

課程影片清單

專題研究核心能力

1. 作者序 Authorship <https://www.youtube.com/watch?v=27qHYgGWii0>
2. 摘要 Abstract <https://www.youtube.com/watch?v=bdGPDcZj0Cw>
3. IMRD 格式介紹 <https://www.youtube.com/watch?v=DKsqgd9eliA>
4. Introduction 三段式與兩段式的寫法 <https://www.youtube.com/watch?v=LmfUjCntd0o>
5. Method 三個部分 <https://www.youtube.com/watch?v=ZhqRE8eINls>
6. Method population 以及 Measurement 注意事項 <https://www.youtube.com/watch?v=UMlsr1h2veU>
7. 討論 Discussion https://www.youtube.com/watch?v=AnGsk9M_Vfk
8. Reference and Endnote https://www.youtube.com/watch?v=nf_5dQooGk4
9. Endnote 及 JCR 使用介紹 (吳佩樺 同學) <https://youtu.be/KTJ45qO5ESU>
10. 如何評斷論文 1：好壞的客觀評斷 https://www.youtube.com/watch?v=_RyeJOEL-tY
11. 如何發表論文 <https://www.youtube.com/watch?v=nwXNzmf9AIM>
12. 投稿流程圖 https://www.youtube.com/watch?v=X_sMMspJJBs
13. 研究生攻略 <https://www.youtube.com/watch?v=diF7XtupAc0>
14. ChatGPT-assisted Writing(錄音檔) <https://youtu.be/IxFHgs4GJAM>

○ 計畫撰寫

1. 計畫撰寫(1)回歸分析計畫書寫作指引 <https://youtu.be/3drKH0ev3EE>
 2. 計畫撰寫(2)研究計畫撰寫三大評分指標 <https://youtu.be/kwfDMK7Mv-0>
 3. 計畫撰寫(3)寫計畫五個常見問題 https://youtu.be/_lYnCcJw2Vs
 4. 計畫撰寫(4)-教授寫國科會計畫的格式(錄音檔) <https://youtu.be/UuR9zc5CCyc>
- 國科會計畫申請書 [下載](#)
 - 生科司審查原則 [下載](#)
 - 統計學門審查原則 [下載](#)
5. 計畫撰寫(5)-大專生專題計畫內容建議(錄音檔) <https://youtu.be/QwUgnheglW8>
- 補助大專學生研究計畫申請書 [下載](#)
 - 大專生計畫書指引 [下載](#)

○ 因果推論論文寫作

1. 寫作(1)寫作原則 <https://youtu.be/ecJNeIu2X10>
2. 寫作(2)方法學論文 v s 實證性論文架構 <https://youtu.be/gOvtDqsozpk>
3. 寫作(3)因果推論論文格式(Method) https://youtu.be/Sh20QQYkY_o
4. 寫作(4)因果推論論文格式 Discussion, Introduction, Abstract <https://youtu.be/8Or1RNXXKk8s>

必備知識 (prerequisite knowledge)

1. 因果推論分類 https://www.youtube.com/watch?v=2xGLQ3_dWIs
2. 統計模型分類 <https://www.youtube.com/watch?v=-AjzjQwaN1M>
3. Basic definition and measurement for Epidemiology <https://www.youtube.com/watch?v=3sT9zhVjNII>
4. 辛普森悖論 <https://www.youtube.com/watch?v=vniZzr4z258>
5. 干擾因子 <https://www.youtube.com/watch?v=xUKXfONbp5o>
6. 分層分析與模型 <https://www.youtube.com/watch?v=Ovp0yw8HTDM>

