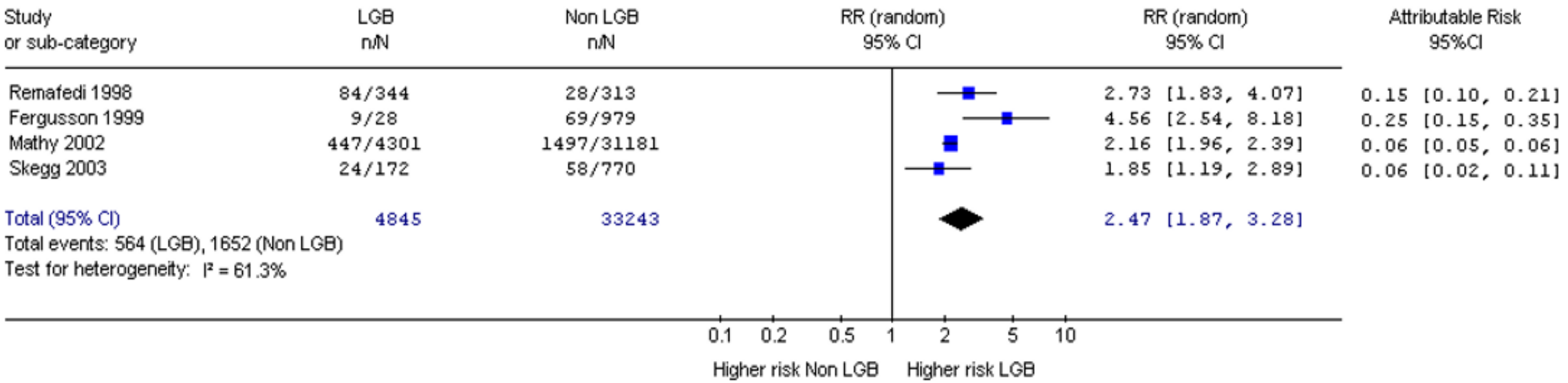
Open Access

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

Michael King*[1,2], Joanna Semlyen[1], Sharon See Tai[3], Helen Killaspy[1,2], David Osborn[1,2], Dmitri Popelyuk[1] and Irwin Nazareth[3,4]

**2008**

Suicide attempts (lifetime prevalence) in men and women



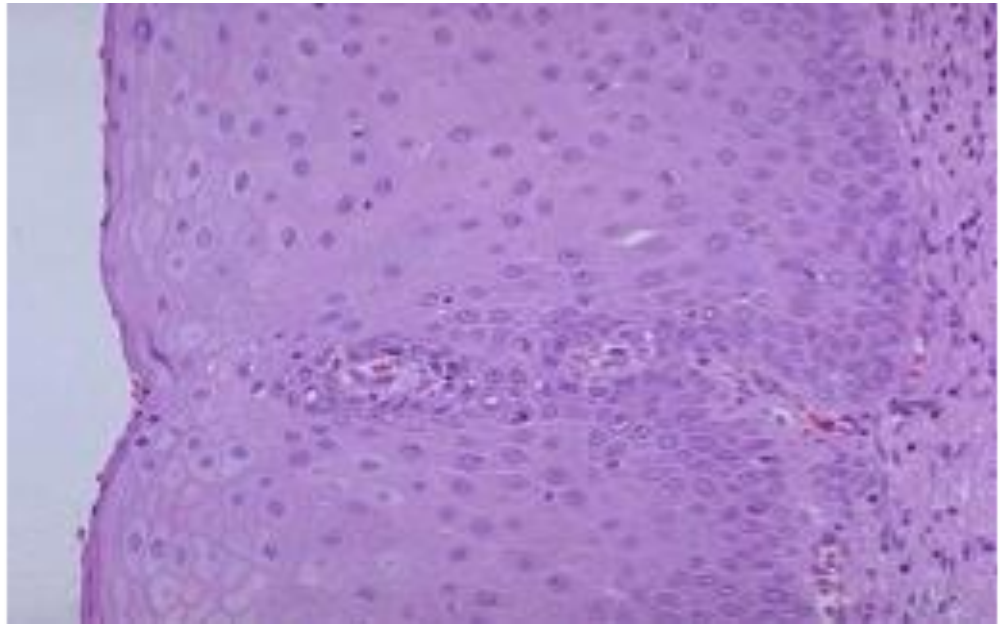

- **自殺意圖 LGB 是超過兩倍**
- **憂鬱、焦慮失衡 LGB 是超過 1.5 倍(過去12個月或是一段生活時間)**
- **酒精或是藥物濫用 LGB 是超過 1.5 倍(過去12個月或是一段生活時間)**
- **LB 女性特別依賴藥物**
- **GB 男性特別容易有自殺意圖**

- 37.2 percent of *homosexually active men* reported lifetime use of *cocaine*, compared to 19.5 percent of heterosexual men.
- 34.7 percent of *homosexually active men* reported lifetime use of *hallucinogens*, compared to 18.0 percent of heterosexual men.
- 30.8 percent of *homosexually active men* reported lifetime use of *inhalants*, compared to 9.8 percent of heterosexual men.

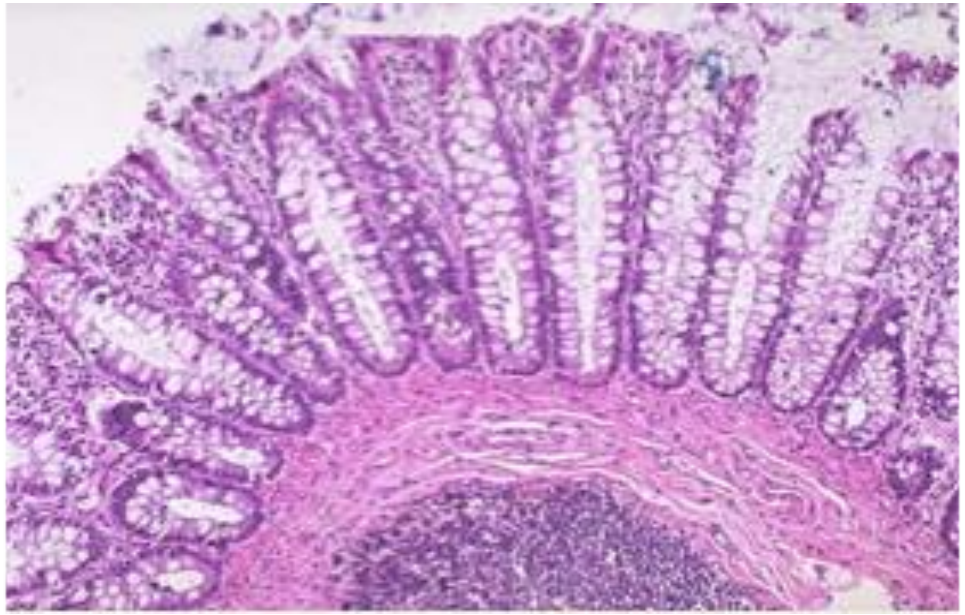
- 38.5 percent of *homosexually active women* reported lifetime use of *cocaine*, compared to 12.1 percent of heterosexual women.
- 22.9 percent of *homosexually active women* reported lifetime use of *hallucinogens*, compared to 9.9 percent of heterosexual women.
- 14.3 percent of *homosexually active women* reported lifetime use of *inhalants*, compared to 5.0 percent of heterosexual women.

# 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%。<br>※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 |

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

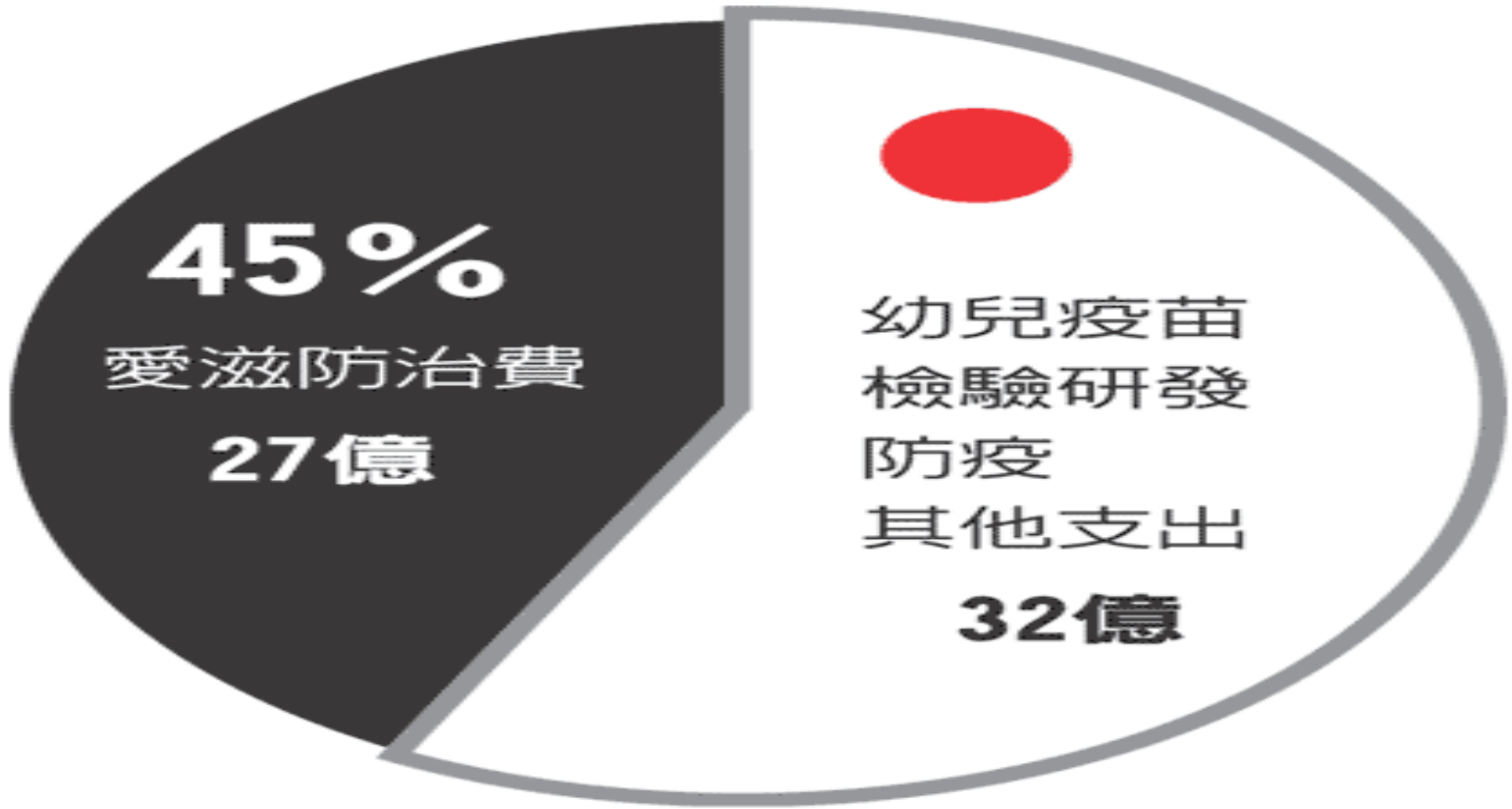
# 媒體對同性戀的報導-潛移默化

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月存活感染者爲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。〔(26,523人×130千元)+(26,523人×7%×200千元)=3,819,312千元〕×39.26%】

