

臺北榮民總醫院
英才養成工作坊 II
做就對了 我的第一篇SCI 研討會
2022年10月15日

年輕人如何起步？

陳曾基 臺北榮民總醫院新竹分院



<https://www.facebook.com/VHCT01/>

Beginner's Research Forum 初學者研究論壇

在醫學中心裡學習野戰醫院的技巧

求職季節裡 看別人早就滿手ii (sci/ssci)笑 而自己只能心裡唉唉叫
沒有機會拜師 沒有時間跟團 沒有銀兩補習 沒有材料運用
不會實驗技巧 不會統計分析 不會程式設計 不會論文寫作
連IRB都無資格申請 滿腔熱血 有志難伸 求救無門 徒呼負負

雖不在寶山學劍 也不致空手而歸
突破框架 不落窠臼 從心開始 從新學習 萬丈高樓平地起 論文不怕IF低
年輕初學者現身分享研究經驗與成果
從無到有 在沒有資源奧援下 赤手空拳 拿下人生第一篇 i

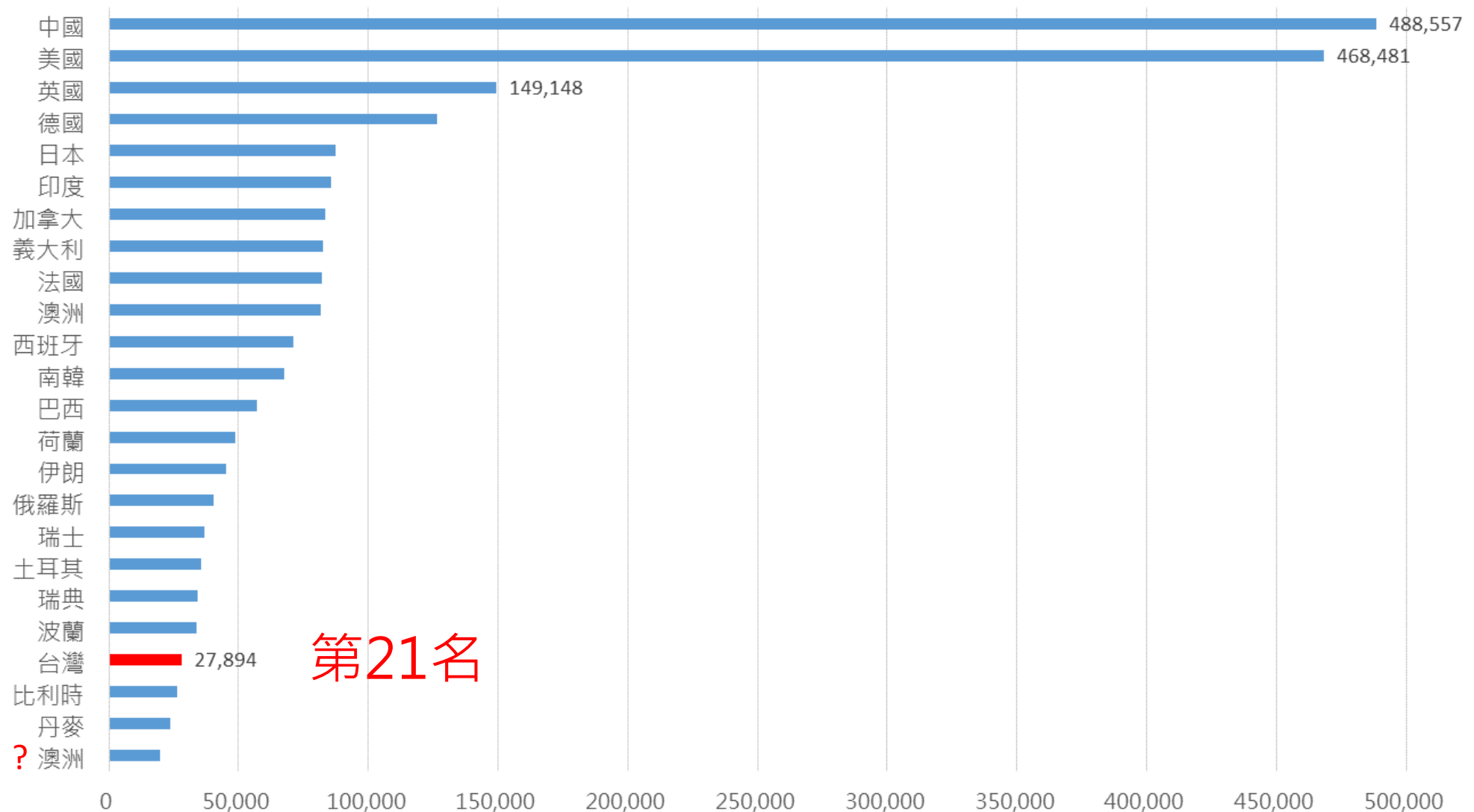
The neurosurgery applicant's "arms race"

Average publication volume for 2018 neurosurgery applicants (n = 216)	
Total	5.54 (4.31-6.77)
Neurosurgery	4.30 (3.19-5.41)
First author	2.05 (1.56-2.54)
First author neurosurgery	1.64 (1.20-2.08)
Basic science	1.50 (1.07-1.93)
Clinical	4.04 (2.99-5.09)

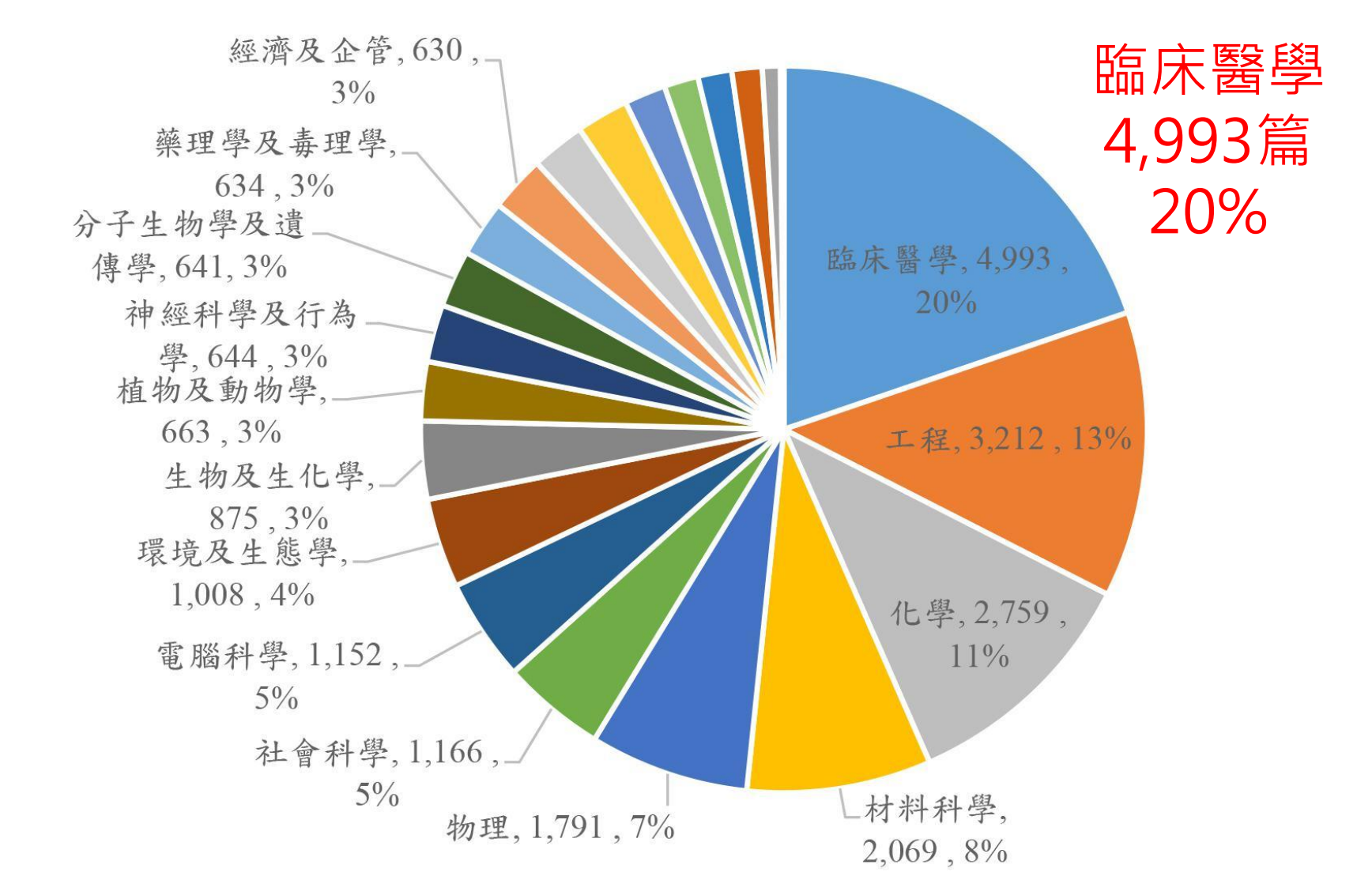
* Original research, case reports, and review articles were included; conference papers and indexed abstracts were excluded.

