梅州市中医医院研究生文献汇报会（第三期）

2026年3月12日

时间	题目	讲者
16: 00-16: 15	心力衰竭后的认知功能轨迹	熊洋漾
16: 20-16: 35	中国护士职业倦怠的系统性根源：基于社交媒体数据的自然语言处理混合方法研究	蓝科

指导老师：李佳殷、韩文聪、刘舒明、梁家华、张悦

第二期研究生文献汇报会（通讯员：蓝科）

第一节　主讲人：2024级硕士熊洋漾

题目：心力衰竭后的认知功能轨迹（DOI：10.1161/CIRCHEARTFAILURE.124.011837）

一、研究背景：

1.心力衰竭（HF）是一种全球常见的疾病，给患者、家庭和医疗系统带来沉重负担。HF的管理复杂，高度依赖患者的认知能力，包括药物依从性、生活方式调整和医疗协调。然而，HF发病后认知功能的具体变化轨迹和幅度尚不清楚。既往研究虽表明HF患者认知障碍患病率高，但普遍缺乏在HF诊断前后对同一人群进行重复认知评估的数据，因此无法准确区分年龄相关自然衰退与HF事件本身的影响。

2.随着HF患者数量增加，明确HF对认知功能的短期和长期影响，对临床实践和卫生政策制定具有重要意义。本研究

旨在通过整合6个大型美国前瞻性队列的个体数据,评估在控制已知影响因素和基线认知轨迹后,心力衰竭诊断与认知功能变化之间的关联。

二、研究结论:

1.HF 诊断与认知功能显著且持续地下降相关:在调整了 HF 前的认知下降斜率及其他混杂因素后,研究发现,HF 诊断与全局认知(立即下降 1.08 点)和执行功能(立即下降 0.65 点)的显著立即下降相关。不仅如此,在 HF 诊断后,这些认知领域还出现了加速衰退(全局认知年均额外下降 0.15 点,执行功能年均额外下降 0.16 点)。记忆领域的变化未达到统计学显著性,但呈现类似下降趋势。

2.揭示了长期认知加速衰退的严重性:HF 患者的认知衰退速率显著快于非 HF 人群。研究估计,这种加速衰退相当于在 HF 诊断后的 7 年内,认知老化提前了约 10 年,凸显了 HF 对脑健康的长期负面影响。

3.亚组差异显著:亚组分析表明,老年人、女性和白种人在 HF 诊断后认知下降更为明显。例如,年龄每增加 10 岁,HF 诊断时全局认知的初始下降幅度额外增加 1.52 点;与黑人相比,白人在 HF 诊断后的初始认知下降更大。

三、研究的创新性

1.研究设计创新:本研究是首个大规模汇总队列研究,能够同时评估 HF 诊断时的即时认知变化(截距变化)和诊断后

长期的认知下降斜率变化，并严格控制了基线（HF 前）的认知轨迹，从而更精准地揭示了 HF 的特有影响。

2.方法学先进：采用线性混合效应模型处理纵向数据，并运用项目反应理论对来自不同队列的多种认知测试进行协调，转化为可比的标准分(t 分数),增强了结果的可靠性和可比性。

3.深入的人群异质性分析：研究不仅给出了总体关联，还深入分析了年龄、性别、种族/民族对 HF 与认知关联的修饰效应，有助于识别认知下降风险更高的 HF 患者亚群，为个体化管理和干预提供了方向。

四、老师总结与点评：

本次汇报围绕一篇发表于心血管顶级期刊的高质量研究展开，汇报人较好地把握了研究的核心逻辑，从研究背景、方法、结果到结论的阐述条理清晰。该研究本身具有重要的临床与科研价值：

1. 研究设计严谨，证据级别高：整合 6 大队列近 3 万人的数据，样本量大、随访时间长，并采用先进的统计方法控制混杂，结论稳健。

2. 临床意义明确：直接证实了 HF 是认知加速衰退的独立危险因素，强烈提示应将认知功能评估纳入 HF 患者的常规管理，并考虑在治疗决策中关注患者的认知状态。

3. 启发科研思路：研究揭示了 HF 与认知衰退关联中尚未被传统血管风险因素完全解释的部分，提示可能存在炎症、脑

灌注不足等非传统机制，为后续机制探索和干预研究提供了新的方向。

本次汇报的核心不足为难以复现同样的文章，数据库中的数据难以获取，且提取同样的数据耗时较大。同时要深入剖析文章的统计学图表部分，以及思考为何该文献使用的统计学方法和与传统的数据库文章的统计学方法的区别。

后续开展文献阅读与检索时，选择与目前研究的课题方向相关的文献，以及选择容易复刻的文献，合理的将文献利用到研究中作为参考。

Table 2. Baseline Characteristics Between Participants Who Did and Did Not Have an Incident Heart Failure Diagnosis During Follow-Up