流行病學方法學

a. 測量指標

1. 因果推論分類 https://www.youtube.com/watch?v=2xGLQ3_dWIs
2. 統計模型分類 <https://www.youtube.com/watch?v=-AjzjQwaN1M>
3. Basic definition and measurement for Epidemiology <https://www.youtube.com/watch?v=3sT9zhVjNII>
4. 常見 Measurement 分類 基本原則 <https://www.youtube.com/watch?v=MK-QZfZbyOs>
5. 常見 Measurement 分類 常見 Measurement + Measurement for effect <https://www.youtube.com/watch?v=6nPLco4UPAg>

b. 研究設計

1. 研究設計的等級 <https://www.youtube.com/watch?v=e4Rjsk6XUPo>
2. 研究設計的分類和簡介 <https://www.youtube.com/watch?v=HXhpTvwILAc>
3. 實驗型研究 <https://www.youtube.com/watch?v=6uZerSsEdZY>
4. 臨床試驗的四個時期 <https://www.youtube.com/watch?v=QlHY06smyBs>
5. 臨床試驗的偏差 https://www.youtube.com/watch?v=B1_JWRKaDfk
6. 世代研究 cohort study <https://www.youtube.com/watch?v=3pYbKXlk768>
7. 病例對照研究與描述型研究（林瑞祥博士） <https://youtu.be/kDnWHs4Gxvg>

c. 資料分析(段宜辰同學錄製)

1. Introduction <https://youtu.be/ZSle7dPGWAc>
2. One Sample t-test <https://youtu.be/52XsZkJqvSs>
3. Paired t-test <https://youtu.be/NeI-0pLEUFY>
4. Two independent t-test
 - Two independent t-test_1 https://youtu.be/_DHEuZ2QAMQ
 - Two independent t-test_2 <https://youtu.be/gN6aSZ-x1IE>
5. ANOVA <https://youtu.be/qwRVWiSxEnc>
6. Chi-Squared Test
 - Chi-Squared Test_1 <https://youtu.be/klEuRF5pnRw>
 - Chi-Squared Test_2 、Fisher Exact Test <https://youtu.be/07ZmTEllqS8>
7. McNemar's test <https://youtu.be/9D3wR3Halr0>
8. Signed Test 、Wilcoxon Signed Rank Test <https://youtu.be/WtA5PihlopE>
9. Mann-Whitney <https://youtu.be/ScUpDeihHlo>
10. Simple Linear Regression <https://youtu.be/PtcECSjh61U>
11. Multiple Linear Regression <https://youtu.be/bqew-KYSfLY>
12. Logistic Regression <https://youtu.be/x6LnS5qngnw>
13. 檢測指標
 - 檢測指標 1 <https://youtu.be/h6g485EGIS4>
 - 檢測指標 2 <https://youtu.be/WYPIFIuvTs8>
 - 檢測指標 3 <https://youtu.be/RCIaOLk0ahQ>

d. 干擾因子與因果推論

1. 辛普森悖論 <https://www.youtube.com/watch?v=vniZzr4z258>
2. 干擾因子 <https://www.youtube.com/watch?v=xUKXfONbp5o>
3. 分層分析與模型 <https://www.youtube.com/watch?v=Ovp0yw8HTDM>
4. 如何處理連續或類別的暴露因子以及傾向分數 <https://youtu.be/HWsq8SlyckA>
5. 遺失值的處理 missing data <https://youtu.be/JrMDJBhIqUc>
6. 誤差的分類 <https://youtu.be/glt71vcnOXQ>
7. 質性因果推論 <https://youtu.be/615YnJBpDOs>
8. 量性因果推論簡介 <https://youtu.be/YuIleLPNq2s>
9. Causal structure (1) – DAGs https://www.youtube.com/watch?v=4-vI2okdx_U
10. Causal structure (2) – D-separation rule <https://www.youtube.com/watch?v=aclmH3dupuw>

e. 中介效應分析

1. 中介效應分析(1)基本款問題 <https://youtu.be/5fz7J1PJ3Jg>
2. 中介效應分析(2)差異法 <https://youtu.be/0M-tceyy6Yw>
3. 中介效應分析(3)乘積法 <https://youtu.be/tW2AIdy7lXM>
4. 中介效應分析(4)多重中介因子與 SEM <https://youtu.be/-oi9w740Qus>
5. 中介效應分析(5)傳統方法的限制與因果中介 <https://youtu.be/1swUfaKME6Q>