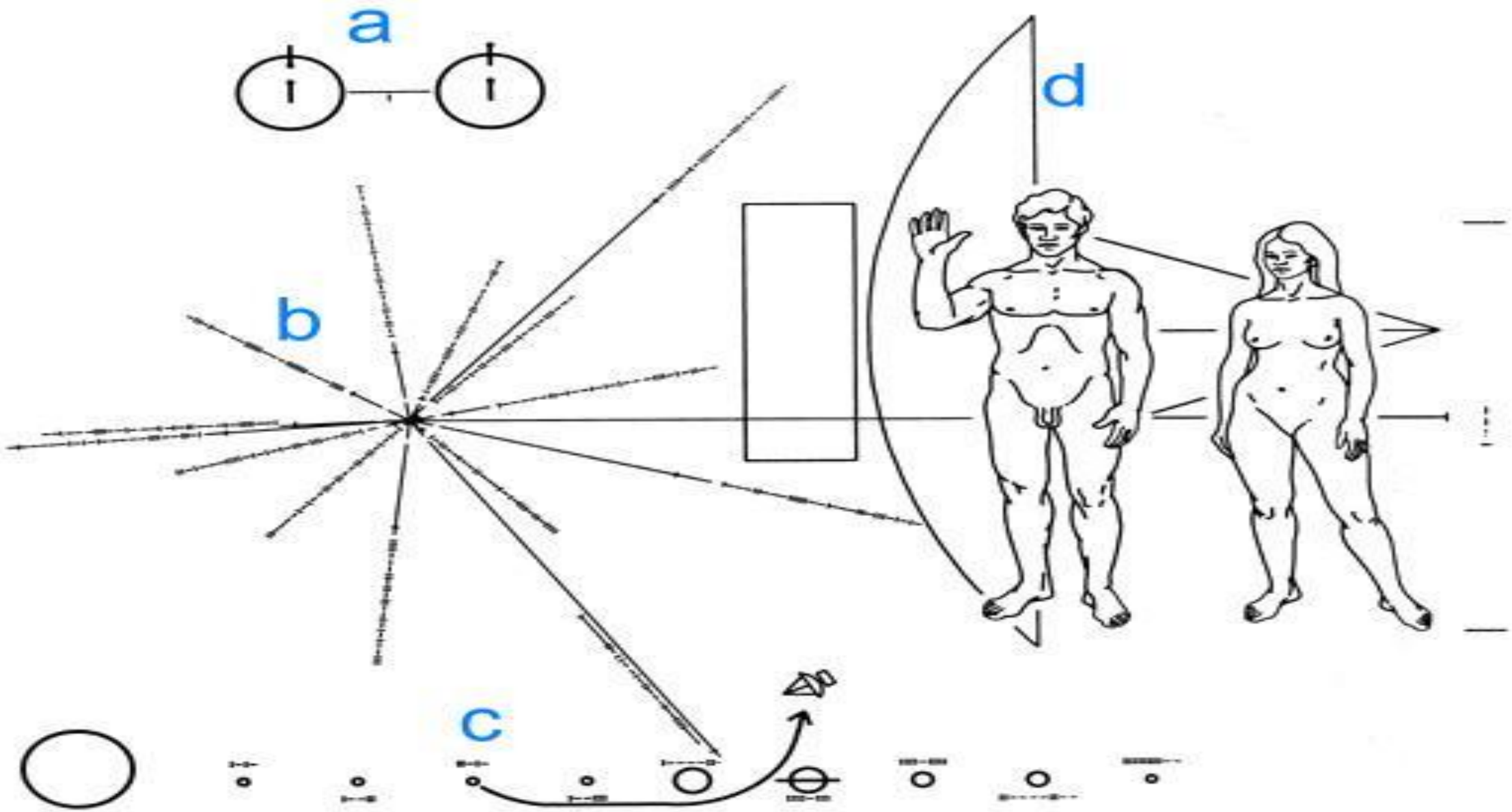
# 媒體對同性戀的報導--潛移默化

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


PLEASE
WAIT
TO BE
SEATED
NEW EPISODE
CN

# 多元性别?

# 性别天生


a
b
c
d

**請問是男，是女?**

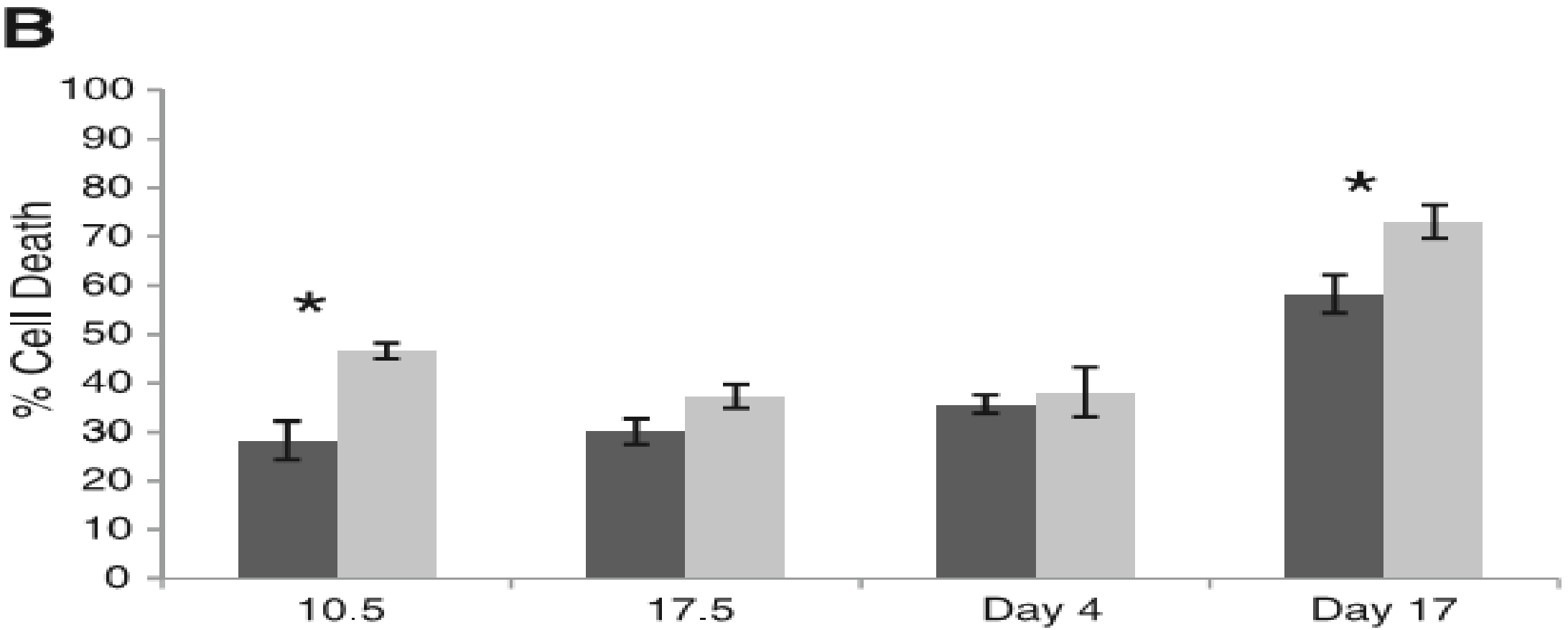
# Gender 從社會學發展而來

# 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


# Cell sex matters

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




*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

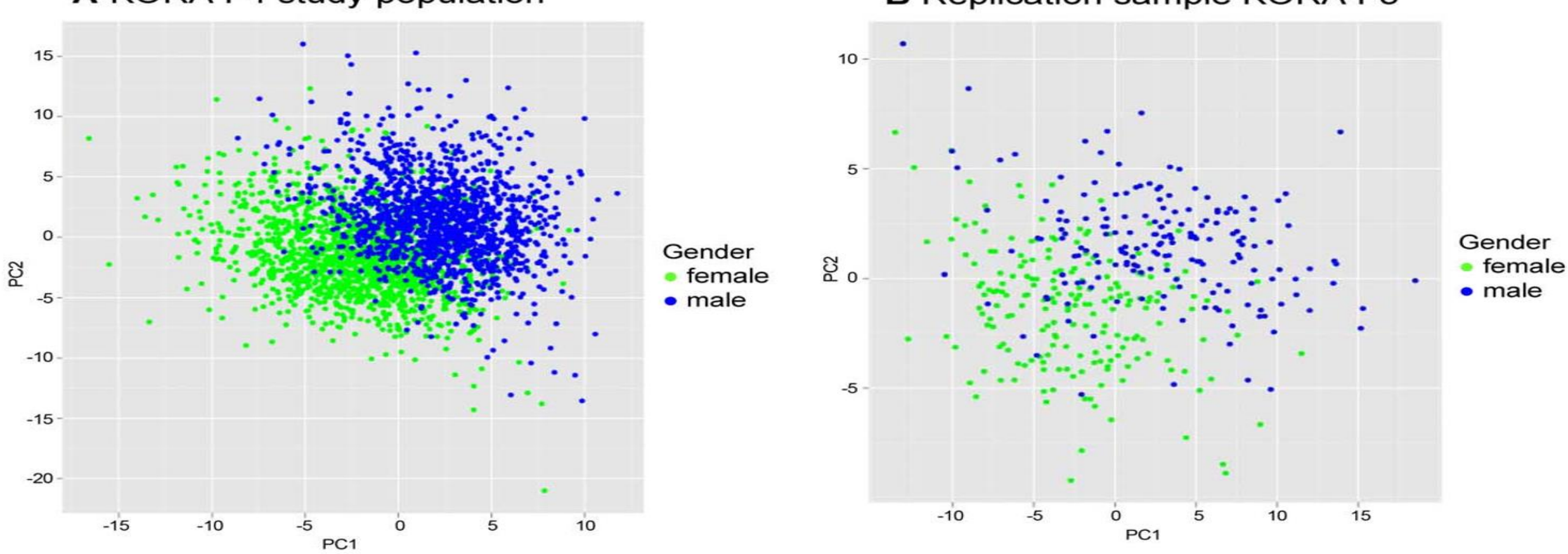



**Figure 1. Two dimensional partial least square (PLS) analyses showing the contribution of 131 metabolites in males and females.**
doi:10.1371/journal.pgen.1002215.g001

OPEN ACCESS Freely available online

PLOS GENETICS

# Discovery of Sexual Dimorphisms in Metabolic and Genetic Biomarkers

2011

**Kirstin Mittelstrass[1☯], Janina S. Ried[2☯], Zhonghao Yu[1☯], Jan Krumsiek[3], Christian Gieger[2], Cornelia Prehn[4], Werner Roemisch-Margl[3], Alexey Polonikov[5], Annette Peters[6], Fabian J. Theis[3], Thomas Meitinger[7,8], Florian Kronenberg[9], Stephan Weidinger[10], Heinz Erich Wichmann[11,12,13], Karsten Suhre[3,14,15], Rui Wang-Sattler[1], Jerzy Adamski[4,16¶*], Thomas Illig[1¶*]**

# GENDER MEDICINE

A new approach for healthcare

善存

新上市

# 成人男/女強化配方

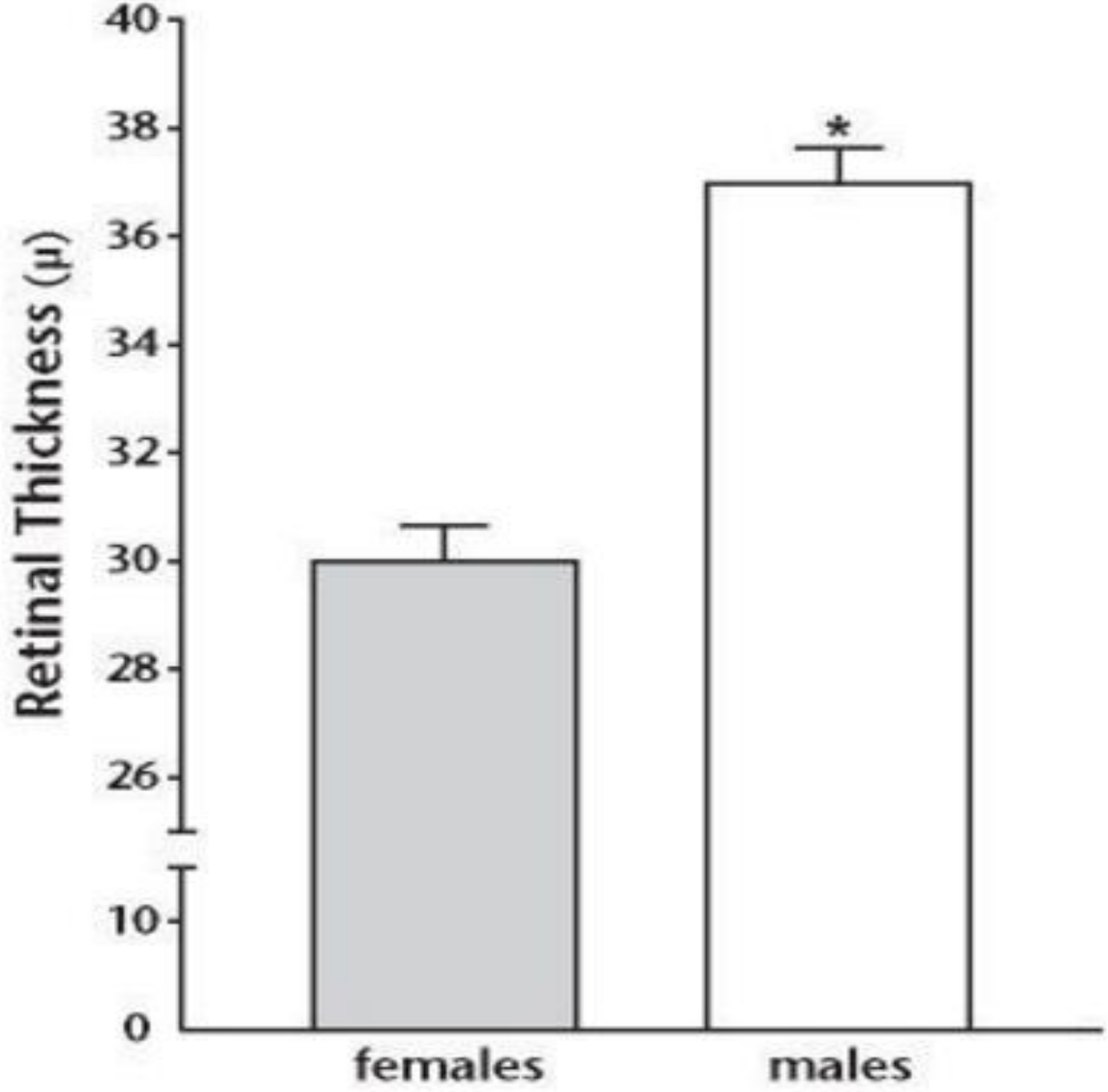
## 專屬營養，健康更升級

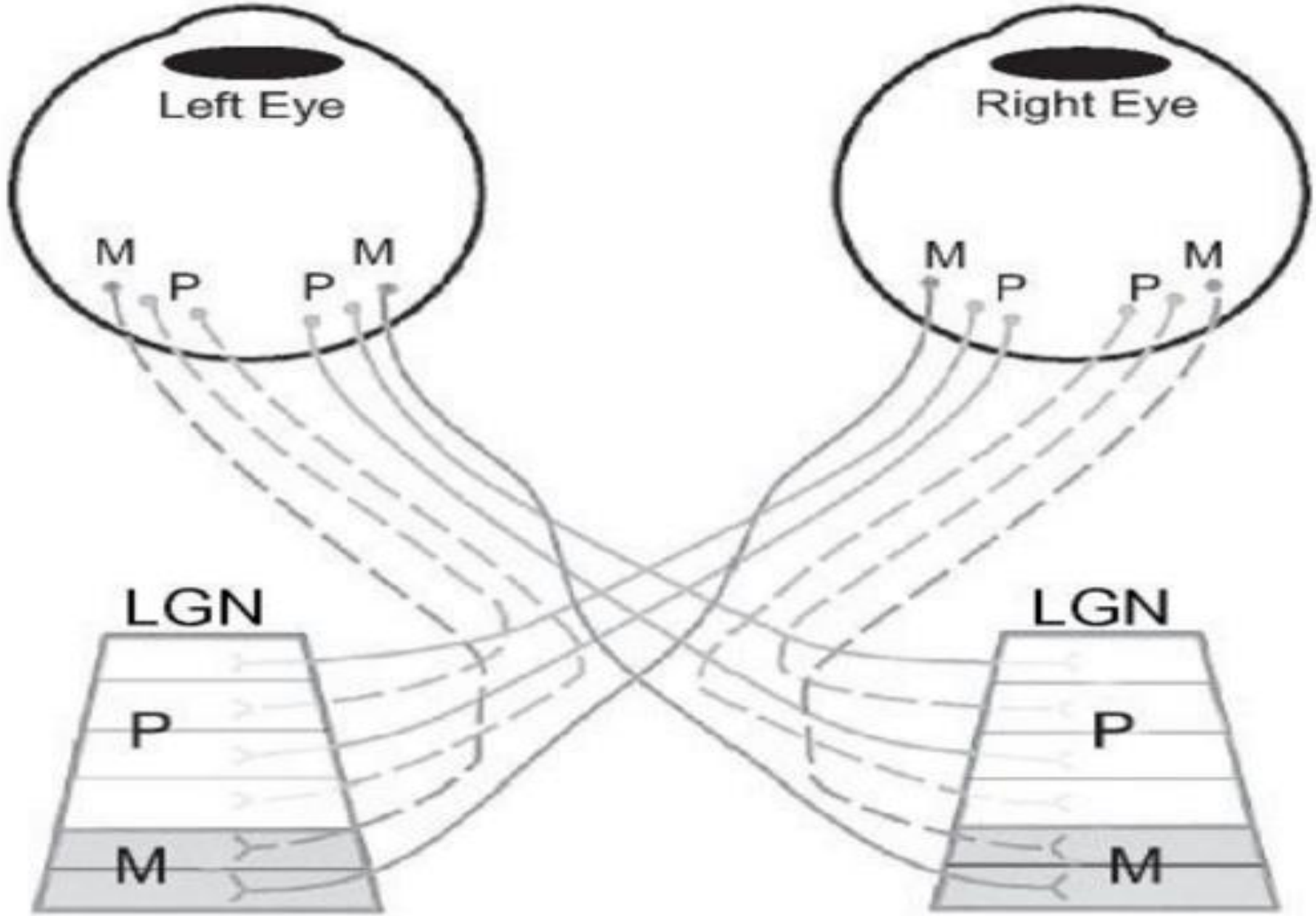
增B　增鋅　增鎂　增葉黃素

增鈣　增鐵　增C　增葉黃素

# 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


Retinal Thickness (μ)
40
38
36
34
32
30
28
26
10
0
*
females
males




The visual system is organized differently in girls and boys.