Wadhwa H, Shah SS, Shan J, Cheng J, Beniwal AS, Chen JS, Gill SA, Mummaneni N, McDermott MW, Berger MS, Aghi MK. The neurosurgery applicant's "arms race": analysis of medical student publication in the Neurosurgery Residency Match. J Neurosurg 2020;133:1913-1921. [PMID: 31675693]

2019年各主要國家論文發表量 (Web of Science)



台灣2018年各領域論文發表占比 (Web of Science)





Articles published in 2018 with TVGH staff as first author or corresponding author

Document type	Total	First author	Corresponding author
Article	796 (82.4%)	357	384
Article; proceedings paper	11 (1.1%)	4	6
Article; book chapter	1 (0.1%)	1	
Review	65 (6.7%)	27	28
Letter	42 (4.3%)	25	31
Editorial material	40 (4.1%)	26	34
Correction	11 (1.1%)	4	3
Total	966	444 (46.0%)	486 (48.4%)

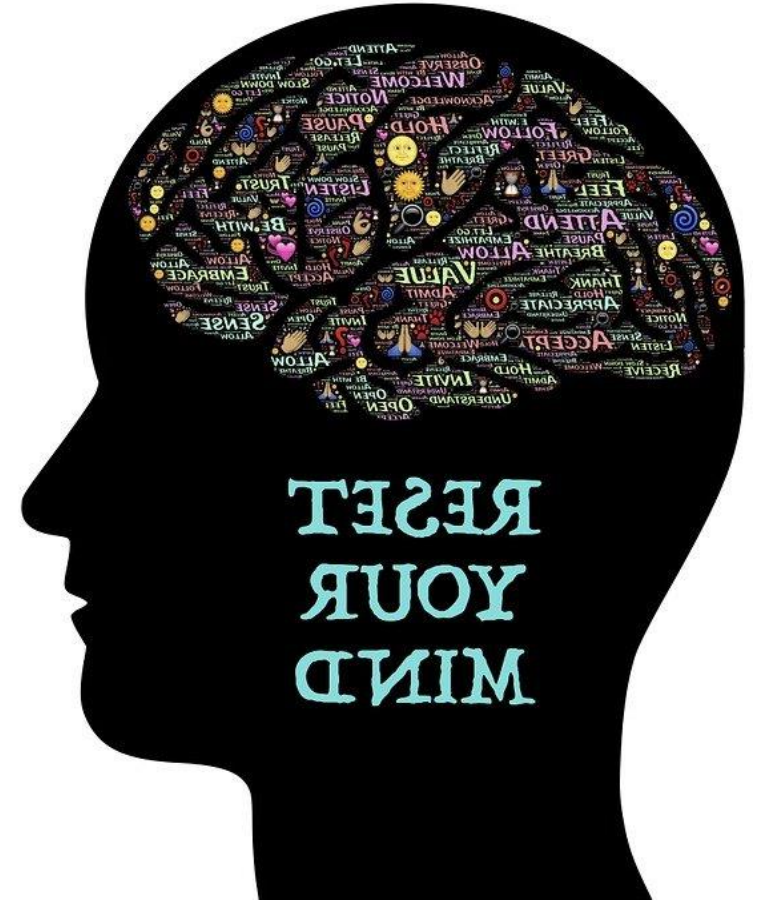
Li HC, Chen YW, Chen TJ, Chiou SH, Hwang SJ.

The role of patient records in research: a bibliometric analysis of publications from an academic medical center in Taiwan.

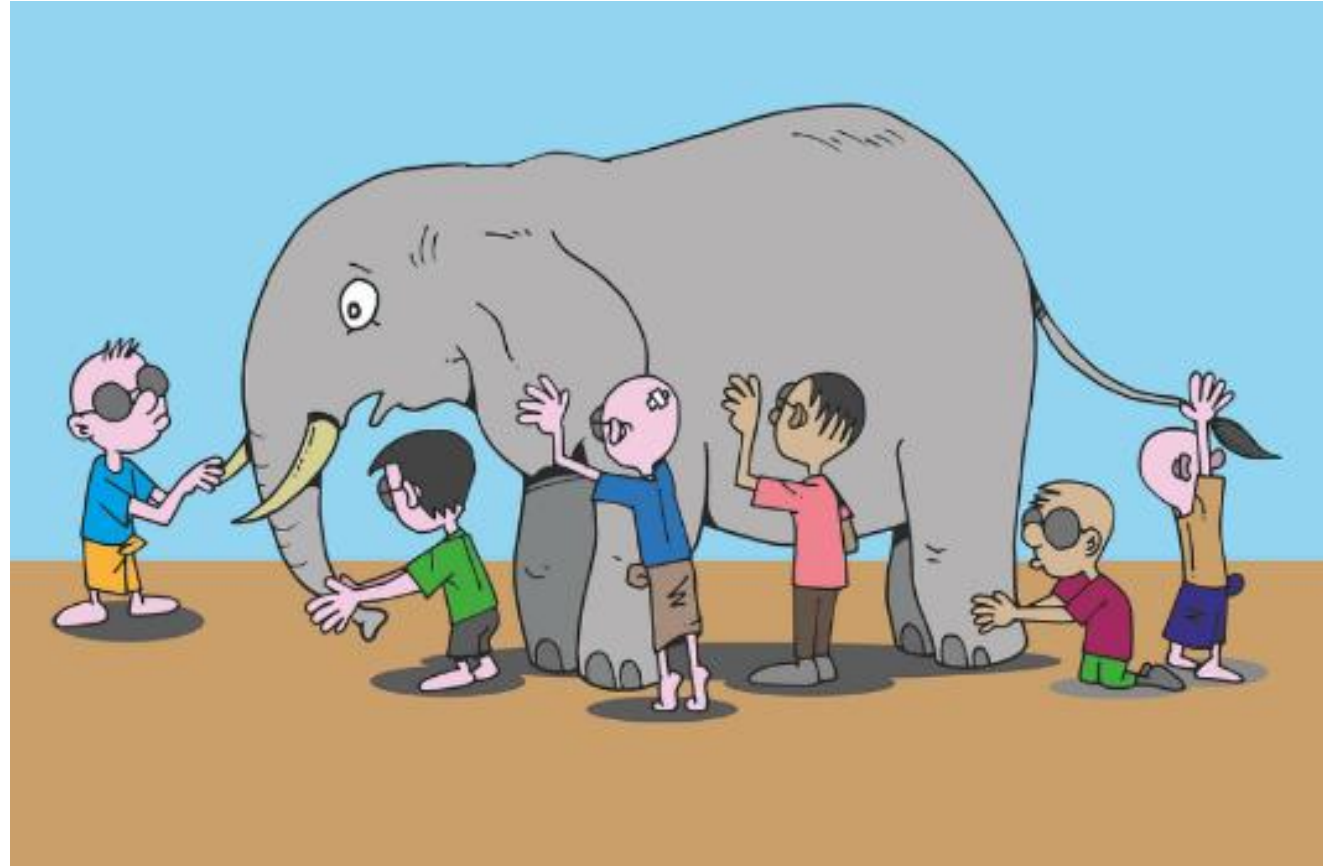
Journal of the Chinese Medical Association 2021;84:718-721. [PMID: 34029216]