回歸分析 (Regression Analysis)

1. Reg 1_Regression 簡介 <https://youtu.be/t0t9isz75ms>
2. Reg 2_Simple linear regression <https://youtu.be/GYgsp9kgGJQ>
3. Reg 3_Inference <https://youtu.be/VOiZrgbtJGk>
4. Reg 4_Assumptions <https://youtu.be/1S-ukhb80ac>
5. Reg 5_Testing https://youtu.be/0Pm7_2-bYms
6. Reg 6_ANOVA https://youtu.be/2EZPcqqV4_E
7. Reg 7_saturated v.s. unsaturated model <https://youtu.be/0oN6AAFQ8bg>
8. Reg 8_multiple linear regression (1) <https://youtu.be/cX9m6pF9GVM>
9. Reg 9_multiple linear regression (2) <https://youtu.be/hHp4T80UWMY>
10. Reg 10_分層分析與干擾因子(看本影片之前務必觀看「研究設計與質性因果推論」之影片) https://youtu.be/P_XPbLcUaBQ
11. Reg 11_交互作用 <https://youtu.be/B2MlGr3aeJU>
12. Reg 12_回歸與因果推論小結 使用複回歸去干擾與交互作用分析 <https://youtu.be/hGkiubD7fl8>
13. Reg 13_logistic regression 簡介 <https://youtu.be/Dops-hTTQrU>
14. Reg 14_logit link <https://youtu.be/dqLqMJN8F0k>
15. Reg 15_logistic regression and Odds Ratio and causal inference <https://youtu.be/pUW2ASe4-3o>

回歸分析 Lab 課程

1. 迴歸分析應用於因果相關之問題_張雲濤錄製 20230925 <https://youtu.be/qNGNRkTAEOW>
2. 程式講解_張雲濤錄製 20230925 <https://youtu.be/B20h3dJZDf0>
3. Parameter Estimation and Goodness-of-Fit_張雲濤錄製 20231106 https://youtu.be/oc_AESNVsqQ
4. Normality Assumption and Hypotheses Testing, Confidence Interval, Orthogonality, Identifiability, What Can Go Wrong_張雲濤錄製 20231106 <https://youtu.be/A3qy5n6dntU>
5. Generalized Least Squares, Weighted Least Squares, Test for Lack of Fit, Mean Structure_張雲濤錄製 20231106 <https://youtu.be/04UNohzSa3Q>

質性因果推論 (Canonical Causal Inference)

1. 質性因果推論(1) 隨機臨床試驗 <https://youtu.be/g9EShUtrb5E>
2. 質性因果推論(2) 反事實與隨機臨床試驗 <https://youtu.be/jRsZYsp9rPM>
3. 質性因果推論(3) 實驗性研究與觀察性研究 <https://youtu.be/zxySBma75XI>
4. 質性因果推論(4) 觀察性研究什麼時候會接近實驗性研究
<https://youtu.be/uUkwCVaaznE>
5. 質性因果推論(5) 干擾以及去除的方法 <https://youtu.be/BxaAZiz-zCI>
6. 質性因果推論(6) 觀察性研究進行質性因果推論 否證與三原則
<https://youtu.be/5aCcYmLZAiw>
7. 因果經濟學導讀 <https://youtu.be/NryVv-OqyL0>

量性因果推論 (Causal Model)

○ 量性因果推論(1)