Arch Sex Behav (2009) 38:427–433
DOI 10.1007/s10508-008-9430-1

ORIGINAL PAPER

# Sex Differences in Infants' Visual Interest in Toys

**Gerianne M. Alexander · Teresa Wilcox · Rebecca Woods**

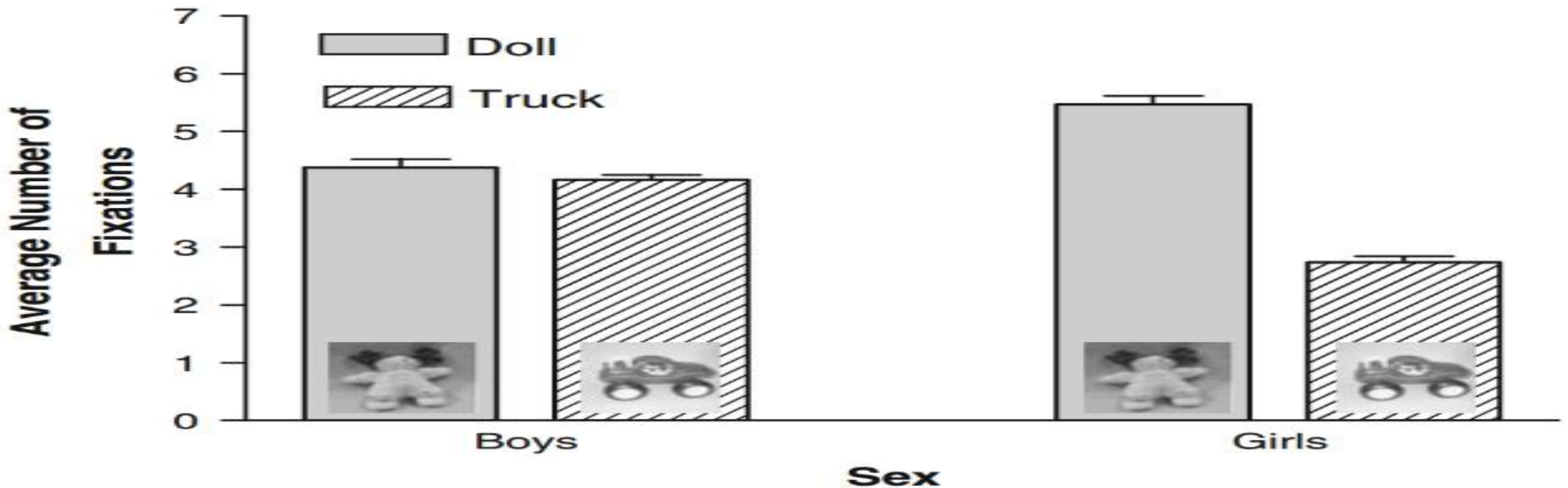
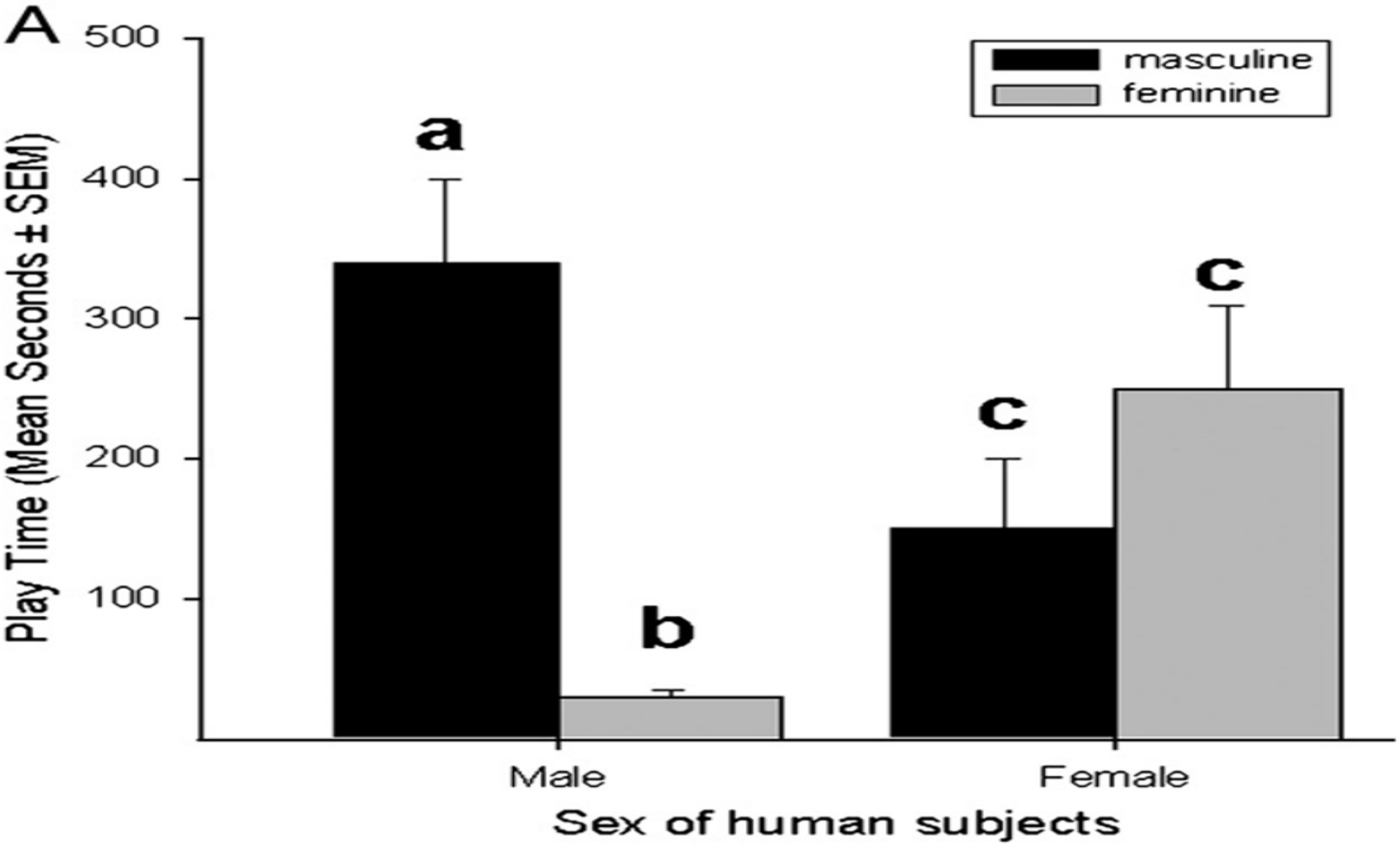



**Fig. 1** Infants' visual fixations (mean, SEM) on gender-linked toys showing an early onset of sex-linked object preferences


A
500
400
300
200
100
Play Time (Mean Seconds ± SEM)
masculine
feminine
a
b
c
c
Male
Female
Sex of human subjects

# 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* | | | SD | | |
|---|---|---|---|---|---|---|
| | Girls ($N = 40$) | Boys ($N = 40$) | $t(78)$ | Girls ($N = 40$) | Boys ($N = 40$) | $F(39,39)$[a] |
| 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

- 女人不是生成的，是後天成為女人。

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

Others (please state) _____

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

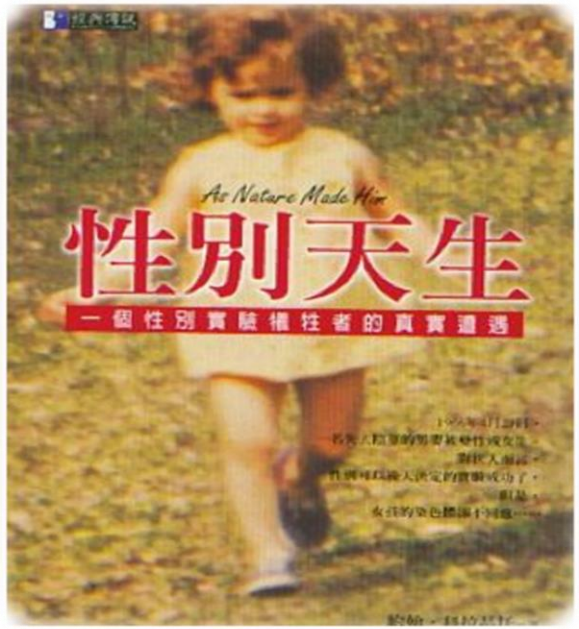
**Tory MP Andrew Bridgen**


# 賀爾蒙還是染色體決定?

## Agate et al, 2003

| 疾病 | |
|---|---|
| 阿茲海默症 | 年老的女性發生率比較高 |
| 帕金氏症 | 男性比較高發生率<br>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<br>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

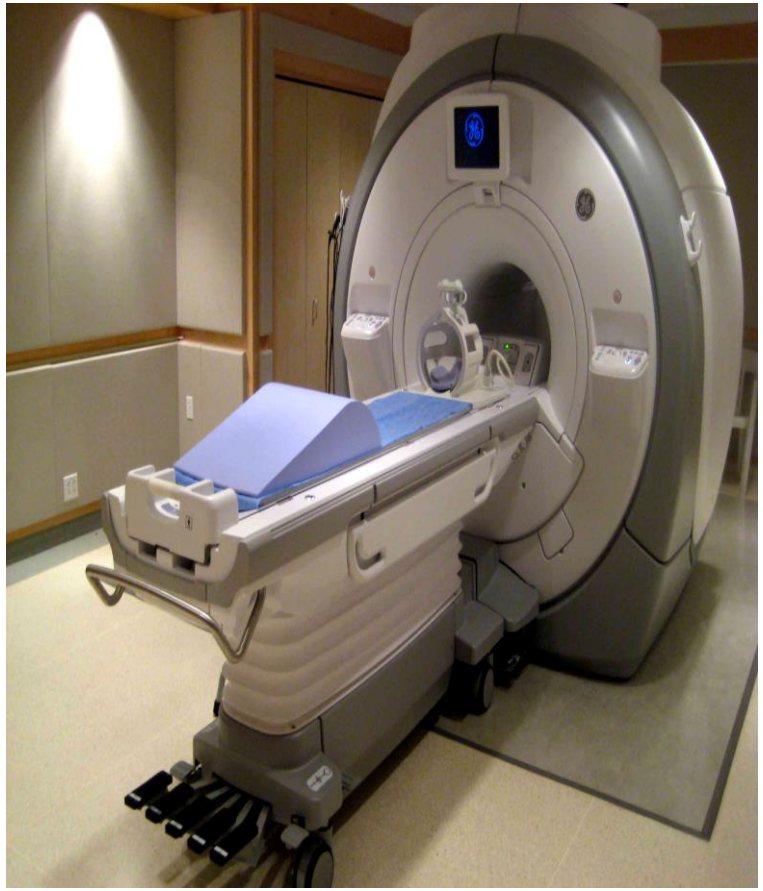
CURRENT OPINION

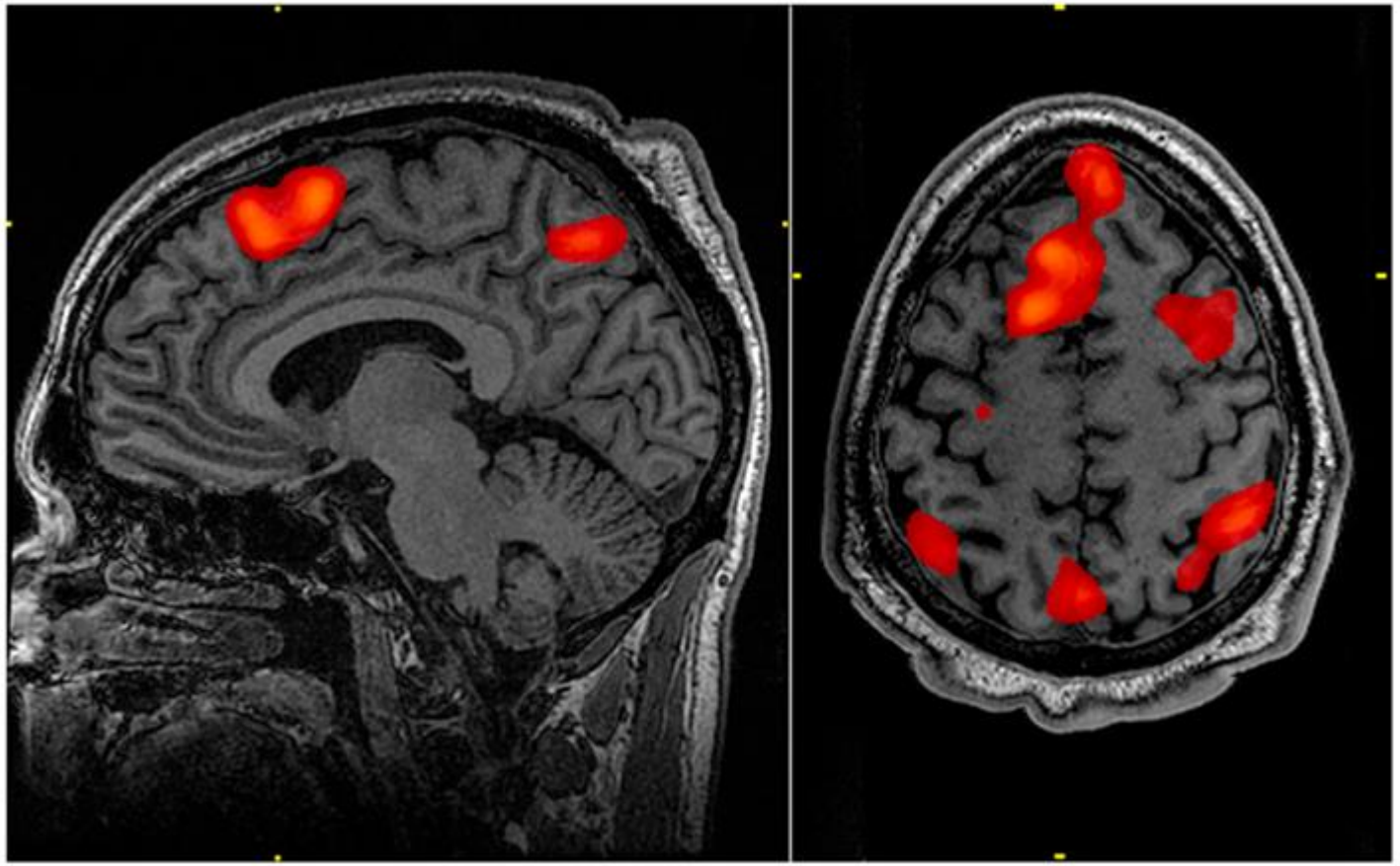
# Adult development and quality of life of transgender and gender nonconforming people