<https://wd.vghtpe.gov.tw/fm/files/20210530.txt>

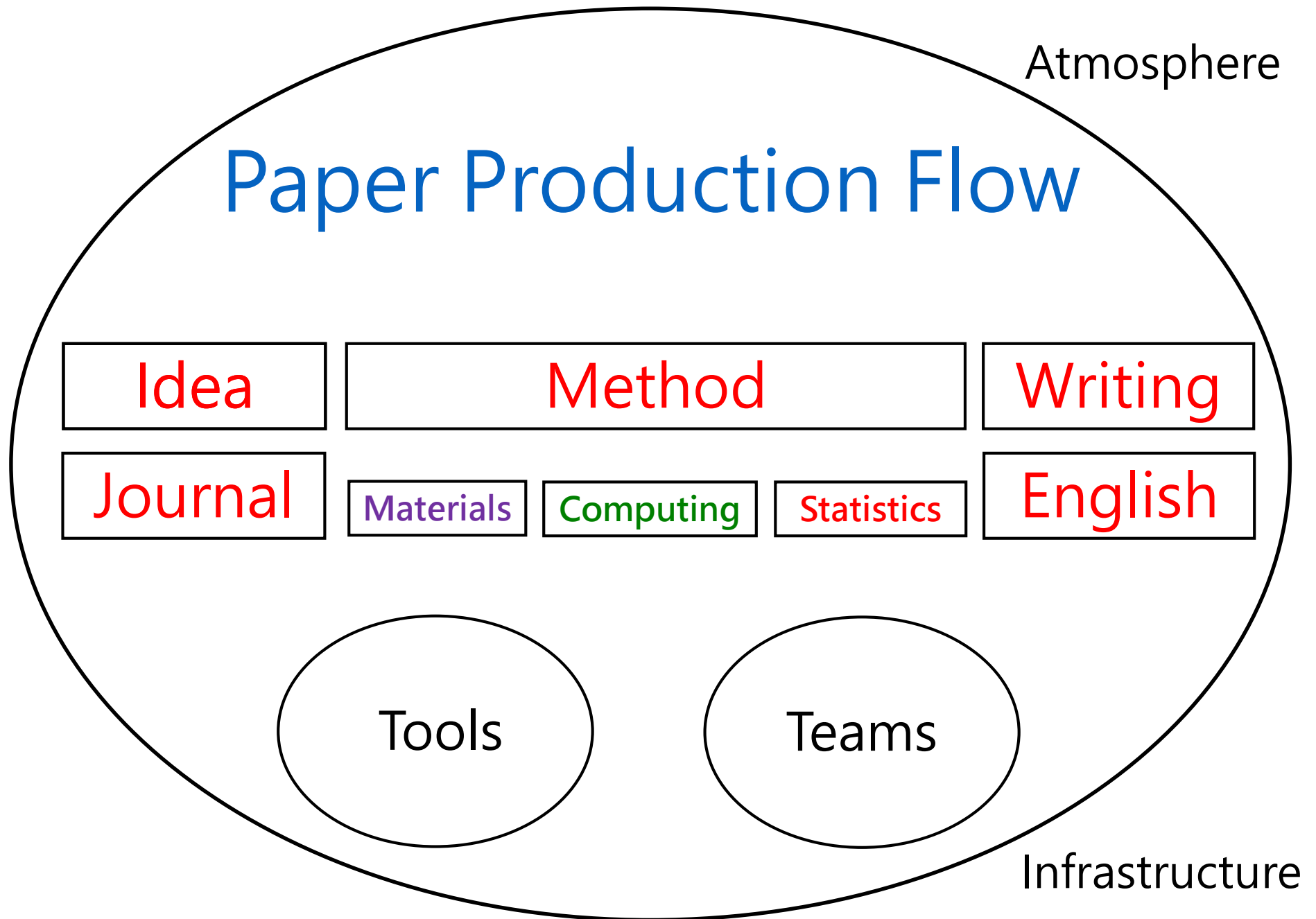
Mindsets Matter



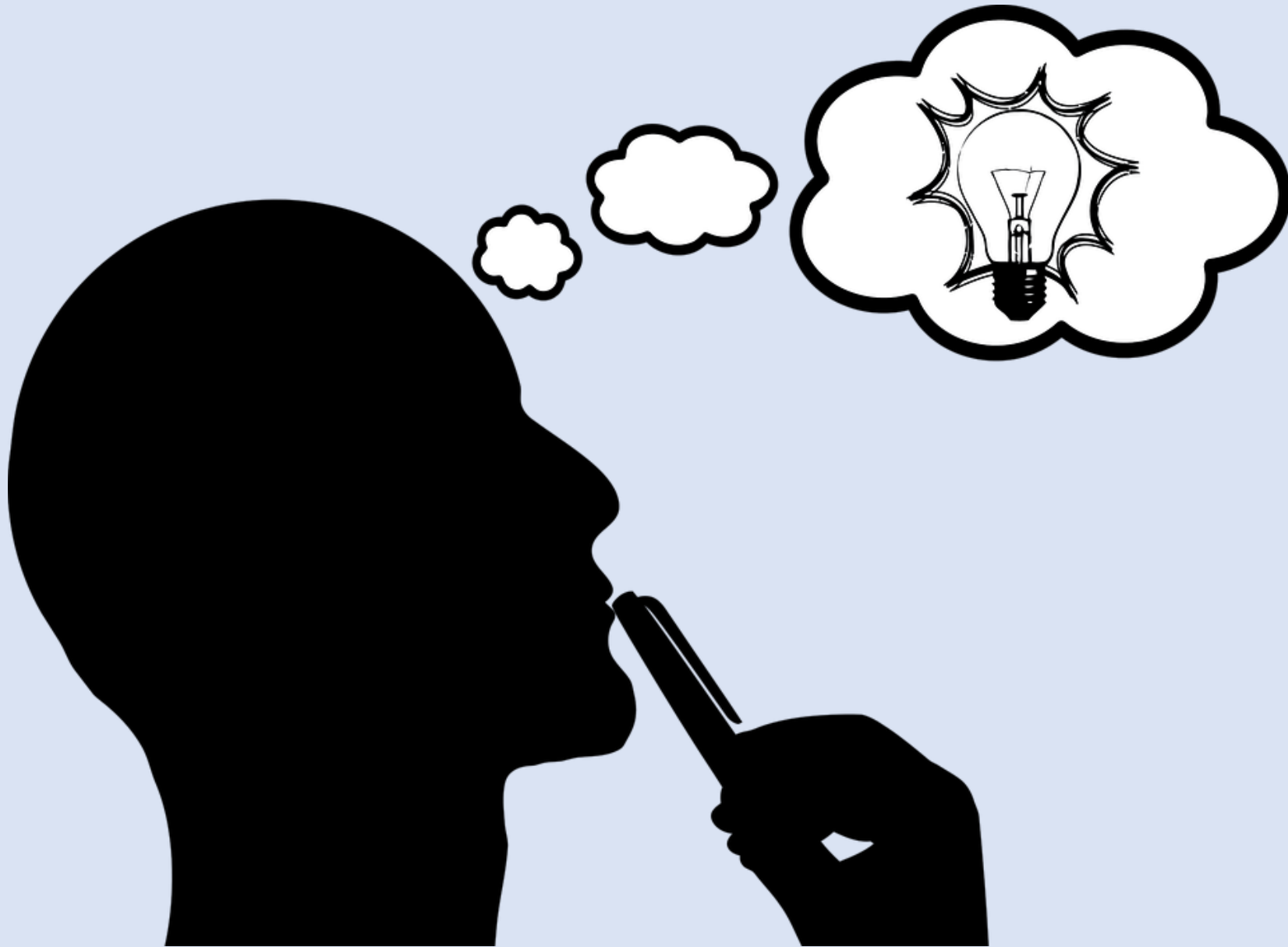
Research is not as holy as you think.



不是聖牛
而似摸象



Idea



Crossroads

- 假設您現在是高中三年級學生，如果學科能力測驗(學測)不考微積分，您會準備嗎？

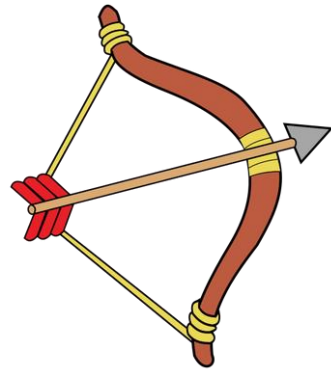
$$f(x) = \int_0^x f'(t) dt$$

Trade-Offs

將已選擇 做好 vs. 耐心等做 好的選擇

將分配的題目 寫好 vs. 用心等寫 好的題目

Aim high but start small



簡單開始：立竿見影 無足輕重
挑戰巔峰：漫漫長夜 成就滿滿

Feasibility Analysis



<https://openclipart.org/detail/3977/stopwatch-no-shading>

<https://pixabay.com/illustrations/possible-impossible-opportunity-2499888/>

<https://pixabay.com/illustrations/weak-weakness-people-emotions-7398112/>

Journal



Crossroads

- 晉升主治醫師與部定講師時，只需一至兩篇SCI/SSCI期刊的原始論著，IF (impact factor) 不太重要，您要挑戰 high-IF 期刊嗎？

$$IF_y = \frac{Citations_y}{Publications_{y-1} + Publications_{y-2}}.$$

You are lucky in the era of OA.

Readers

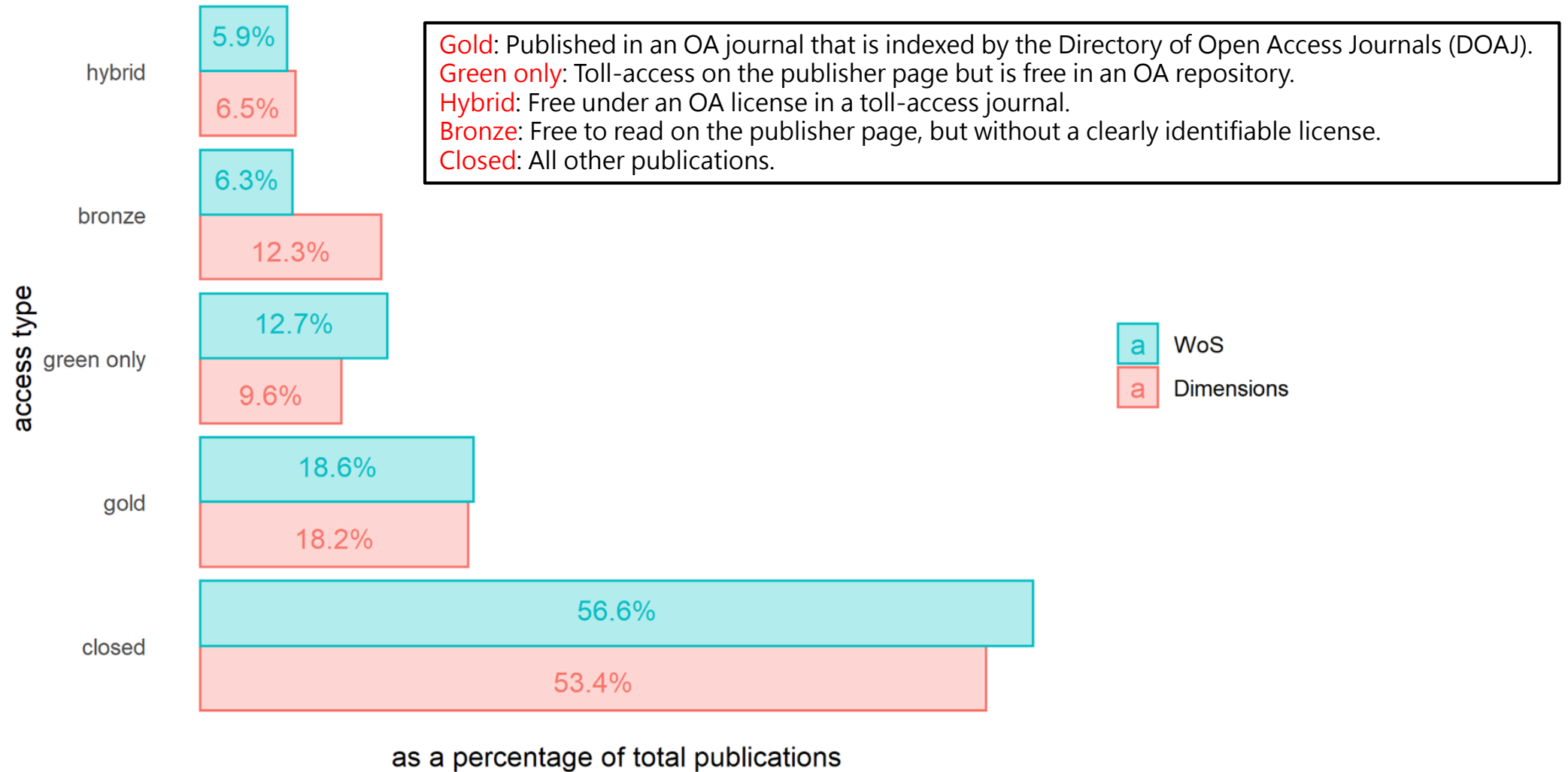
- Print (mostly toll access)
- Web (usu. open access)
- Hybrid (print/web)
- Hybrid (toll/open)