1. Introduction of causal inference (1) <https://www.youtube.com/watch?v=bLkDObN06Gw>
2. Introduction of causal inference (2) https://www.youtube.com/watch?v=s6R0Cwmb_LQ
3. Framework of causal inference <https://www.youtube.com/watch?v=D2PU50yL3DQ>
4. Causal structure (1) – DAGs https://www.youtube.com/watch?v=4-vI2okdx_U
5. Variable in causal inference <https://www.youtube.com/watch?v=f8OPW7rRyoA>
6. Causal structure (2) – D-separation rule <https://www.youtube.com/watch?v=aclmH3dupuw>
7. Causal structure (3) – NPSEM <https://www.youtube.com/watch?v=W65jvURYSmI>
8. Causal structure (4) – NPSEM for d-separation
(1) <https://www.youtube.com/watch?v=XjXgaUXqirE>
9. Causal structure (5) – NPSEM for d-separation
(2) <https://www.youtube.com/watch?v=EBv0olKdioo>
10. Counterfactual outcome model <https://www.youtube.com/watch?v=18VQMBpwaMg>
11. Identification: exchangeability and RCT <https://www.youtube.com/watch?v=dWysQA7H2lo>
12. Estimation
 - i. https://www.youtube.com/watch?v=hrvxAa8_r8s (戴安順博士錄製) (g-formula, IPW, and MSM)
 - ii. <https://youtu.be/S6xD6hYrSmk> (戴安順博士錄製)(g-estimation and SNM 進階參考資料，不考)
 - iii. <https://youtu.be/pg6beqv3kH4> (戴安順博士錄製)(doubly robust estimator 進階參考資料，不考)

13. Efficiency theorem

- i. WHY EIF (張雲濤錄製) <https://youtu.be/DC701UTpOWU> (進階參考資料，不考)
- ii. WHAT is EIF (張雲濤錄製) <https://youtu.be/LqrMlQYSrF0> (進階參考資料，不考)
- iii. HOW to derive EIF (1) (張雲濤錄製) <https://youtu.be/WeVZNTGxmNA> (進階參考資料，不考)
- iv. HOW to derive EIF (2)(3) (張雲濤錄製) <https://youtu.be/asooaFx9FdI> (進階參考資料，不考)

量性因果推論(2) (原高等因果推論影片)

- 1. 因果推論(1.1)常見名詞 <https://youtu.be/aURN1kSQXk0>
- 2. 因果推論(1.2)緒論 <https://youtu.be/hzwoCzEu4Iw>
- 3. 因果推論(1.3)Causal Diagram https://youtu.be/3dtk_MnnOKw
- 4. 因果推論(1.4.1)counterfactual model <https://youtu.be/48wJkmu4bmo>
- 5. 因果推論(1.4.2)常見的 causal effects <https://youtu.be/a1e-E4fPl3c>
- 6. 因果推論(1.5.1)positivity and consistency <https://youtu.be/KUQMqWeYAWQ>
- 7. 因果推論(1.5.2)exchangeability https://youtu.be/yMlWuaNQ_kE
- 8. 因果推論(1.5.3)其他兩種 assumptions <https://youtu.be/DWUji6qMYy8>
- 9. 因果推論(1.5.4)因果研究中 assumption 的重點 <https://youtu.be/dCYnCXxeEYc>
- 10. 因果推論(1.5.5)sensitivity analysis <https://youtu.be/iwQ7jE8a9-4>
- 11. 因果推論(1.5.6)Identification <https://youtu.be/i7zGDUDcgeE>
- 12. 因果推論(1.6)Statistical Inference <https://youtu.be/RbwM6VITUcs>

○ 交互作用分析(Interaction analysis)

- 1. Interaction 1 introduction <https://youtu.be/CETRJLEWNY0>
- 2. Interaction 2 三種 interaction <https://youtu.be/nPXV4nNXvDA>
- 3. Interaction 3 additive v s multiplicative interaction https://youtu.be/HZnus_36a2k
- 4. Interaction 4 RERI (1) <https://youtu.be/B1TqOXwnJyA>
- 5. Interaction 5 RERI (2) <https://youtu.be/GKnP4CUeZ84>
- 6. Interaction 6 Effect modification <https://youtu.be/RtAgP8eF76w>
- 7. 待建置