*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]*

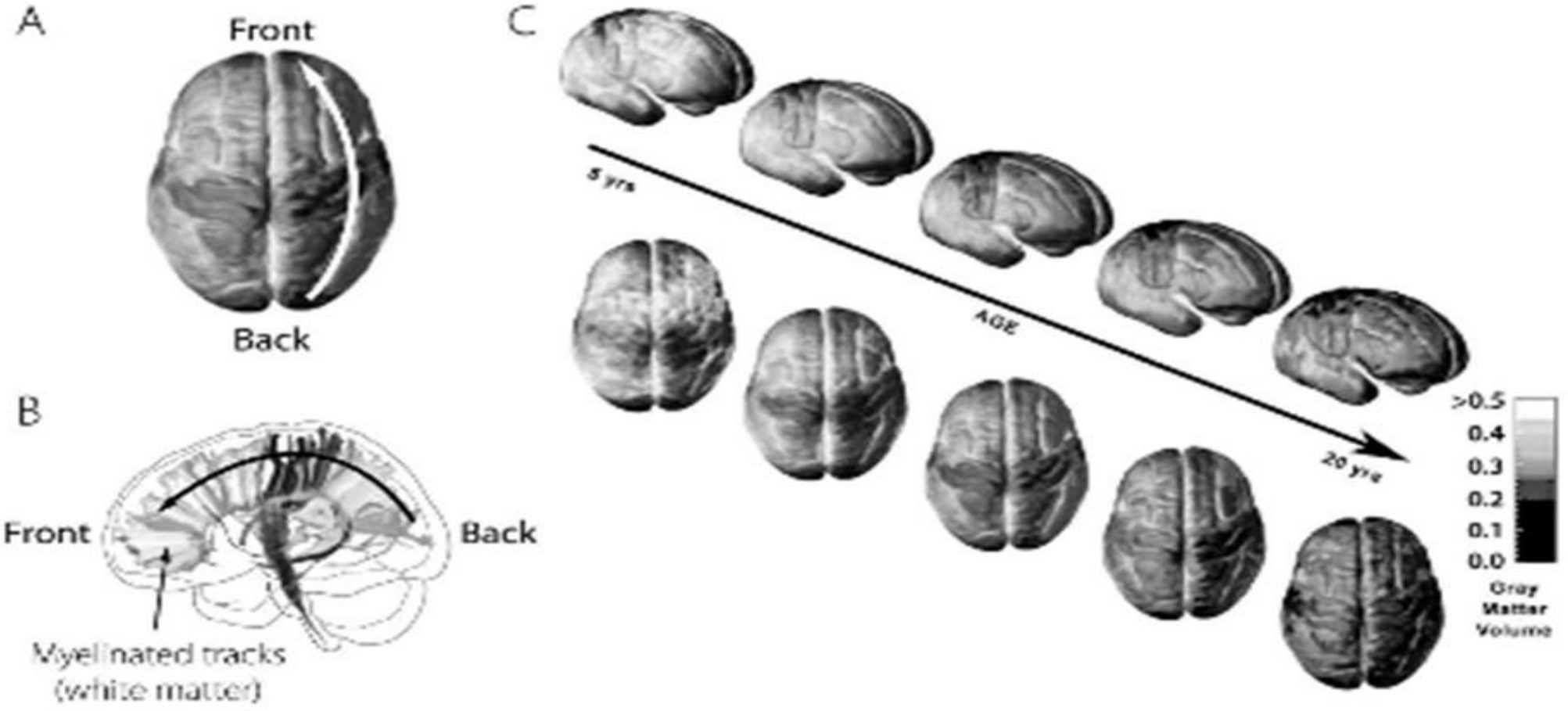
## 生命品質

**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**

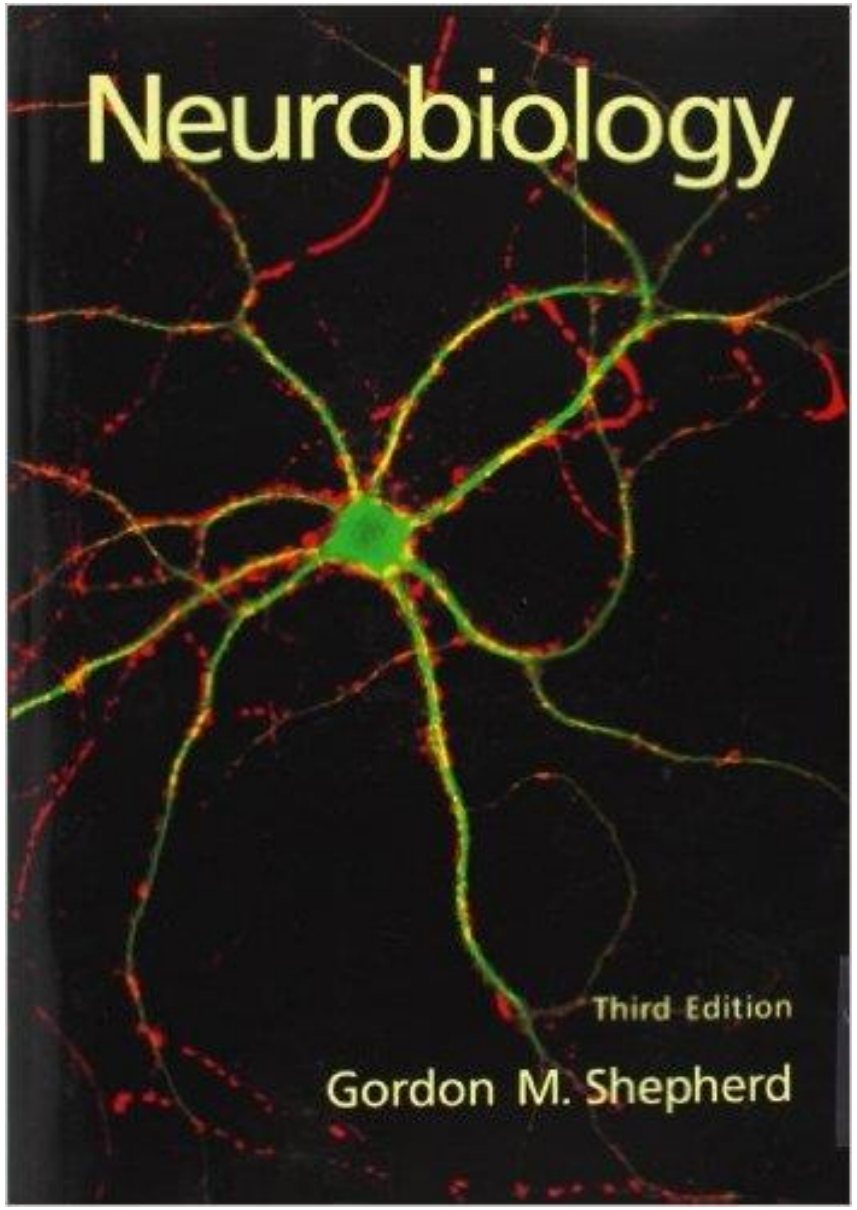




**MRI: 核磁共振**
**fMRI: 功能性核磁共振**
**PET: 正電子發射性電子計算機斷層顯像**

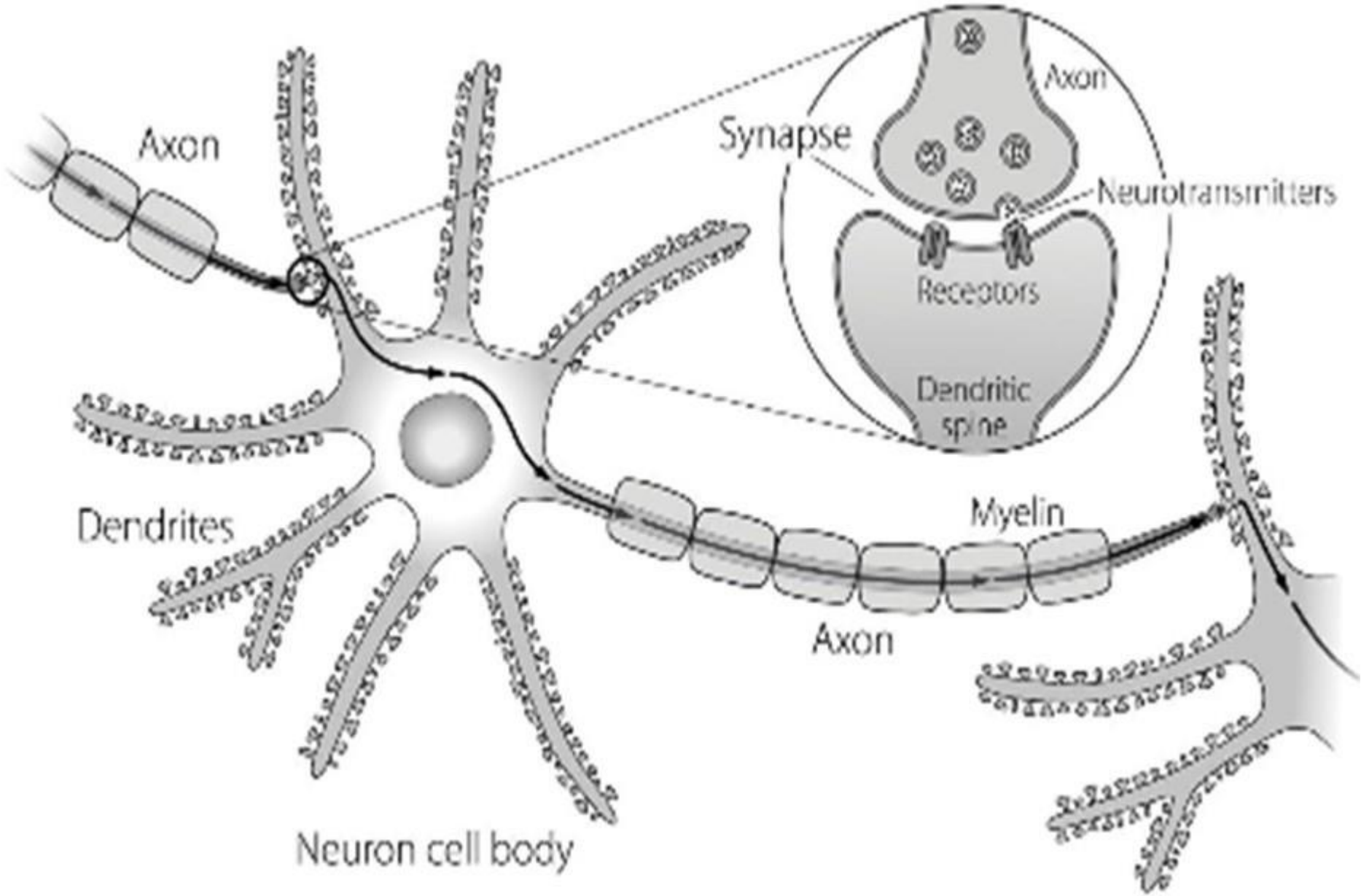

A
Front
Back
B
Front
Back
Myelinated tracks
(white matter)
C
5 yrs
AGE
20 yrs
>0.5
0.4
0.3
0.2
0.1
0.0
Gray
Matter
Volume