Authors

- \$
- \$\$
- \$\$\$

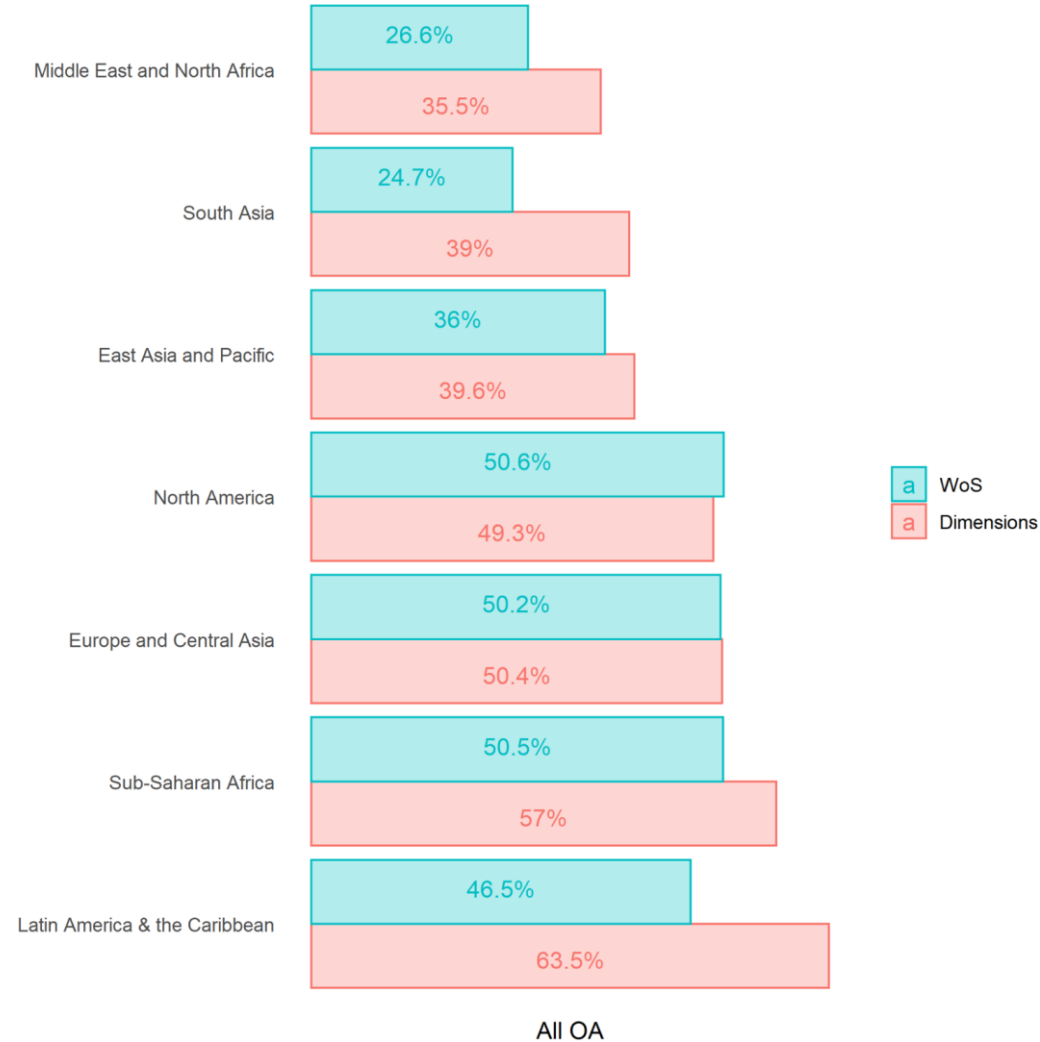


Percentage of open access publications, by access type and database, 2015-2019



Basson I, Simard MA, Ouangré ZA, Sugimoto CR, Larivière V.
The effect of data sources on the measurement of open access: a comparison of Dimensions and the Web of Science.
PLoS One 2022;17:e0265545. [PMID: 35358227]
<https://doi.org/10.1371/journal.pone.0265545.g001>

Percentage of open access publications, by region and database, 2015-2019



Basson I, Simard MA, Ouangré ZA, Sugimoto CR, Larivière V.
The effect of data sources on the measurement of open access: a comparison of Dimensions and the Web of Science.
PLoS One 2022;17:e0265545. [PMID: 35358227]
<https://doi.org/10.1371/journal.pone.0265545.g002>

Caution ! Predatory Journals



Highly recommended

Our Journal



https://commons.wikimedia.org/wiki/File:Open_Access_logo_PLoS_transparent.svg



Editor-in-Chief: Fa-Yauh Lee
ISSN: 1726-4901
Frequency: Monthly
Ranking: **71/172 (41%)** in
Medicine, general & internal
Impact Factor: **3.396**

講師 2 篇 (P 值 $\leq 30\%$ 或 IF ≥ 3 可只送 1 篇，但該篇不可為
Equal Contribution。)

<https://journals.lww.com/jcma/pages/default.aspx>

Method



Research Designs



<https://pixabay.com/vectors/squirrel-reading-books-surprise-304021/>

- **Descriptive** (e.g., case-study, naturalistic observation, survey)
- **Correlational** (e.g., case-control study, observational study)
- **Experimental** (e.g., field experiment, controlled experiment, quasi-experiment)
- **Review** (literature review, systematic review)
- **Meta-analytic** (meta-analysis)



Research Methods

Quantitative Methods	Mixed Methods	Qualitative Methods
Pre-determined methods	Both pre-determined and emerging methods	Emerging methods
Instrument based questions	Both open- and closed-ended questions	Open-ended questions
Performance data, attitude data, observational data, and census data	Multiple forms of data drawing on all possibilities	Interview data, observation data, document data, and audiovisual data
Statistical analysis	Statistical and text analysis	Text and image analysis
Statistical interpretation	Across databases interpretation	Themes, patterns interpretation

Creswell JW, Creswell JD: Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 5th ed. Los Angeles: SAGE Publications, 2018: 53.



Type distribution of articles published in 2018 by TVGH staff

Type of article	Number of articles	Impact factor (average)
Database research	53	4.231
Basic research	60	3.382
Clinical research	219	2.957
Prospective research	50	3.459
Retrospective research using hospital's medical records	135	2.791
Retrospective research using other hospitals' medical records	8	3.194
Retrospective research using cross-institutional medical records	5	2.905
Image analysis	3	8.380
Questionnaire research	1	2.293
Others	30	2.851
Total	362	3.120

Li HC, Chen YW, Chen TJ, Chiou SH, Hwang SJ.

The role of patient records in research: a bibliometric analysis of publications from an academic medical center in Taiwan.

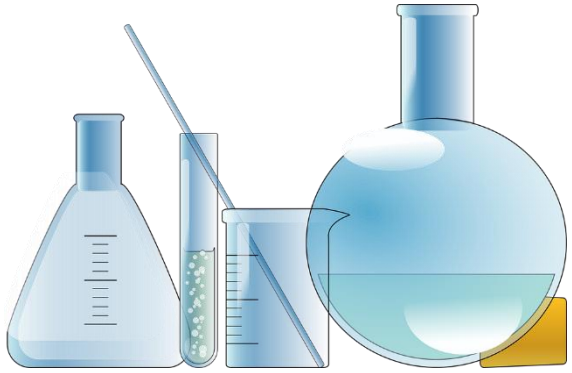
Journal of the Chinese Medical Association 2021;84:718-721. [PMID: 34029216]

<https://wd.vghtpe.gov.tw/fm/files/20210530.txt>

Materials



Crossroads



Wet lab vs. Dry lab

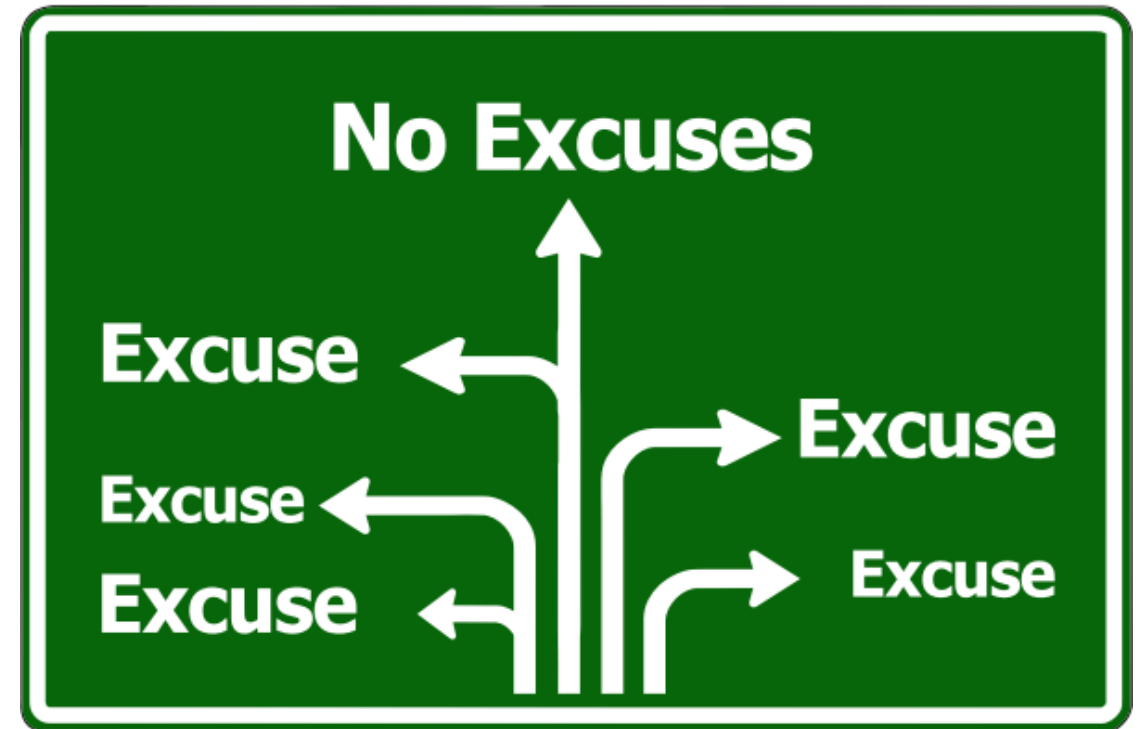
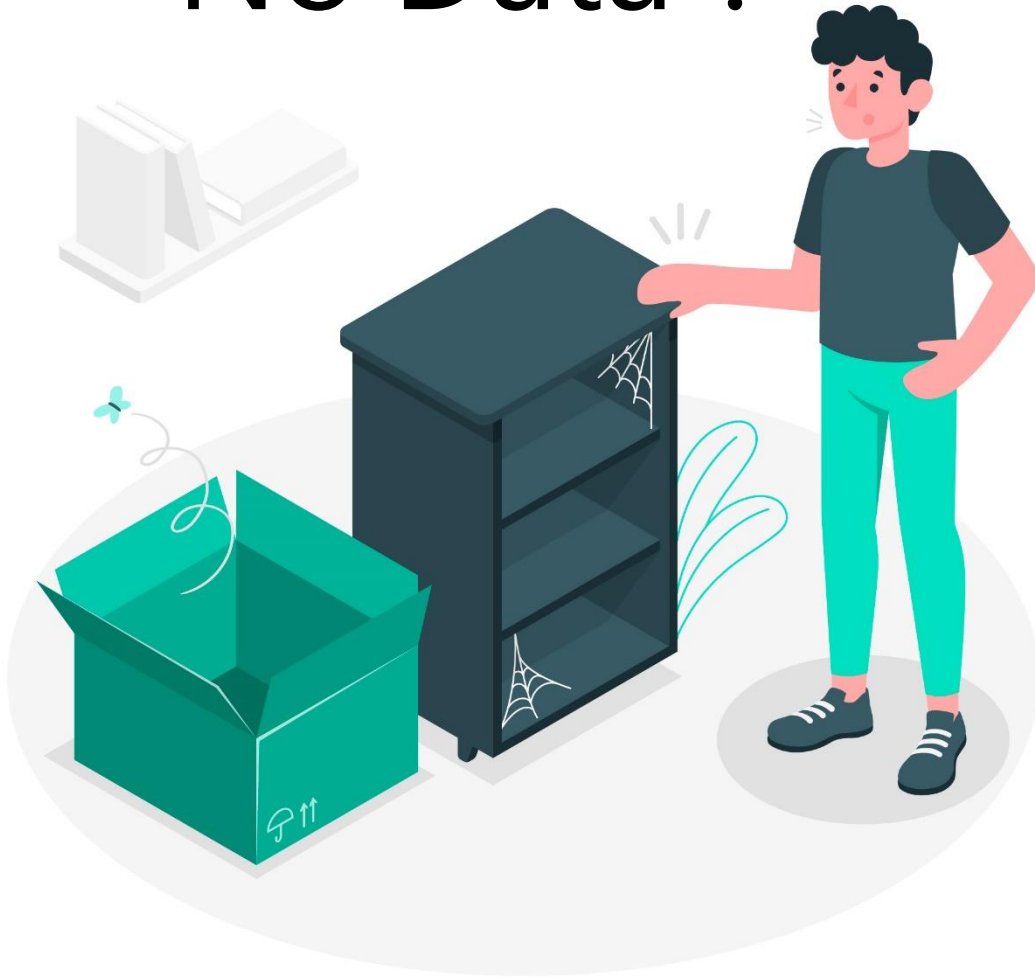