○ 因果中介效應分析(1)—單中介因子

13. **NDE and NIE**

1. Introduction of causal mediation analysis <https://www.youtube.com/watch?v=6wMyr-1SMeo>
2. Definition for causal mediation analysis (NDE and NIE) <https://www.youtube.com/watch?v=TVeZAwQ4DhI>
3. Identification for NDE and NIE (1) <https://www.youtube.com/watch?v=D5eViJFHx50>
4. Identification for NDE and NIE (2) <https://www.youtube.com/watch?v=P8C5uWVyNhI>
5. Identification for NDE and NIE (3) recanting witness and NPSEM <https://www.youtube.com/watch?v=6PG73cNESMQ>
6. Review framework <https://www.youtube.com/watch?v=57uGop6lns8>
7. Identification for NDE and NIE (4) when M is continuous <https://www.youtube.com/watch?v=LDIQiJJ0YO4>
8. Estimation for NDE and NIE (1) <https://www.youtube.com/watch?v=c5ULohqEMiI>
9. Estimation for NDE and NIE (2) https://www.youtube.com/watch?v=ZYp5P_CHn9k
10. Estimation for NDE and NIE (3) <https://www.youtube.com/watch?v=65rgpA6gMbU>
11. Estimation for NDE and NIE (4) <https://www.youtube.com/watch?v=4G58APFS5z8>
12. Estimation for NDE and NIE (5) regression with interaction term <https://www.youtube.com/watch?v=MtefgnnE8eY>
13. Estimation for NDE and NIE (6) Monte-Carlo simulation and software (mediation.R) <https://www.youtube.com/watch?v=70r-IsMIgc>
14. Estimation for NDE and NIE (7) – IPW <https://youtu.be/7XuveWO51rU>(戴安順博士錄製)

14. **Binary outcome**

1. Causal mediation analysis with binary outcome
(1) <https://www.youtube.com/watch?v=iqD1PHWBuTQ>
2. Causal mediation analysis with binary outcome (2) Counterfactual OR and PM <https://www.youtube.com/watch?v=7zt-cxHAaUc>
3. Causal mediation analysis with binary outcome (3) Estimation
(1) https://www.youtube.com/watch?v=-_MPoCMxkfs
4. Causal mediation analysis with binary outcome (4) Estimation
(2) <https://www.youtube.com/watch?v=fDXQAXjaajk>

15. **Alternative definition for weaker assumptions: CDE and interventional approach**

1. Three different definitions for causal mediation analysis <https://www.youtube.com/watch?v=rPyQtSqvZYc>

2. CDE (1) <https://www.youtube.com/watch?v=DMO0h06FsnM>
3. CDE (2) <https://www.youtube.com/watch?v=m0MwdXFcyGI>
4. Interventional approach (1) – Introduction https://www.youtube.com/watch?v=hVkc_zAwUWQ
5. Interventional approach (2) – Definition https://www.youtube.com/watch?v=ZH_iJ33umak
6. Interventional approach (3) – Identification <https://www.youtube.com/watch?v=AfhVk7VGz3I>

○ 中介效應分析複習(原高等因果推論影片，片名「中介效應分析複習-高等因果推論-Mediation analysis」)

1. 高等因果推論(2.1)Mediation analysis 基本概念與常見的錯誤解讀 <https://youtu.be/y7ibEJ8fPX0>
2. 高等因果推論(2.2)傳統 Mediation analysis 的做法以及 causal mediation <https://youtu.be/uF75Juibt-s>
3. 高等因果推論(2.3)Mediation analysis 三種常見的定義以及 interpretation <https://youtu.be/cuLdk0JHYTw>
4. 高等因果推論(2.4)Mediation analysis 三種常見的定義在辨識中需要的假設及其意義 <https://youtu.be/NT0ag-sF9c4>
5. 高等因果推論(2.5)Mediation analysis identification and estimation <https://youtu.be/Ti6Vru0pe-s>

○ 多重中介效應(Multiple mediation)