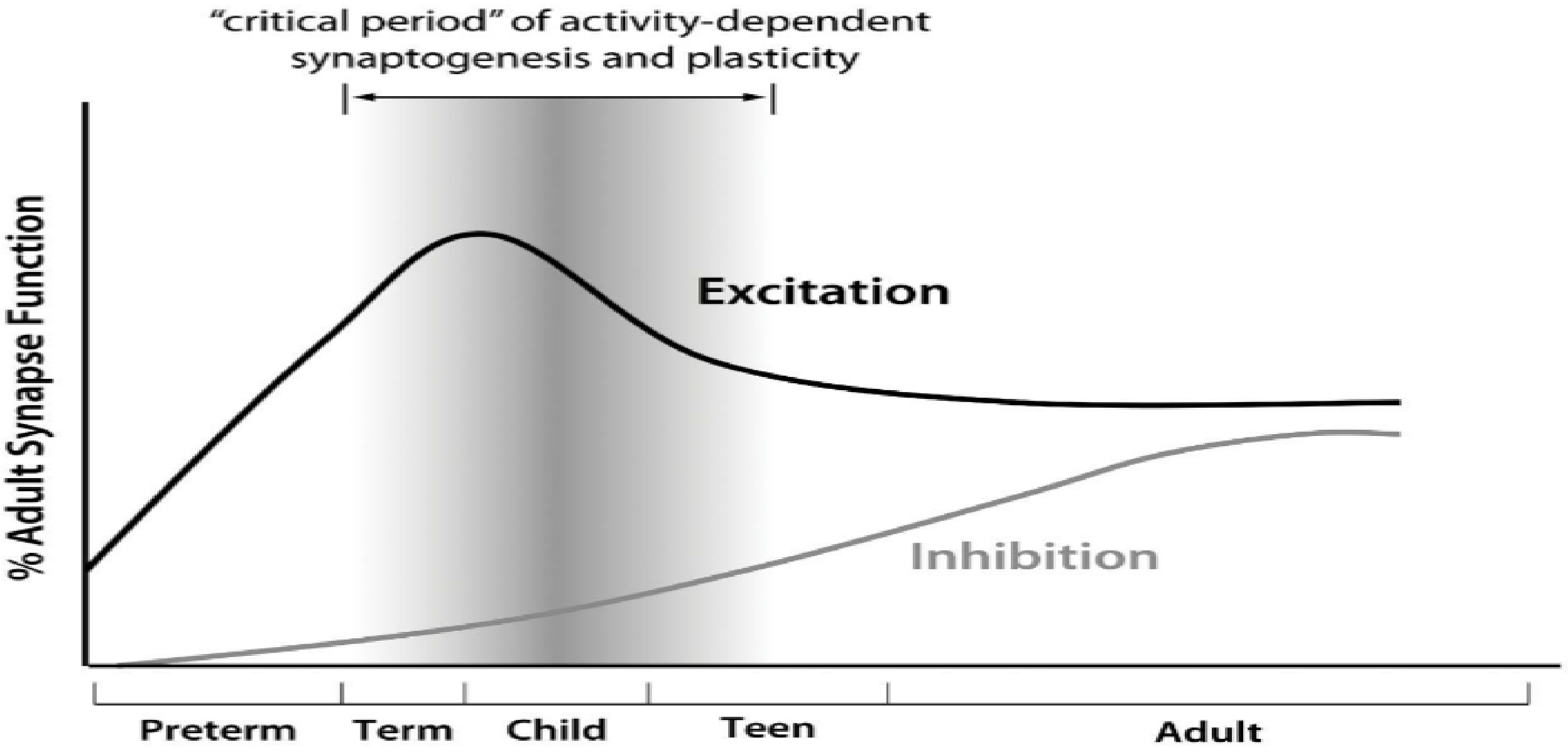
# 大腦成熟發育的趨勢

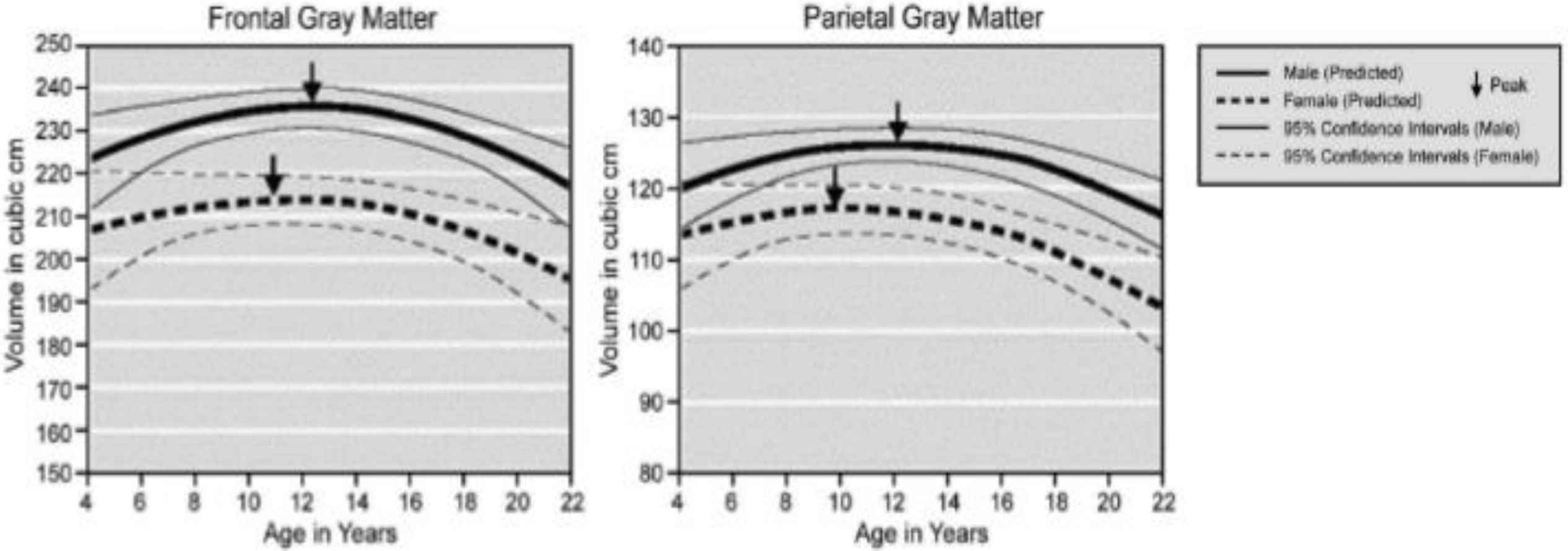


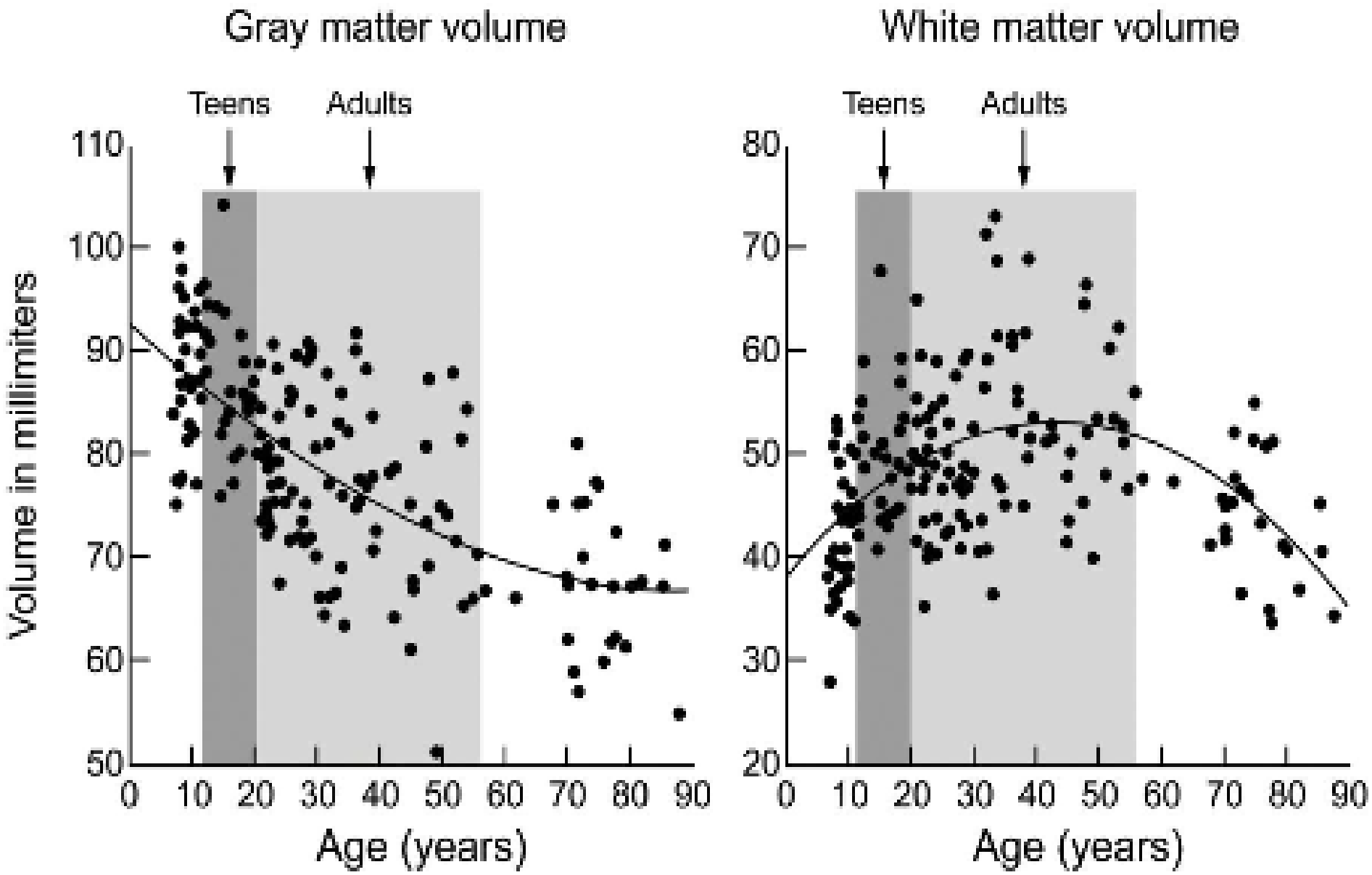

**神經元無法再生長**

**1994年 教科書**

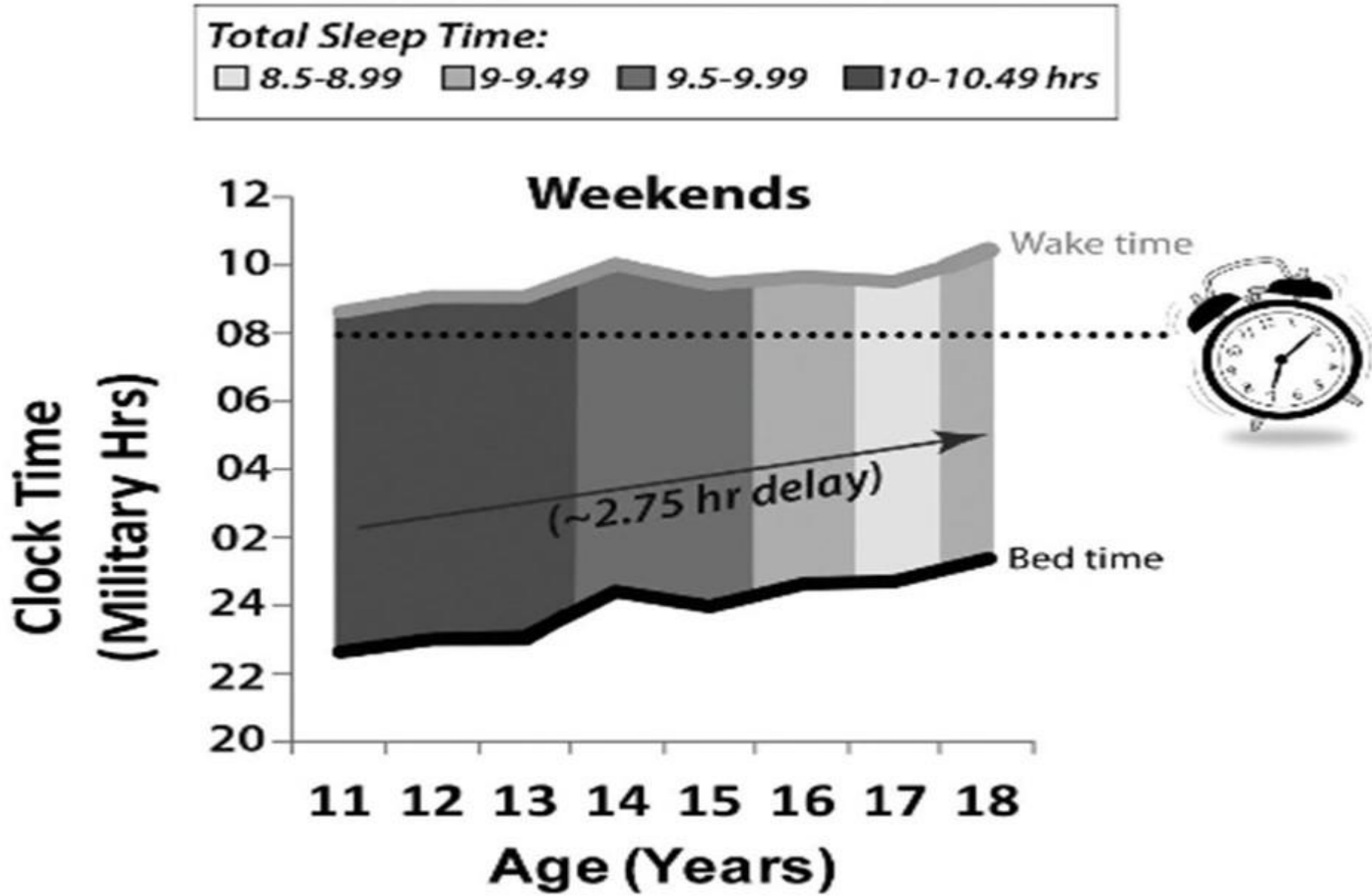

Axon
Synapse
Axon
Neurotransmitters
Receptors
Dendritic spine
Dendrites
Myelin
Axon
Neuron cell body

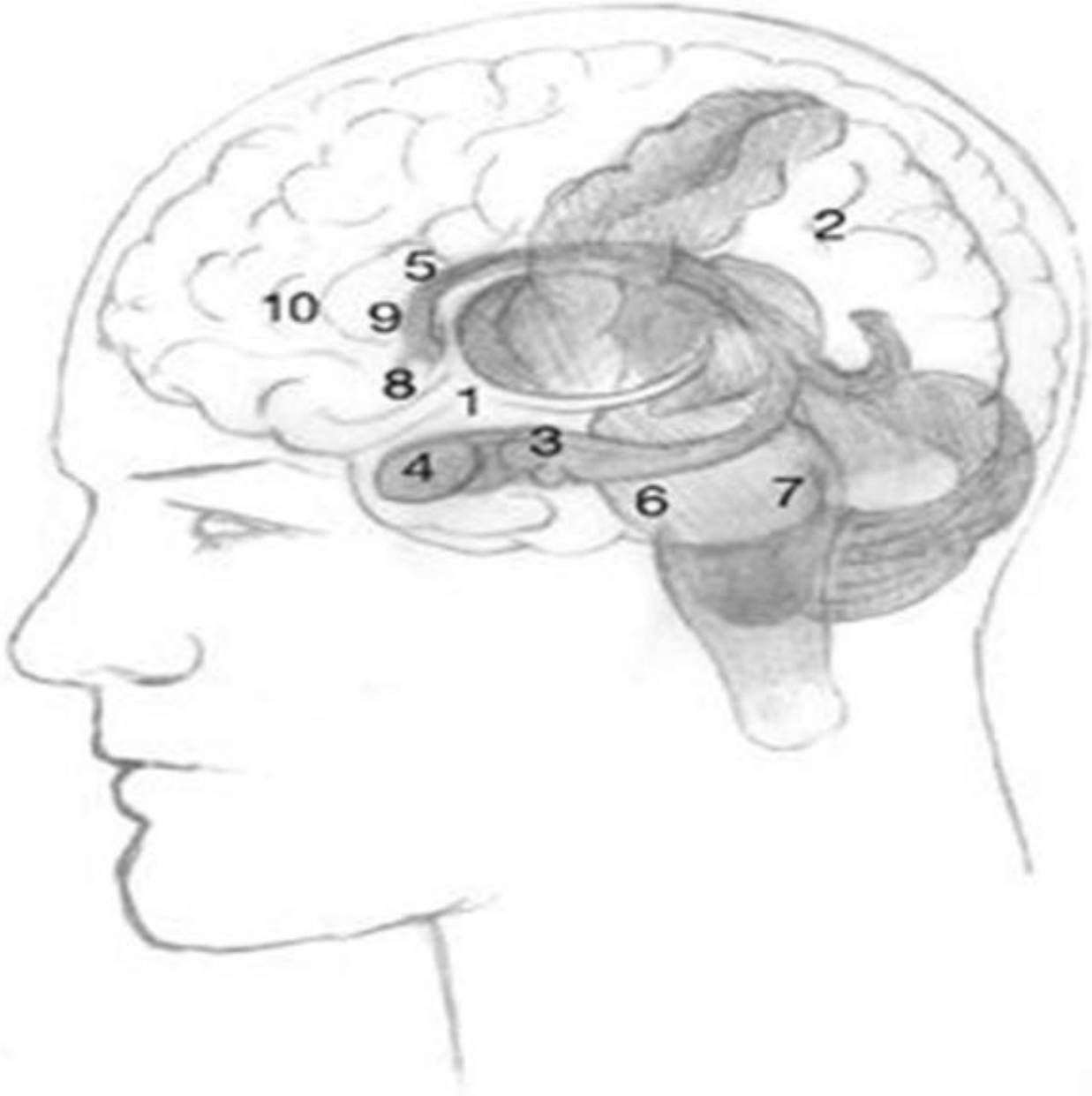

"critical period" of activity-dependent synaptogenesis and plasticity
% Adult Synapse Function
Excitation
Inhibition
Preterm
Term
Child
Teen
Adult


Frontal Gray Matter
Volume in cubic cm
250
240
230
220
210
200
190
180
170
160
150
4
6
8
10
12
14
16
18
20
22
Age in Years
Parietal Gray Matter
Volume in cubic cm
140
130
120
110
100
90
80
4
6
8
10
12
14
16
18
20
22
Age in Years
Male (Predicted)
Female (Predicted)
Peak
95% Confidence Intervals (Male)
95% Confidence Intervals (Female)