<https://pixabay.com/vectors/glass-cups-chemistry-tools-flask-307400/>

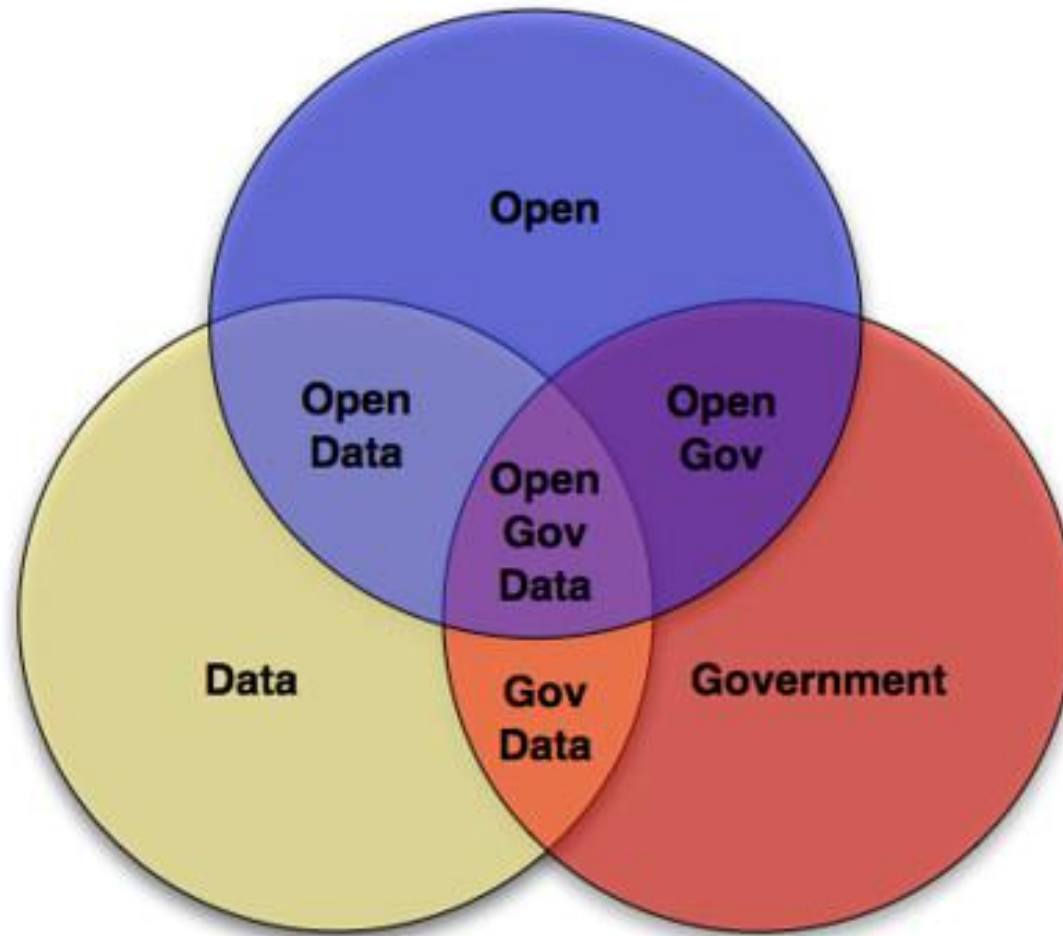
<https://pixabay.com/vectors/laptop-computer-portable-pc-2298286/>

Primary data vs. Secondary data

No Data ?



Open Data



請輸入關鍵字



進階搜尋

重設

熱門關鍵字：公告地價、疫情、營業稅

資料集服務分類



生育保健



出生及收養



求學及進修



服兵役



求職及就業



開創事業



婚姻



投資理財



休閒旅遊



交通及通訊



就醫



購屋及遷徙

Should data be as **BIG** as possible ?

The Tiny Clues That Uncover Huge Trends



發現大數據看不見的小細節
從消費欲望到行為分析
創造品牌商機

馬汀·林斯壯 Martin Lindstrom — 著
溫力樂、戴至中 — 譯



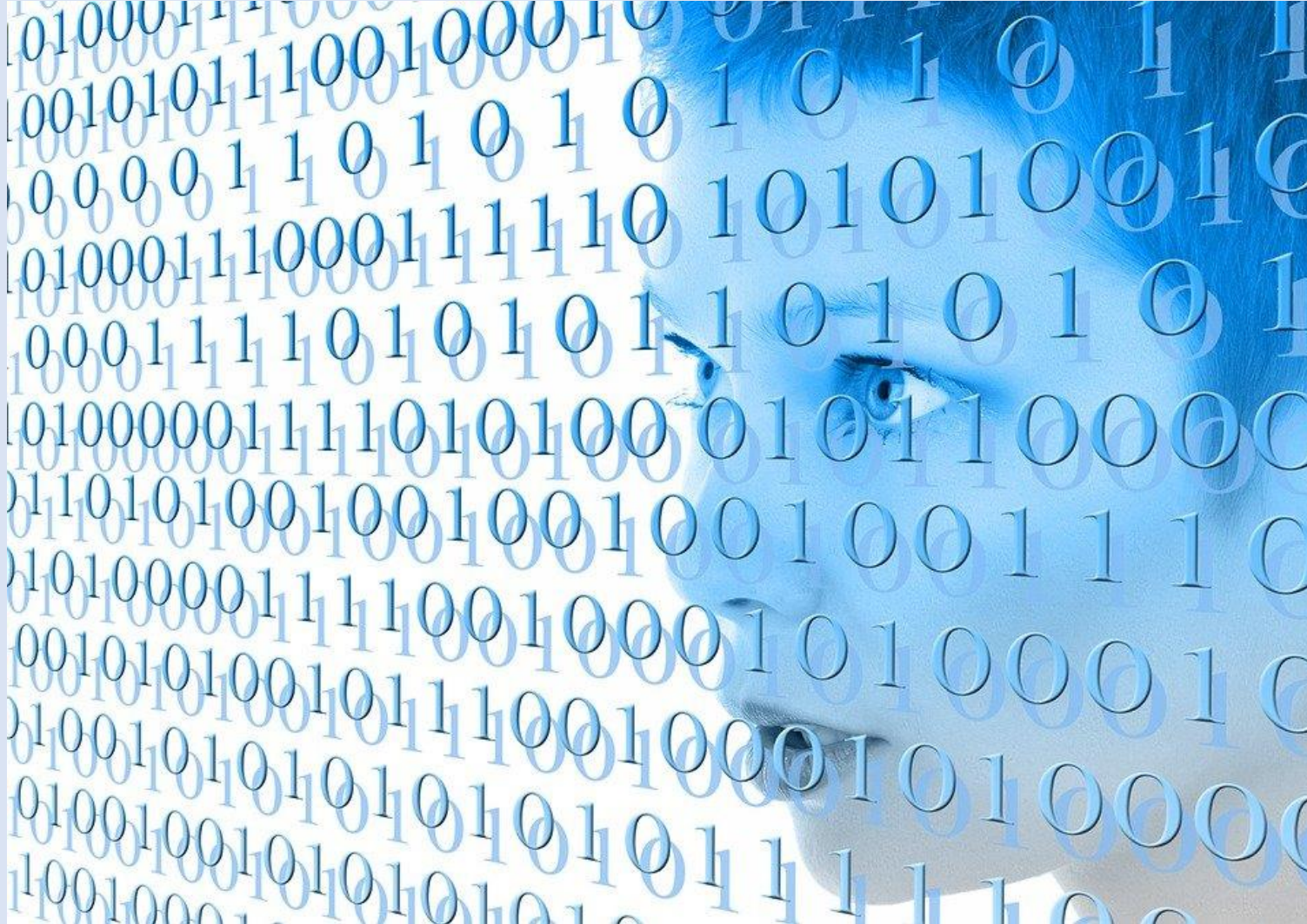


Number of cases in retrospective articles using hospital’s medical records and prospective articles published in 2018 by TVGH staff