1. 高等因果推論(4.1) Multi-mediation analysis (01) – DAGs https://www.youtube.com/watch?v=ilLnp91p_HM
2. 高等因果推論(4.2) Multi-mediation analysis (02) – counterfactual (1) <https://www.youtube.com/watch?v=sd7WsdCNqNU>
3. 高等因果推論(4.3) Multi-mediation analysis (03) – counterfactual (2) <https://www.youtube.com/watch?v=sJSKoAwc-oE>
4. 高等因果推論(4.4) Multi-mediation analysis (04) – Difficulty of identification <https://www.youtube.com/watch?v=kuRXr4XGyrA>
5. 高等因果推論(4.5) Multi-mediation analysis (05) – Introduction of different strategy <https://www.youtube.com/watch?v=ho1wQrJaaYc>
6. 待建置

○ **時變系統的因果推論(time-varying system and g-formula)**

1. 高等因果推論(5.1)Introduction of time-varying system <https://www.youtube.com/watch?v=U799UimwVOM>
2. 高等因果推論(5.2)DAGs of time-varying system <https://www.youtube.com/watch?v=yGHkPFfXyTc>
3. 高等因果推論(5.3)Why regression fail and g-formula in simple case <https://www.youtube.com/watch?v=G6Mv8q5oBJY>
4. 高等因果推論(5.4) g-formula (1) – <https://www.youtube.com/watch?v=pgXescqEqnU>
5. 高等因果推論(5.5) g-formula (2) – <https://www.youtube.com/watch?v=RzipcAt9Fls>
6. 高等因果推論(5.6) g-formula (3) – <https://www.youtube.com/watch?v=PFC8AJu-tm4>
7. 高等因果推論(5.7) g-formula (4) – https://youtu.be/1SlLx_bdFbM
8. 高等因果推論(5.8) g-formula (5) – <https://youtu.be/kT9Nj0Tycqw>
9. 高等因果推論(5.9) g-formula (6) – <https://youtu.be/6NoBzk1sJX4>
10. 高等因果推論(5.10) g-formula (7) – <https://youtu.be/QQjNm4piEdI>
11. 高等因果推論(5.11) g-formula (8) – <https://youtu.be/7Wm88g3mKfo>

○ **死亡截切與競爭事件(Death truncation and competing event)**

1. 高等因果推論(6.1)Death truncation 統計中的 missing 以及處理方法 <https://youtu.be/JUNQevhwEyK>
2. 高等因果推論(6.2)Death truncation missing data in causal inference <https://youtu.be/FmmQ-2ZMb9o>
3. 高等因果推論(6.3)Principal stratification <https://youtu.be/JDsmP-rRbGo>
4. 高等因果推論(6.4)Death truncation SACE <https://youtu.be/DyxNfdW-kPI>
5. 高等因果推論(6.5)定義有 competing event 下 causal effect 的五種方法 <https://youtu.be/DIznnqzCmUs>
6. 高等因果推論(6.6)Death-truncation_mediation(1)_mortality outcome_為何 NDENIE 不完備以及三種方法 https://youtu.be/eMk-Js7w_zM
7. 高等因果推論(6.7)Death-truncation_mediation(2)dtNDE, dtNIE, 以及 survival mediation formula <https://youtu.be/cnjfAVaviSo>
8. 高等因果推論(6.8)Death-truncation_mediation(3)_non-mortality outcome <https://youtu.be/qRRKuAoukxo>

- 最新研究方法

1. 高等因果推論(3)最新研究方向 <https://youtu.be/PJ0v9KcHIyI>

- Data analysis DEMO

1. DEMO1: [檔案](#) [影片](#)
2. DEMO2: [檔案](#) [影片](#)
3. DEMO3: [檔案](#) [影片](#)

- 待建置

整合式中介-交互作用分析(Integrated Mediation-Interaction Analysis)

- 其他影片

1. 20240301 中介效應與交互作用分析課堂錄影 PART1 <https://youtu.be/VUnWixoX6DI>
2. 20240301 中介效應與交互作用分析課堂錄影 PART2 <https://youtu.be/KXASd6CmGBs>