Gray matter volume
White matter volume
Teens
Adults
Volume in millimiters
110
100
90
80
70
60
50
80
70
60
50
40
30
20
0 10 20 30 40 50 60 70 80 90
Age (years)

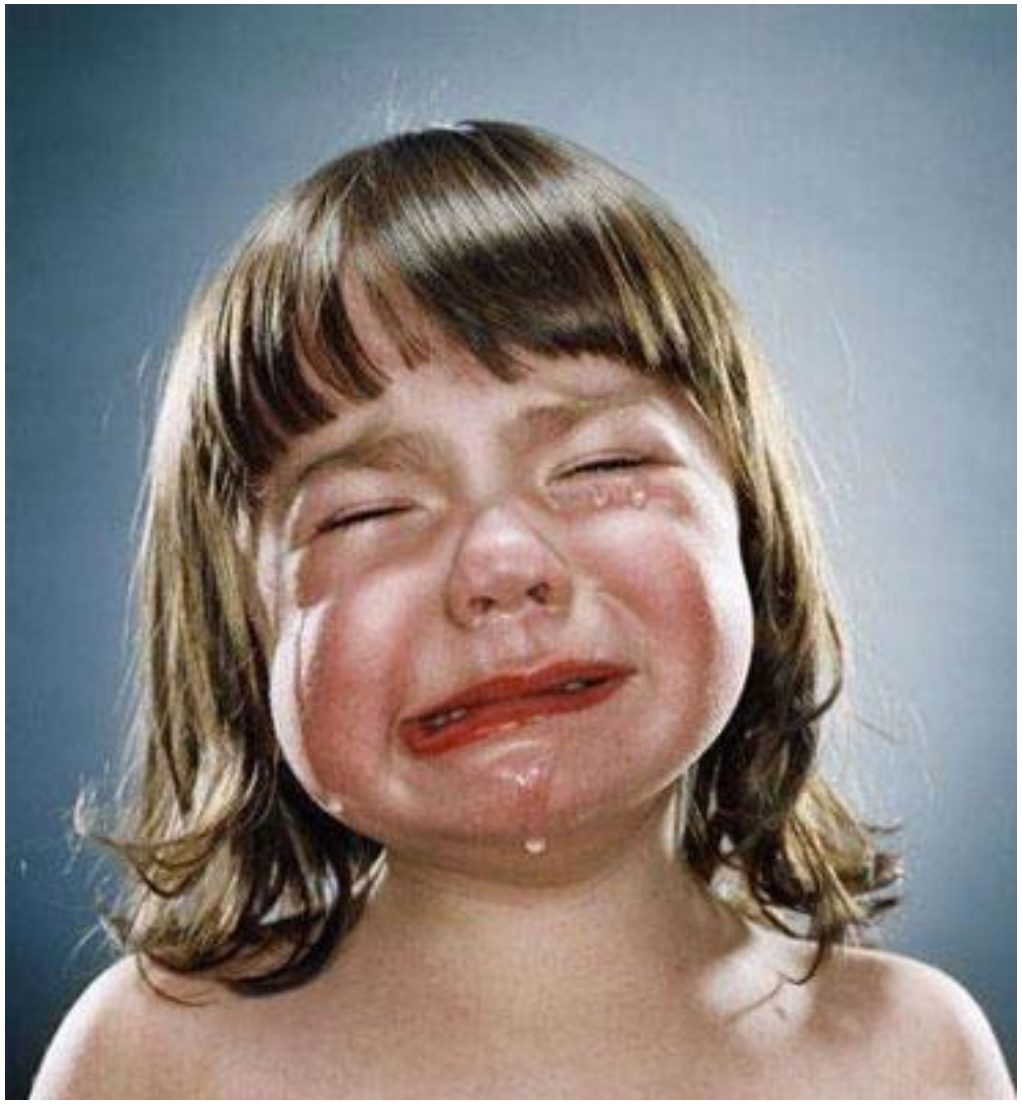
大腦灰質與白質的變化


Total Sleep Time:
8.5-8.99
9-9.49
9.5-9.99
10-10.49 hrs
Weekends
Wake time
Bed time
(~2.75 hr delay)
Clock Time
(Military Hrs)
12
10
08
06
04
02
24
22
20
11 12 13 14 15 16 17 18
Age (Years)

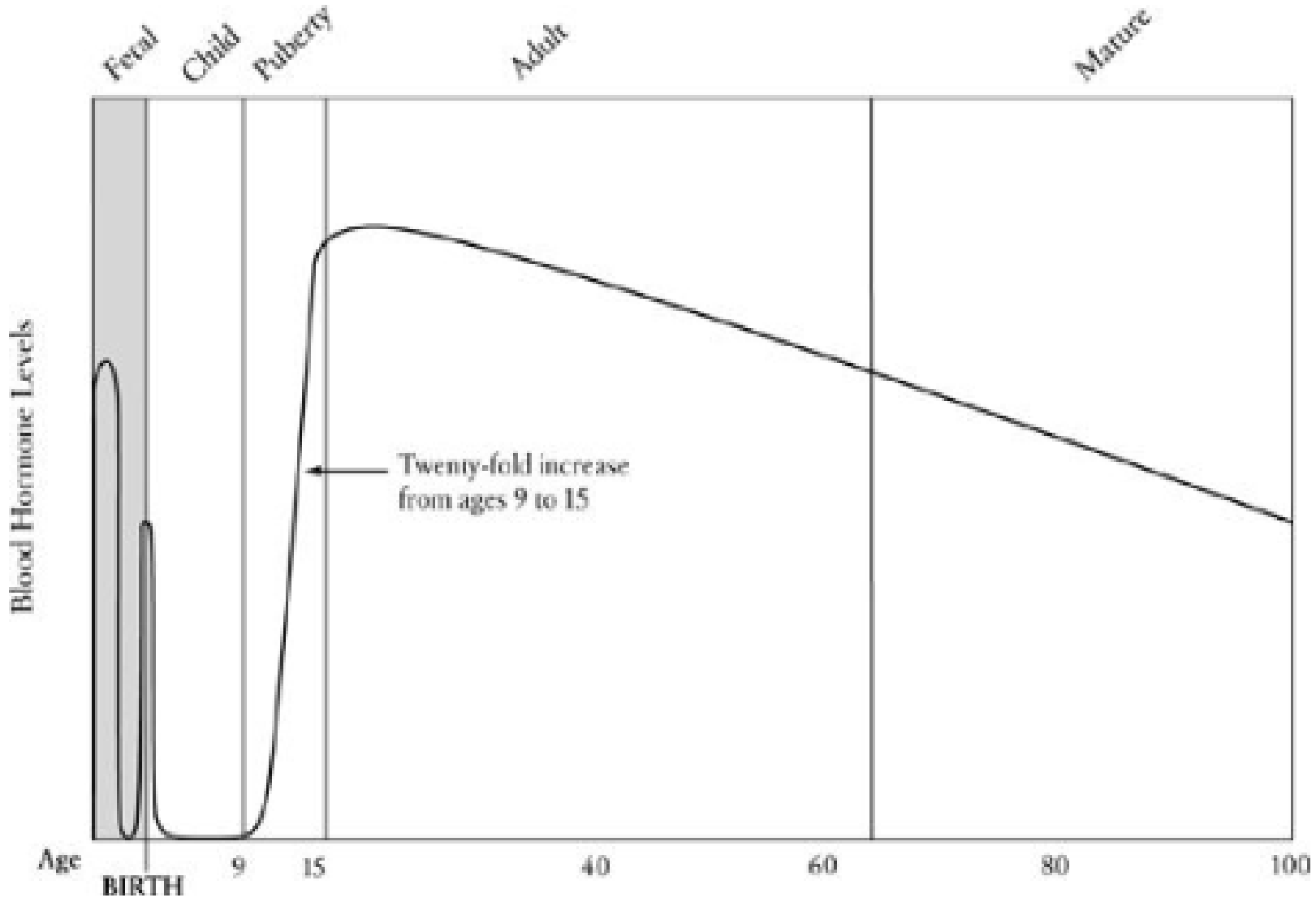



## 男和女處理情緒的腦部流程不同

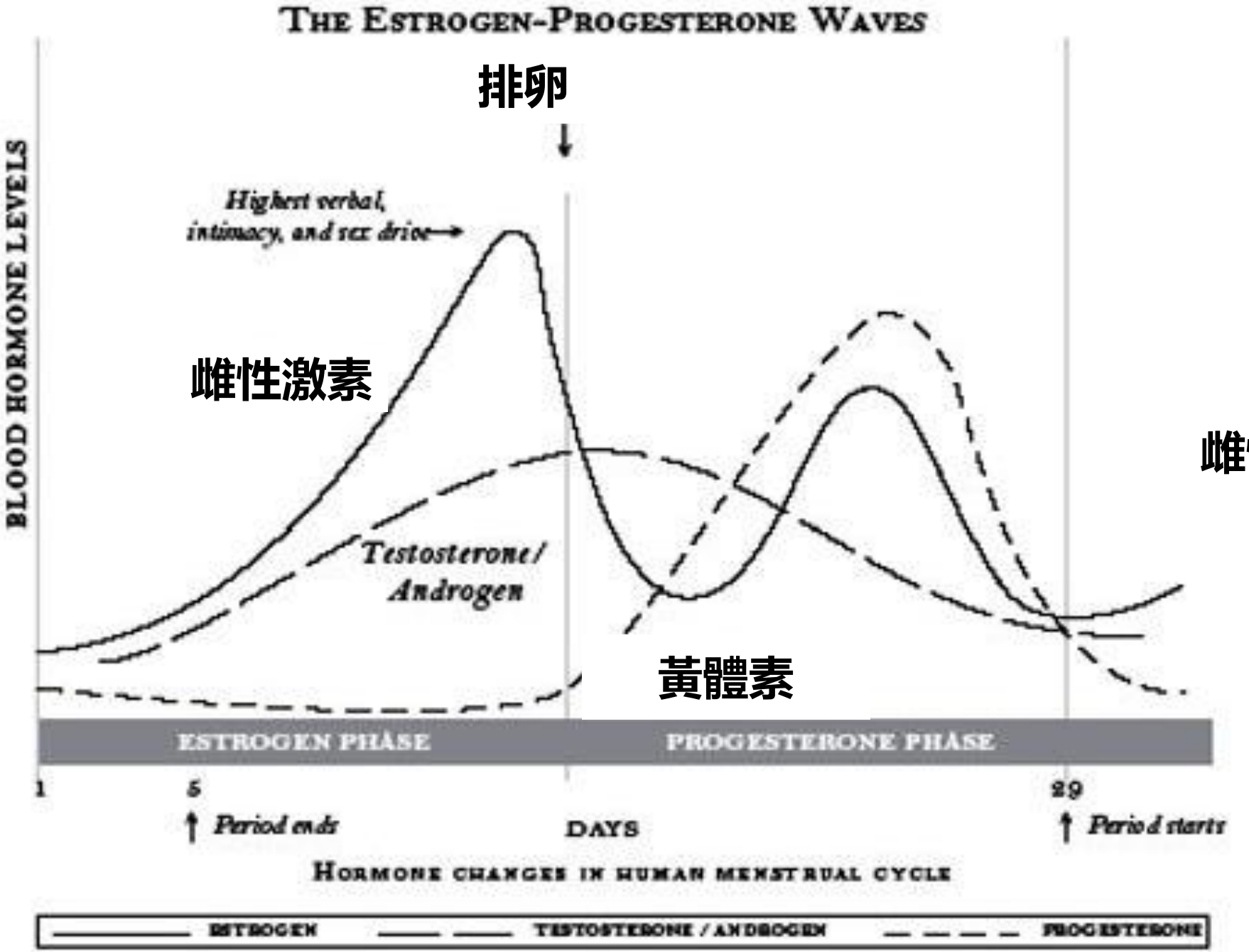
8. 鏡像神經元 (MNS)
2. 頂交界區 (TPJ):



妳不要哭了，我會痛


Fetal
Child
Puberty
Adult
Mature
Blood Hormone Levels
Twenty-fold increase
from ages 9 to 15
Age
BIRTH
9
15
40
60
80
100

**男性睪酮素的變化**


THE ESTROGEN-PROGESTERONE WAVES
排卵
BLOOD HORMONE LEVELS
Highest verbal, intimacy, and sex drive
雌性激素
Testosterone / Androgen
黃體素
ESTROGEN PHASE
PROGESTERONE PHASE
1
5
29
Period ends
DAYS
Period starts
HORMONE CHANGES IN HUMAN MENSTRUAL CYCLE
ESTROGEN
TESTOSTERONE / ANDROGEN
PROGESTERONE

雌性激素與黃體素變化

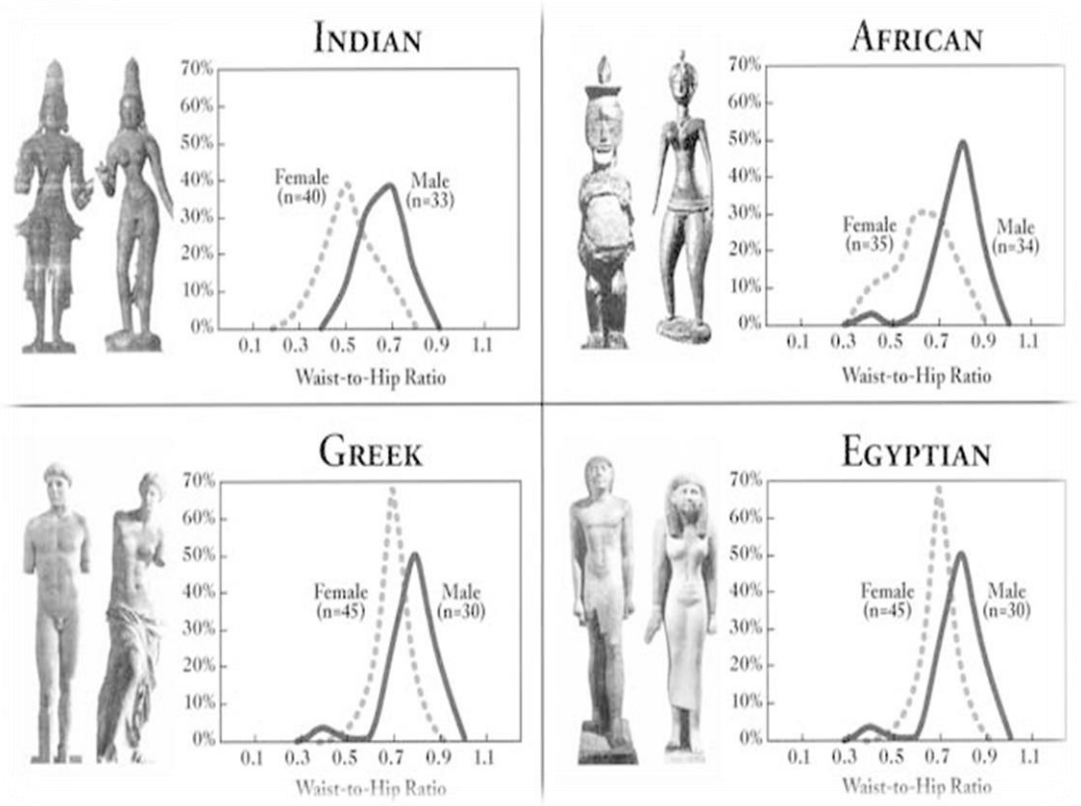
# 促產素的奧秘

- 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

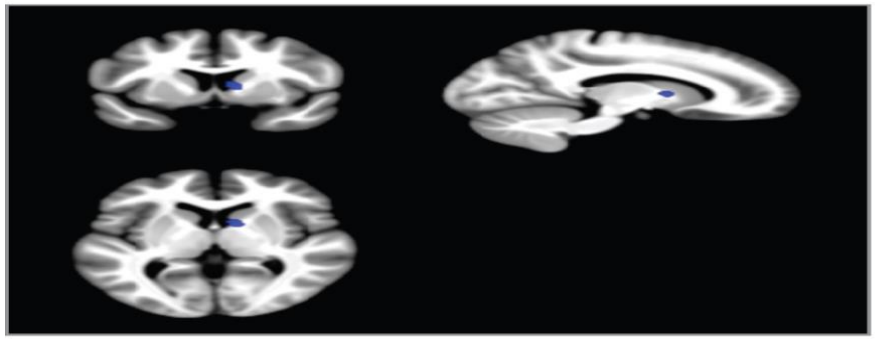
- 11-12 性想像
- 10.75 勃起
- 12.66 春夢
- 13.02 夢遺
- 手淫
  - ✓90% 十六歲的男性青少年會進行手淫
  - ✓等待機會