Case number	Retrospective articles using hospital’s medical records	Impact factor (average)	Prospective articles	Impact factor (average)
≥1000	13	3.701	1	7.229
500–999	9	2.794	...	
300–499	11	3.473	3	4.140
100–299	35	2.667	17	3.307
≤100	67	2.566	24	3.297
Total	135	2.791	50	3.459

Li HC, Chen YW, Chen TJ, Chiou SH, Hwang SJ.
The role of patient records in research: a bibliometric analysis of publications from an academic medical center in Taiwan.
Journal of the Chinese Medical Association 2021;84:718-721. [PMID: 34029216]
<https://wd.vghtpe.gov.tw/fm/files/20210530.txt>

Computing



Data Skills Most in Demand

1. Python
2. SQL and NoSQL
3. R
4. Data Visualization
5. Machine Learning and Natural Language Processing (NLP)
6. Amazon Web Services (AWS) and Cloud-Driven Computing
7. Extract, Transform, Load (ETL)
8. Statistics



https://www.freepik.com/free-vector/people-budgeting-order-plan-personal-finance_3530034.htm

Statistics



Statistical Methods



<https://pixabay.com/illustrations/shock-dizzy-knocked-out-pain-6912947/>

Descriptive

- mean
- median
- mode
- range
- standard deviation
- ...

Inferential

- Chi-squared test
- Student's t-test
- Analysis of variance (ANOVA)
- Regression analysis
- Correlation
- Factor analysis
- Time series analysis
-



<https://openclipart.org/detail/264107/02-genesis-4113-picture-04>

Selection of Stat. Methods

	Parametric Methods	Nonparametric Methods
Descriptive statistics	Mean, Standard deviation	Median, Interquartile range
Sample with population (or hypothetical value)	One sample t-test ($n < 30$) and One sample Z-test ($n \geq 30$)	One sample Wilcoxon signed rank test
Two unpaired groups	Independent samples t-test (Unpaired samples t-test)	Mann Whitney U test/Wilcoxon rank sum test
Two paired groups	Paired samples t-test	Related samples Wilcoxon signed-rank test
Three or more unpaired groups	One-way ANOVA	Kruskal-Wallis H test
Three or more paired groups	Repeated measures ANOVA	Friedman Test
Degree of linear relationship between two variables	Pearson's correlation coefficient	Spearman rank correlation coefficient
Predict one outcome variable by at least one independent variable	Linear regression model	Nonlinear regression model/Log linear regression model on log normal data

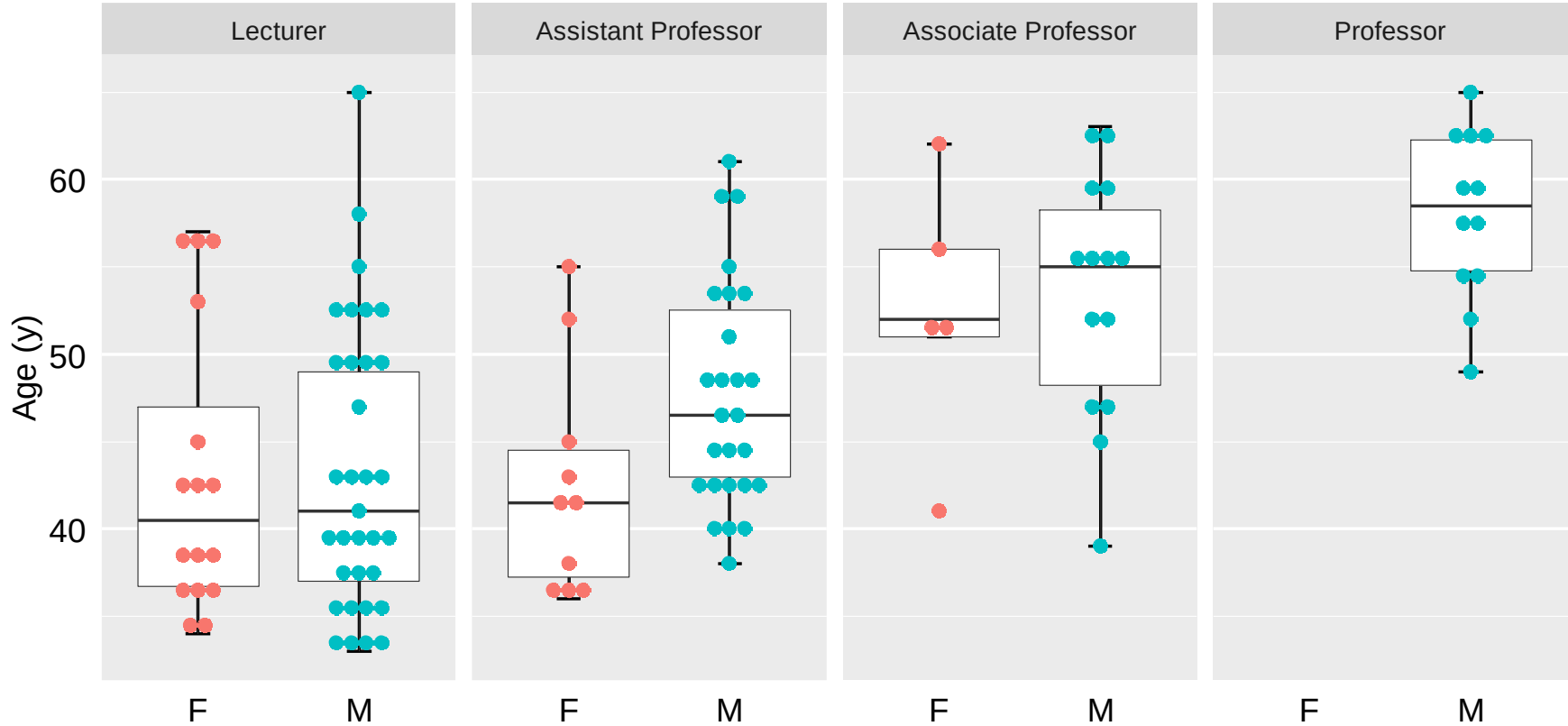
Mishra P, Pandey CM, Singh U, Keshri A, Sabaretnam M.
 Selection of appropriate statistical methods for data analysis.
 Ann Card Anaesth 2019;22:297-301. [PMID: 31274493]

Exploratory Data Analysis (EDA)

- an approach of analyzing data sets to **summarize** their main characteristics, often using statistical **graphics** and other data visualization methods



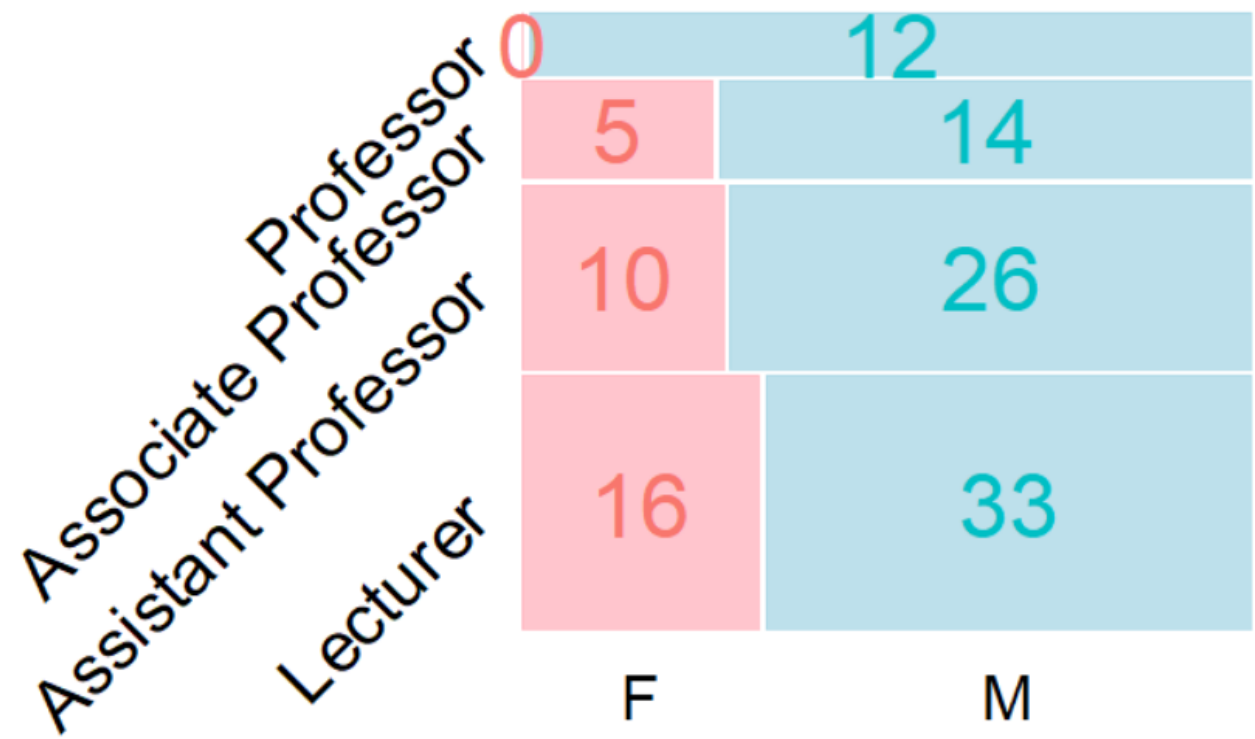
家庭醫學教師年齡分布



Chen SH, Chang HT, Lin MH, Chen TJ, Hwang SJ, Lin MN.
Family medicine academic workforce of medical schools in Taiwan: a nationwide survey.
Int J Environ Res Public Health 2021;18:7182. [PMID: 34281118]
<https://wd.vghttp.gov.tw/fm/files/20210705.txt>



家庭醫學教師性別分布

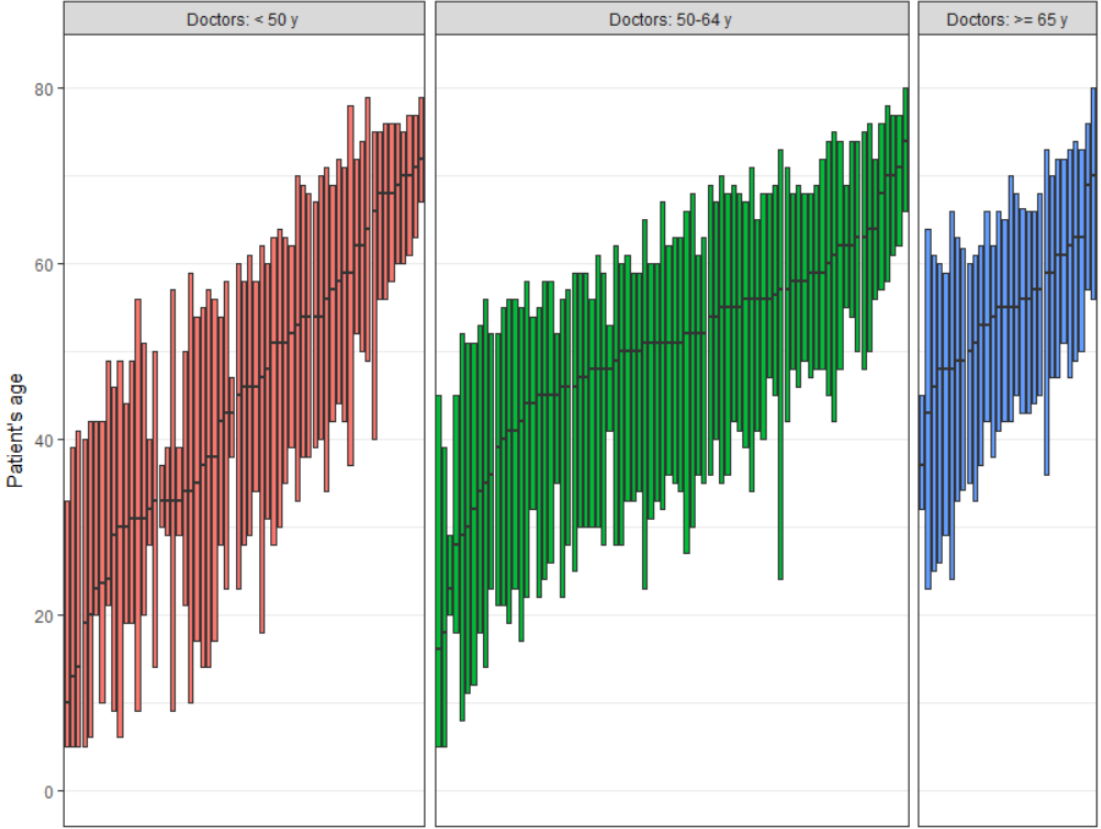


Status: August 2019

Chen SH, Chang HT, Lin MH, Chen TJ, Hwang SJ, Lin MN.
Family medicine academic workforce of medical schools in Taiwan: a nationwide survey.
Int J Environ Res Public Health 2021;18:7182. [PMID: 34281118]
<https://wd.vghttp.gov.tw/fm/files/20210705.txt>



老家庭醫師的病人是否比較老



Liu HY, Liu CC, Shen TH, Wang YJ, Liu JY, Chen TJ, Chou LF, Hwang SJ.
Pattern of visits to older family physicians in Taiwan.
Int J Environ Res Public Health 2017;14:499. [PMID: 28481318]
<https://wd.vghttp.gov.tw/fm/files/20170508.txt>

Writing



Eight-legged Scientific Writing

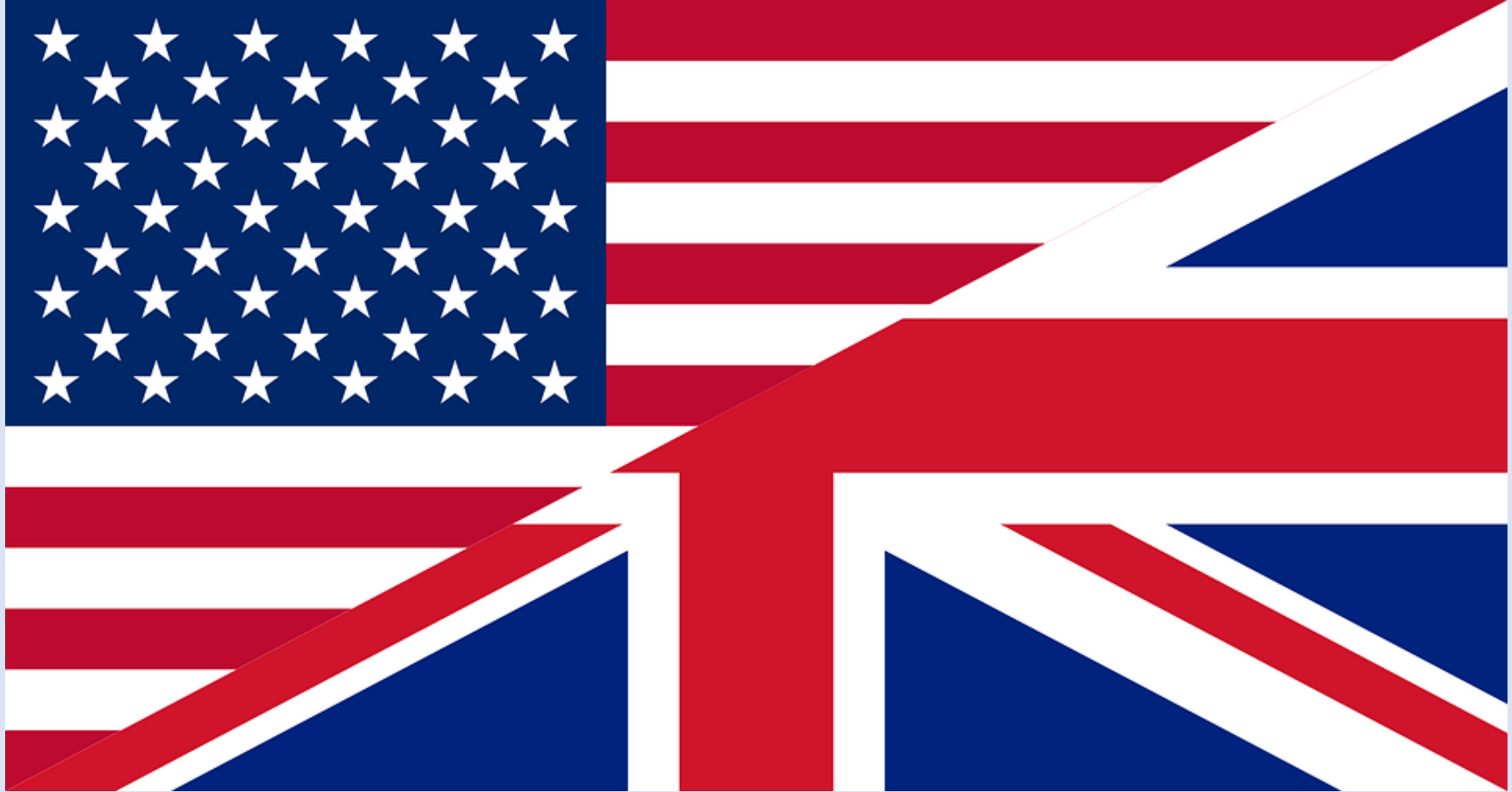
西方現代科技八股文與中文起承轉合在醫學論文寫作 應用之探討

蔡崇煌^{1,2,3} 蔡新聲² 黃青真^{3,4} 林哲鈺⁵ 張金堅⁶ 李孟智^{7,8}

八股文是明、清兩代科舉考試的一種文體，其有一些弊端，因此八股思想及八股文是污名代名詞，然八股文亦並非全然一文不值，其起承轉合的概念還是值得效法。本文將八股文做一簡單回顧，並用實際的國際醫學期刊做範例，說明起承轉合之應用格式，將中國古代八股文一詞，應用於現代科技論文固定的格式，賦予八股文一詞另一有用之生命。本文針對科技論文固定格式IMRAD（Introduction、Methods、Results及Discussion之縮寫）擴展為Tasi Mr Dr八字訣（題目、作者與機關、摘要、序論、材料與方法、結果、討論、及參考文獻），將之命名為現代科技八股文，融入傳統起承轉合四字訣的行文流程，讀者可使用此概念，用於文章寫作，或方便於寫作教學。

（台灣家醫誌 2012; 22: 96-106）

English



Medical Writing in English

an AI approach

陳曾基

臺北榮民總醫院家庭醫學部

臺北榮民總醫院醫學研究部大數據中心

國立陽明大學醫學院醫務管理研究所

國立陽明大學醫學院醫學系家庭醫學科

國立陽明大學醫學院急重症醫學研究所

先寫中文 -> 電腦翻譯 -> 修改 -> 英修

- Master our mother language
- Edit the Chinese manuscript **iteratively**
 - clear, concise, correct
 - avoid long sentences (e.g. via punctuation)
 - avoid idioms and difficult words/phrases
 - avoid cross-cultural ambiguity (e.g. ROC year)
- Synthesize the results from different translation websites
(貨比三家 => 貨從三家) (合本)
- Edit, edit, edit the translation (consult dictionaries frequently / **consult professional services**)
- Check plagiarism (**iThenticate / Turnitin**)
- Cultivate the taste for good English (nuances of language)

Tools



Data Wrangling Tools

- Text editor (e.g., Notepad++) : RE (regular expression)
- **M\$ Excel** : Functions, VBA (Visual Basic for Applications)
- Python
- R
- JavaScript
- SQL (e.g., PostgreSQL, MariaDB)
-