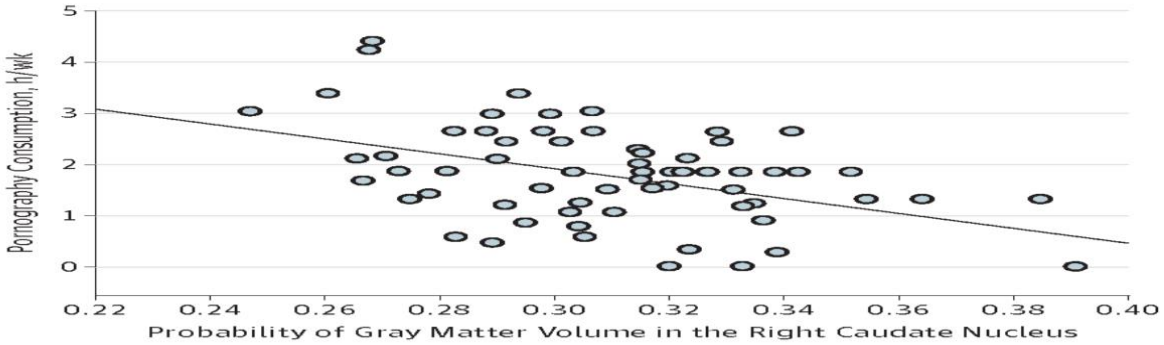
# 男性的目光焦點


INDIAN
Female (n=40)
Male (n=33)
AFRICAN
Female (n=35)
Male (n=34)
GREEK
Female (n=45)
Male (n=30)
EGYPTIAN
Female (n=45)
Male (n=30)
70%
60%
50%
40%
30%
20%
10%
0%
0.1 0.3 0.5 0.7 0.9 1.1
Waist-to-Hip Ratio

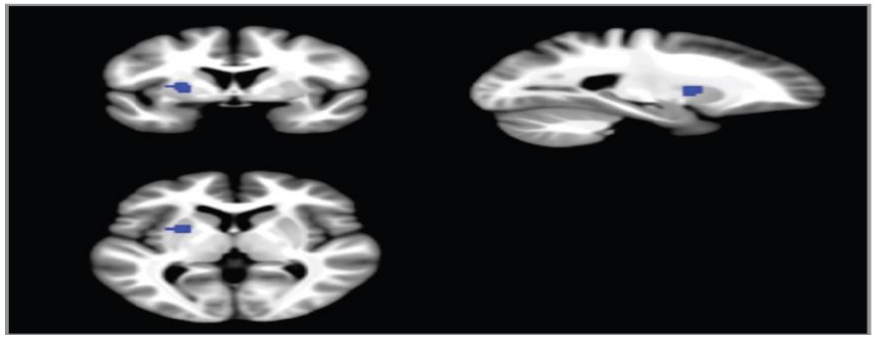
# A 片對腦的影響

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

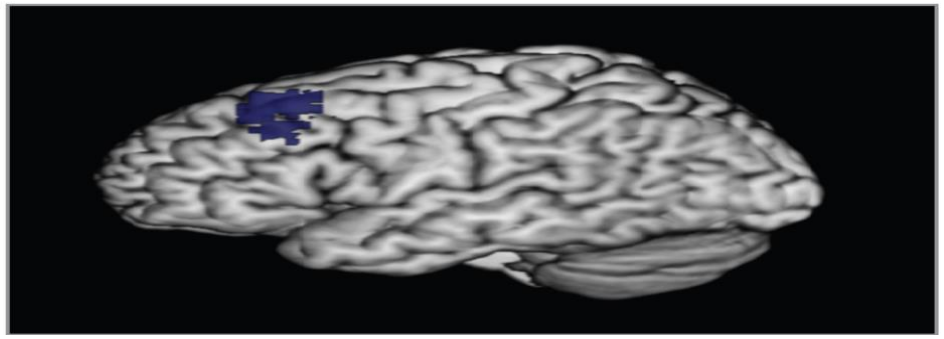




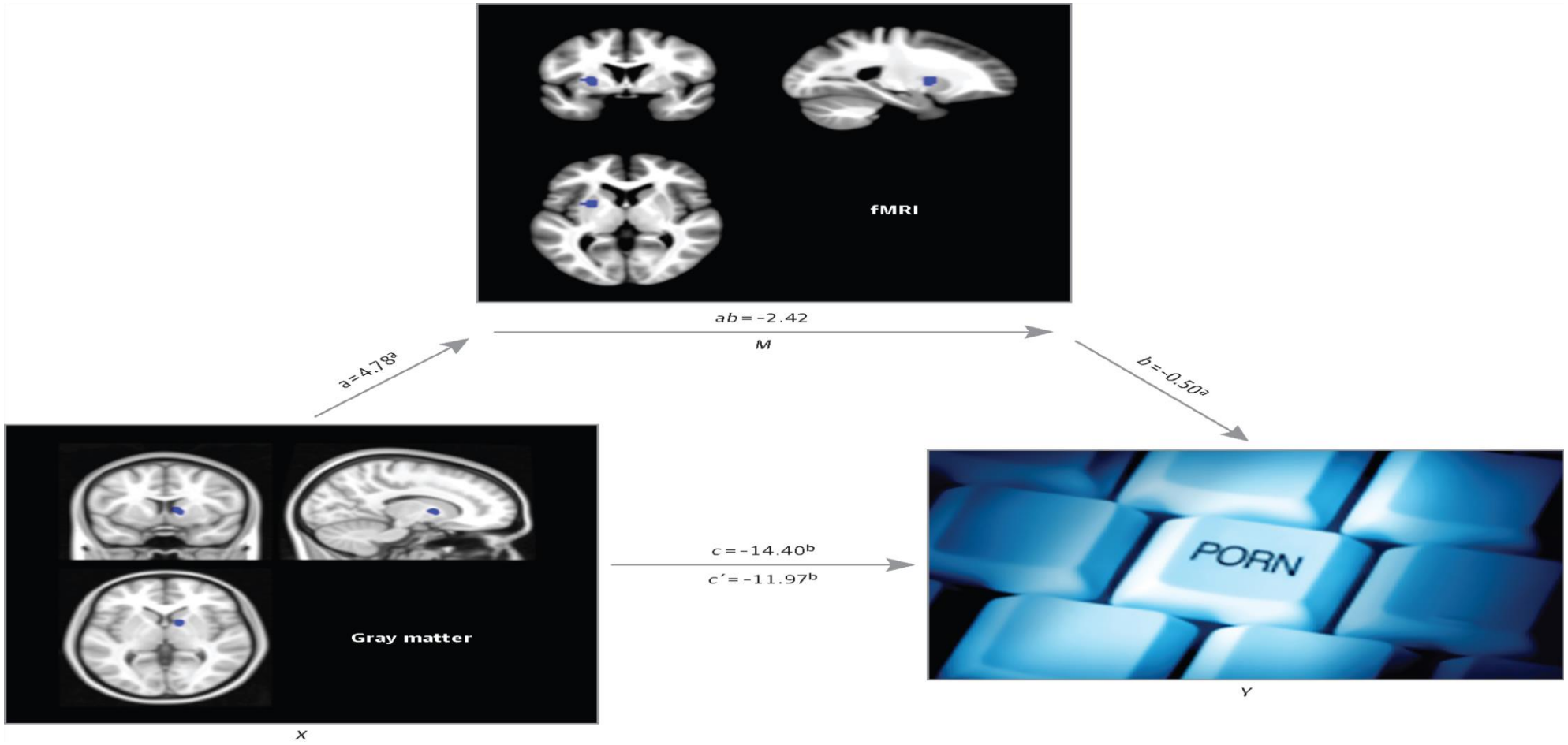

B Blood oxygenation level–dependent correlate of pornography consumption, h/wk during sexual-cue reactivity



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

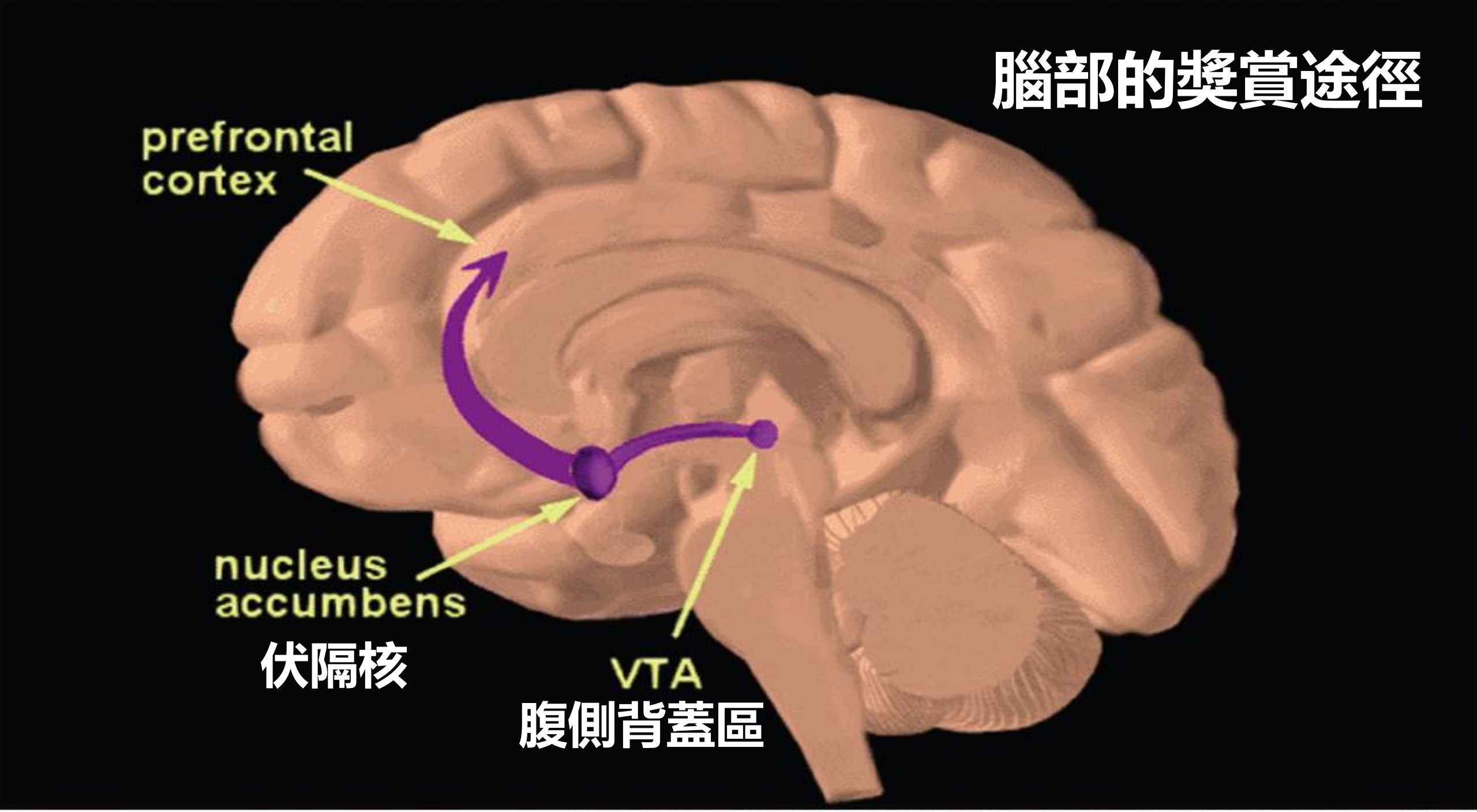
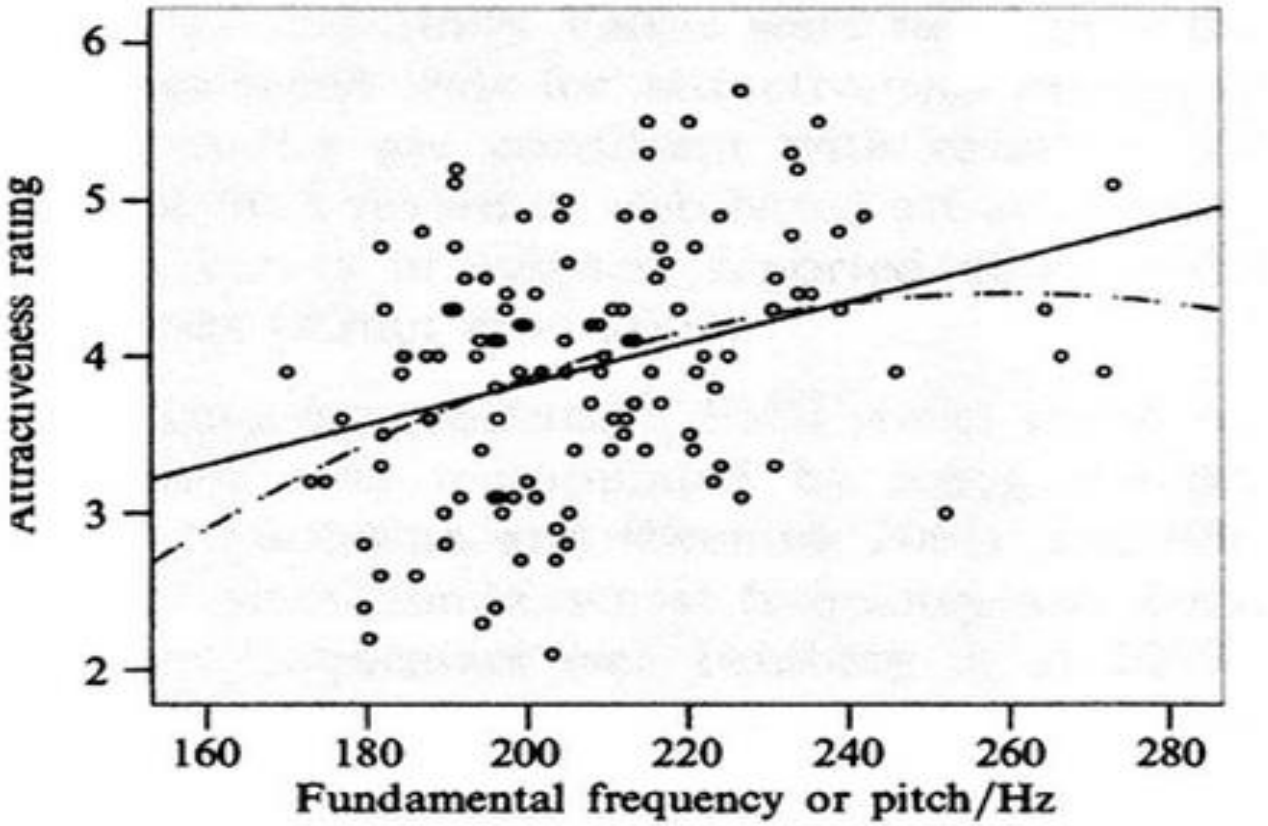



Image retrieved from http://www.nida.nih.gov/pubs/teaching/teaching3/largegifs/slide-4.gif (Accessed 3 Nov 2010).