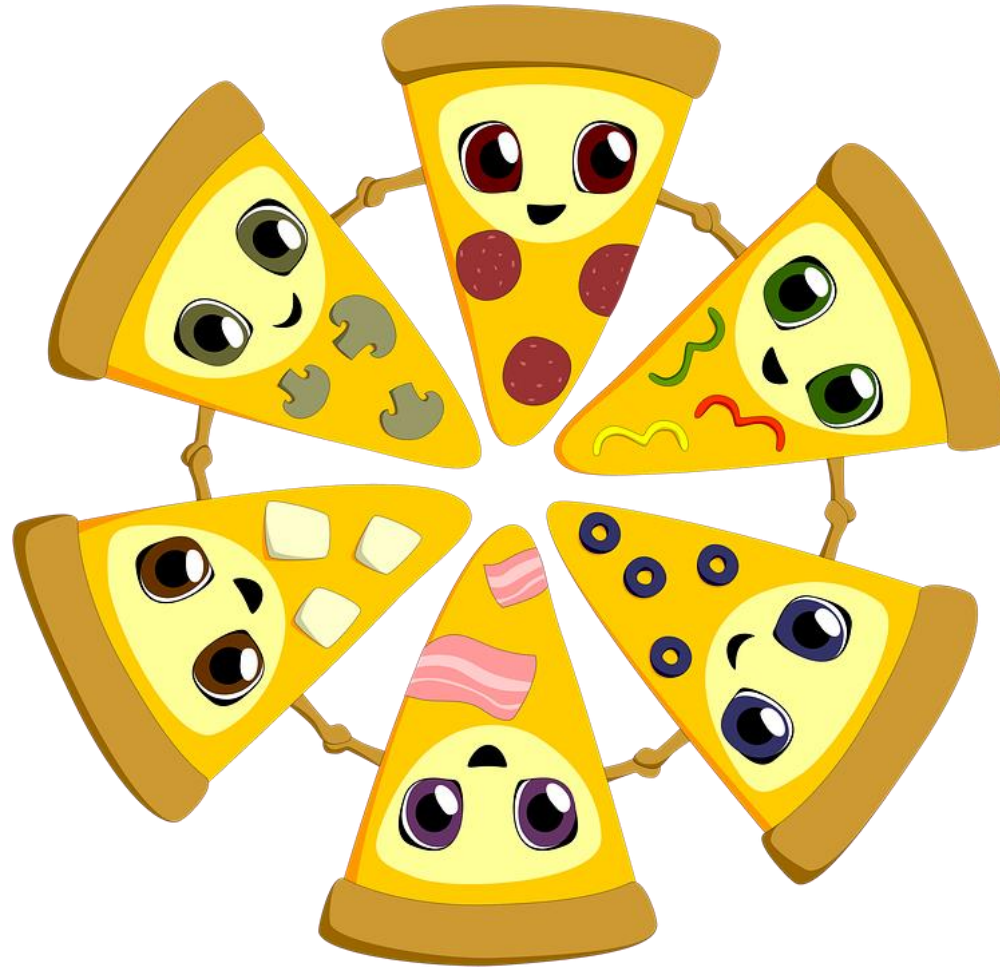


<https://upload.wikimedia.org/wikipedia/commons/4/42/Opensource.svg>

Teams



Give and Share



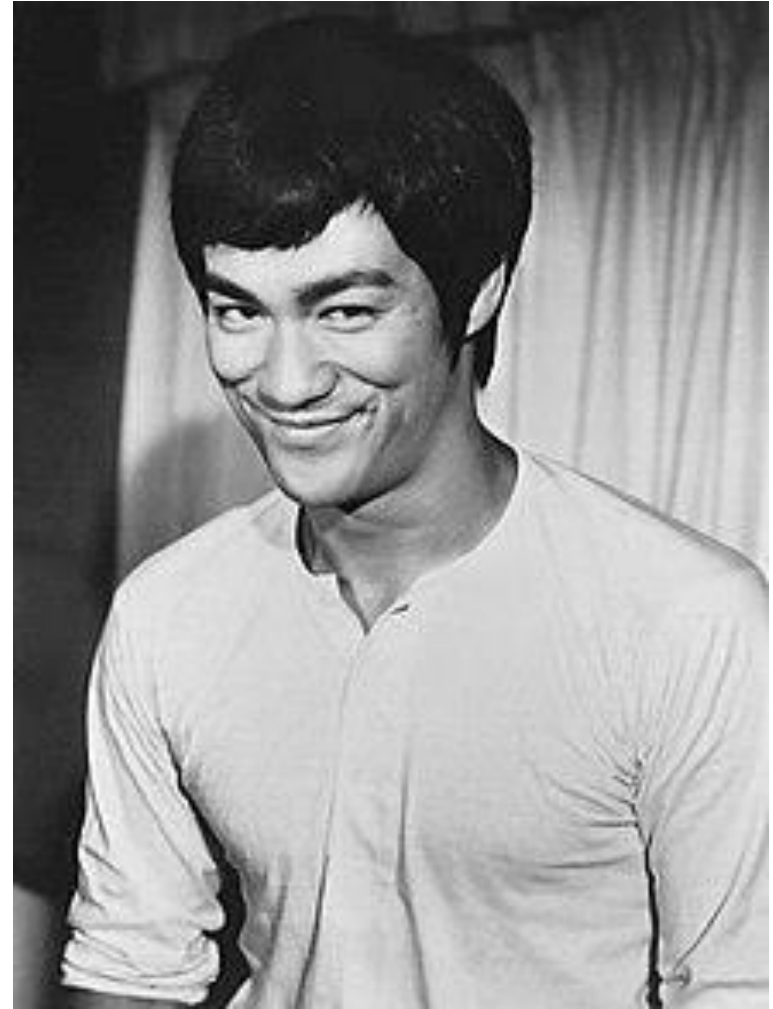
Demo



Learn it all, then
forget it all.

Bruce Lee

無招勝有招？



https://zh.wikipedia.org/zh-tw/File:Bruce_Lee_1973.jpg



Original Article

I|J|S|P

Low prevalence of the use of the Chinese term for ‘psychiatry’ in the names of community psychiatry clinics: A nationwide study in Taiwan

n = 444

Ying-Xiu Dai¹, Mu-Hong Chen² and Tzeng-Ji Chen^{1,3}

International Journal of
Social Psychiatry
2016, Vol. 62(7) 601–607
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0020764016660994
isp.sagepub.com
SAGE



Article

Branding Palliative Care Units by Avoiding the Terms “Palliative” and “Hospice”: A Nationwide Study in Taiwan

n = 55

Ying-Xiu Dai, MD^{1,2}, Tzeng-Ji Chen, MD^{1,2}, and Ming-Hwai Lin, MD^{1,2}

INQUIRY: The Journal of Health Care
Organization, Provision, and Financing
Volume 54: 1–6
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sagepub.com/journalsPermissions.nav
DOI: 10.1177/0046958016686449
journals.sagepub.com/home/inq
SAGE



Original Paper

Hospital-Owned Apps in Taiwan: Nationwide Survey **n = 150**

Hao-Yen Liu¹, MD; Wui-Chiang Lee^{2,3}, MHS, PhD, MD; Ying-Chou Sun⁴, MD, PhD; Jun-Jeng Fen⁵, MSc; Tzeng-Ji Chen^{1,3}, Dr Med; Li-Fang Chou⁶, MSc, Dr Sc Pol; Shinn-Jang Hwang^{1,3}, MD

¹Department of Family Medicine, Taipei Veterans General Hospital, Taipei, Taiwan

²Department of Medical Affairs and Planning, Taipei Veterans General Hospital, Taipei, Taiwan

³School of Medicine, National Yang-Ming University, Taipei, Taiwan

⁴Department of Radiology, Taipei Veterans General Hospital, Taipei, Taiwan

⁵Department of Information Management, Taipei Veterans General Hospital, Taipei, Taiwan

⁶Department of Public Finance, National Chengchi University, Taipei, Taiwan



Lots of little ones: Analysis of charitable donations to a hospice and palliative care unit in Taiwan

n = 3,033

Ya-Chuan Hsu¹  | Feng-Yuan Chu¹  | Tzeng-Ji Chen^{1,2} |
Li-Fang Chou³ | Hsiao-Ting Chang^{1,2} | Ming-Hwai Lin^{1,2} |
Shinn-Jang Hwang^{1,2}

Int J Health Plann Manage 2019;34:e1810-e1819. [PMID: 31436892]
<https://wd.vghttp.e.gov.tw/fm/files/20190823.txt>



Natives as international medical graduates: A nationwide analysis in Taiwan

Feng-Yuan Chu¹  | Yin-Mei Chao²  | Li-Fang Chou³  |
Tzeng-Ji Chen^{1,4} 

Int J Health Plann Manage 2019;34:e291-e300. [PMID: 30204262]
<https://wd.vghttp.e.gov.tw/fm/files/20180911.txt>



Experiences With Internet Triage of 9498 Outpatients Daily at the Largest Public Hospital in Taiwan During the COVID-19 Pandemic: Observational Study

Ding-Heng Lu¹, MD; Chia-An Hsu¹, MD; Eunice J Yuan¹, MD; Jun-Jeng Fen², MSc; Chung-Yuan Lee², DPhil; Jin-Lain Ming³, DPhil; Tzeng-Ji Chen^{4,5,6,7}, MD, PhD; Wui-Chiang Lee^{4,6}, MD, DPhil; Shih-Ann Chen^{8,9,10}, MD, DPhil

JMIR Med Inform 2021;9:e20994. [PMID: 34043524]
<https://wd.vghttp.e.gov.tw/fm/files/20210606.txt>



CSIRO PUBLISHING

Australian Journal of Primary Health, 2022, **28**, 76–81
<https://doi.org/10.1071/PY21069>

Research

Internationalisation of general practice journals: a bibliometric analysis of the Science Citation Index database

Hsin Ma ^A, Bo-Ren Cheng^A, An-Hui Chang^C, Hsiao-Ting Chang^{A,B},
Ming-Hwai Lin^{A,B}, Tzeng-Ji Chen^{A,B,D} and Shinn-Jang Hwang^{A,B}

Aust J Prim Health 2022;28:76-81. [PMID: 34903327]
<https://wd.vghttp.e.gov.tw/fm/files/20211214.txt>



Article

Web Search Trends of Implementing the Patient Autonomy Act in Taiwan

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