# 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

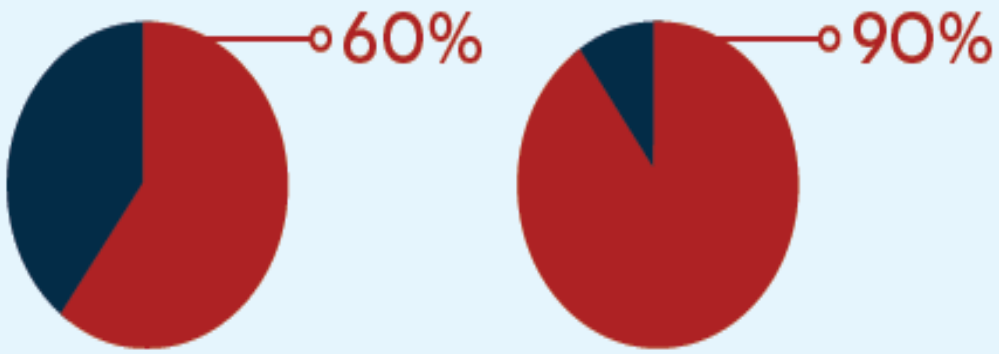

**大腦的兩大情緒中心的作用**

**杏仁核以及下視丘**

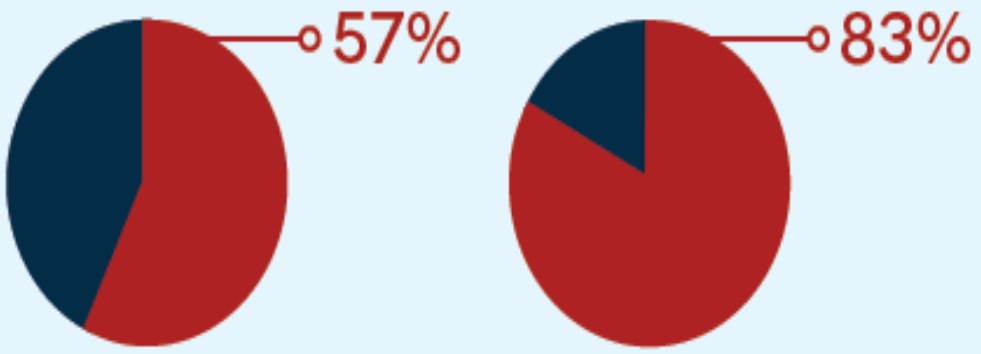
# 男女的對話題材差異

- 睪酮素治療的人，會越來越少話。
- 如果不行就裝酷

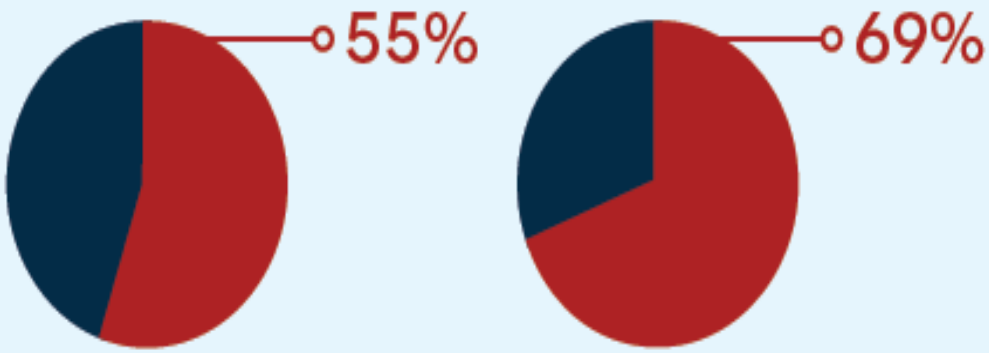
## PORN ADDICTION STARTS AT A YOUNG AGE[5]



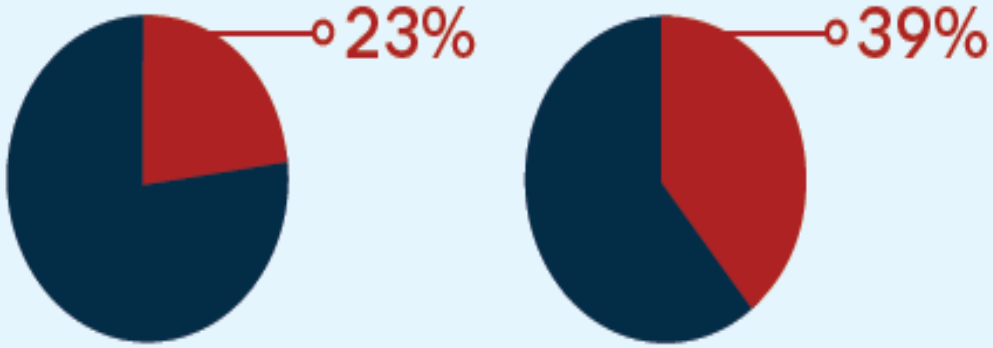

By age 18, 90% of boys and 60% of girls are exposed to Internet pornography.




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

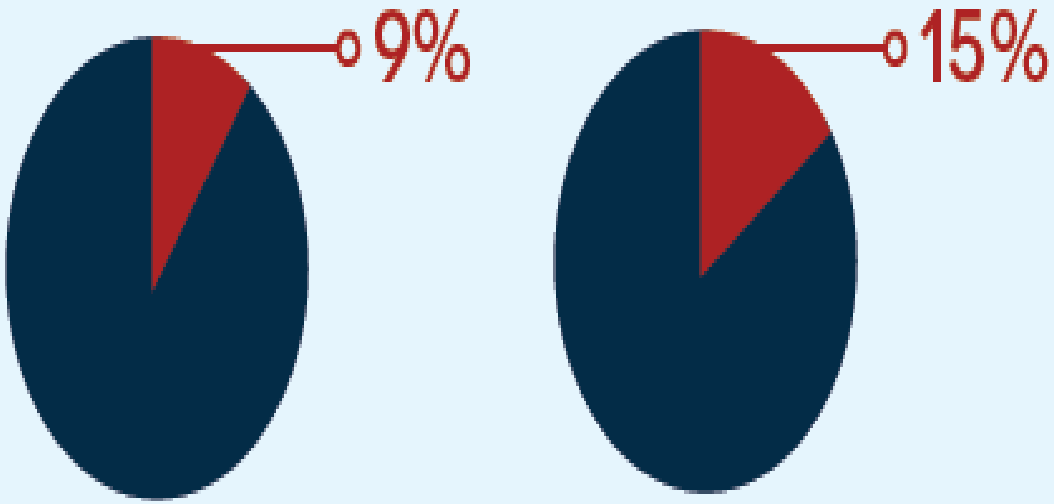



55% of girls and 69% of boys have seen porn showing same-sex intercourse.

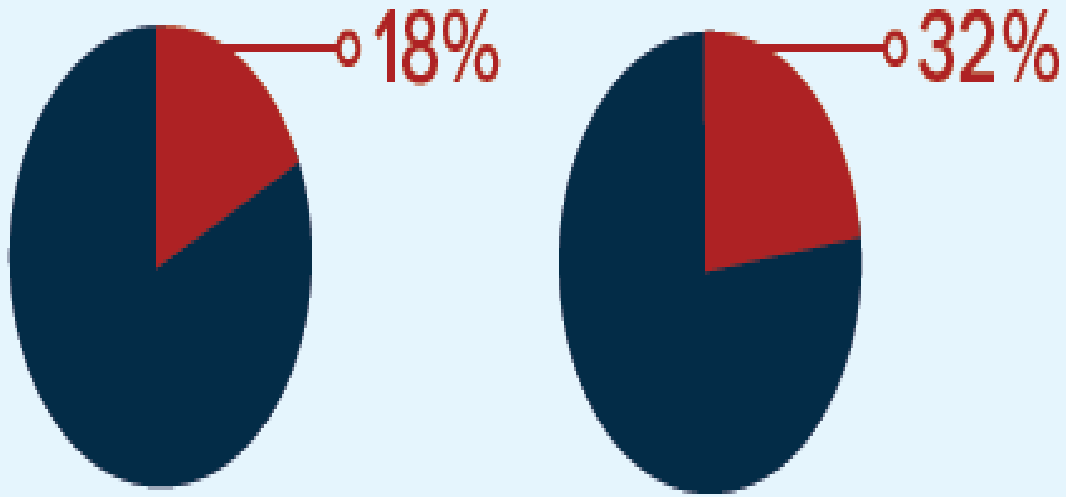



23% of girls and 39% of boys have seen online sex acts involving bondage.

# 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 beastiality 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 |

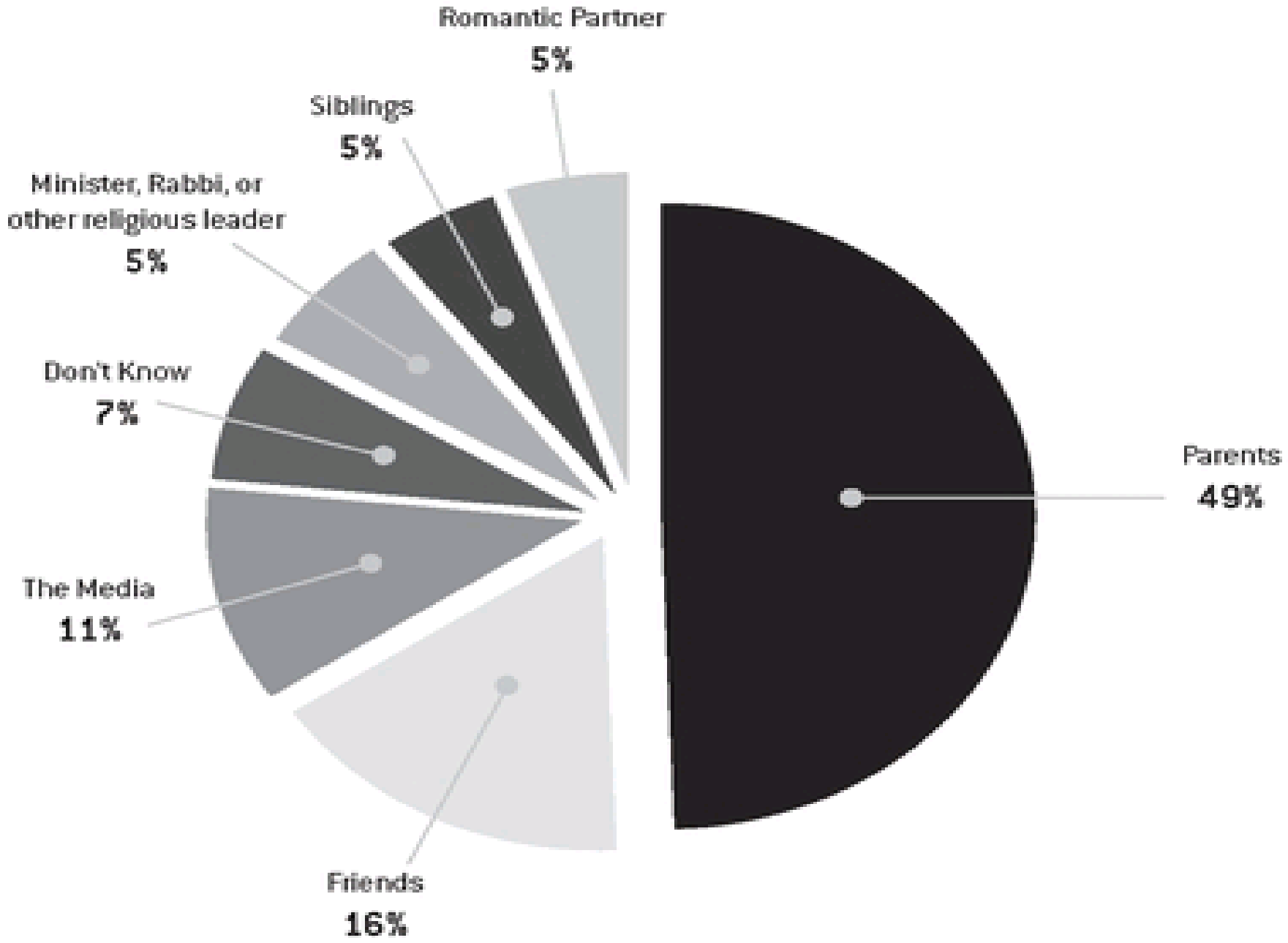
- **媽媽請不要再抱我**
- **親吻是性的前奏**


SLEEP
CAR SURFING
CHILLAX
GRAND THEFT AUTO V
AIR GUITAR HOMIES
FIRST LOVE
NIKKA KELLY
L8R
ROTF!
ANGST
SELF-CONTROL
UNDER CONSTRUCTION
WHATEVER
FOUR LOKO
PLANKING
MORE SLEEP
STATUS UPDATES
VRRROOOOM!

# 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


Romantic Partner
5%
Siblings
5%
Minister, Rabbi, or other religious leader
5%
Don't Know
7%
The Media
11%
Friends
16%
Parents
49%

# 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

| | Emotional Distress | | Suicidality | | Violence | |
|---|---|---|---|---|---|---|
| Variables | Grades 7-8 (*P* Value) | Grades 9-12 (*P* Value) | Grades 7-8 (*P* Value) | Grades 9-12 (*P* Value) | Grades 7-8 (*P* Value) | Grades 9-12 (*P* 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) |