Characteristic	Participants without incident heart failure (n=28 207)	Participants with incident heart failure (n=1407)	*P* value
Age at cohort enrollment, mean ±SD, y	52.8±16.6	65.3±12.7	<0.001
Age at first cognitive assessment, mean ±SD, y	60.7±10.5	67.8±9.4	<0.001
Female sex	15 375 (54.5%)	768 (54.6%)	0.98
Race and ethnicity			<0.001
White	19 812 (70.2%)	1020 (72.5%)	
Black	6305 (22.4%)	256 (18.2%)	
Hispanic (any race)	2090 (7.4%)	131 (9.3%)	
Education			<0.001
Eighth grade or less	2785 (9.9%)	236 (16.8%)	
Grades 9–11/some high school	2894 (10.2%)	183 (13.0%)	
Completed high school	7863 (27.9%)	398 (28.3%)	
Some college but no degrees	5067 (18.0%)	264 (18.8%)	
College degree or higher	9598 (34.0%)	326 (23.2%)	
Study cohort			<0.001
ARIC	11 267 (39.9%)	267 (19.0%)	
CARDIA	3643 (12.9%)	9 (0.6%)	
CHS	4366 (15.5%)	781 (55.5%)	
FOS	3347 (11.9%)	126 (9.0%)	
MESA	3055 (10.8%)	5 (0.4%)	
NOMAS	2529 (9.0%)	219 (15.6%)	
Active smoker	5100 (18.1%)	207 (14.7%)	0.001
No. of alcoholic drinks per week			0.004
None	14 486 (51.4%)	744 (52.9%)	
1–6	8540 (30.3%)	442 (31.4%)	
7–13	2877 (10.2%)	101 (7.2%)	
14+	2304 (8.2%)	120 (8.5%)	
Any physical activity	22 509 (79.8%)	1124 (79.9%)	0.96
Body mass index, mean±SD, kg/m²	27.9±5.6	28.4±5.5	<0.001
Waist circumference, mean±SD, cm	96±14	98±14	<0.001
History of myocardial infarction	1056 (3.7%)	157 (11.2%)	<0.001
History of atrial fibrillation	478 (1.7%)	68 (4.8%)	<0.001
Fasting glucose, mean±SD, mg/dL	104.5±33.9	112.8±45.2	<0.001
Low density cholesterol, mean±SD, mg/dL	125.6±36.5	130.1±35.7	<0.001
Glomerular filtration rate, mean±SD, mL/min per 1.73 m²	74.9±19.0	67.6±17.2	<0.001
Use of antihypertensive medications	8710 (30.9%)	685 (48.7%)	<0.001
Cumulative mean systolic blood pressure, mean±SD, mm Hg	137.4±19.0	148.4±20.8	<0.001
Cognitive scores at first assessment, mean±SD			
Global cognition	51.6±8.1	50.1±7.6	<0.001
Executive function	51.7±8.3	49.4±7.9	<0.001
Memory	50.9±6.5	50.9±5.7	0.34

All categorical variables are n (%). All cognitive measures are set to a *t*-score metric (mean [SD], 50 [10]) at a participant's first cognitive assessment; a 1-point difference represents a 0.1-SD difference in the distribution of cognition across the 6 cohorts. Higher cognitive scores indicate better performance. ARIC indicates Atherosclerosis Risk in Communities; CARDIA, Coronary Artery Risk Development in Young Adults Study; CHS, Cardiovascular Health Study; FOS, Framingham Offspring Study; MESA, Multi-Ethnic Study of Atherosclerosis; and NOMAS, Northern Manhattan Study.

Table 3. Adjusted Changes in Cognitive Function After Incident HF Diagnosis

Measure	Global cognition, n=29 614; coefficient (95% CI)	Executive function, n=26 417; coefficient (95% CI)	Memory, n=19 176; coefficient (95% CI)
Baseline cognitive score	45.17 (44.87 to 45.46)	44.27 (43.94 to 44.59)	49.59 (49.21 to 49.97)
Baseline cognitive slope without incident HF, per year	−0.25 (−0.26 to −0.24)	−0.30 (−0.31 to −0.29)	−0.28 (−0.3 to −0.27)
Difference in baseline cognitive score, per 10-y older age	−2.08 (−2.18 to −1.97)	−2.94 (−3.06 to −2.82)	−1.54 (−1.68 to −1.39)
Initial change in cognitive score around incident HF diagnosis	−1.08 (−1.36 to −0.80)	−0.65 (−0.96 to −0.34)	−0.51 (−1.37 to +0.35)
Change in cognitive slope after incident HF diagnosis, per year	−0.15 (−0.21 to −0.09)	−0.16 (−0.23 to −0.09)	−0.11 (−0.26 to +0.04)

All cognitive measures are set to a *t*-score metric (mean [SD], 50 [10]) at a participant's first cognitive assessment; a 1-point difference represents a 0.1-SD difference in the distribution of cognition across the 6 cohorts. Higher cognitive scores indicate better performance. A linear mixed-effects model was used with a time-varying incident HF covariate to estimate the association between incident HF diagnosis and initial decline in cognitive function (intercept) around the time of the event and a time since HF diagnosis variable to estimate the association between incident HF and the decline in cognitive function (slope) over time. Other covariates include time since first cognitive assessment, race and ethnicity, sex, education, study cohort, alcoholic drinks per week, current cigarette smoking, any physical activity, body mass index, waist circumference, history of myocardial infarction, history of atrial fibrillation, fasting glucose, low-density cholesterol, glomerular filtration rate, use of antihypertensive medications, cumulative mean systolic blood pressure (treated as a time-independent variable), age×follow-up duration, race-ethnicity×follow-up duration, and sex×follow-up duration. All covariates were measured either before or on the day of the first cognitive assessment. All the continuous variables, including age, body mass index, waist circumference, low-density cholesterol, glomerular filtration rate, and cumulative mean systolic blood pressure, were centered at the median. HF indicates heart failure.

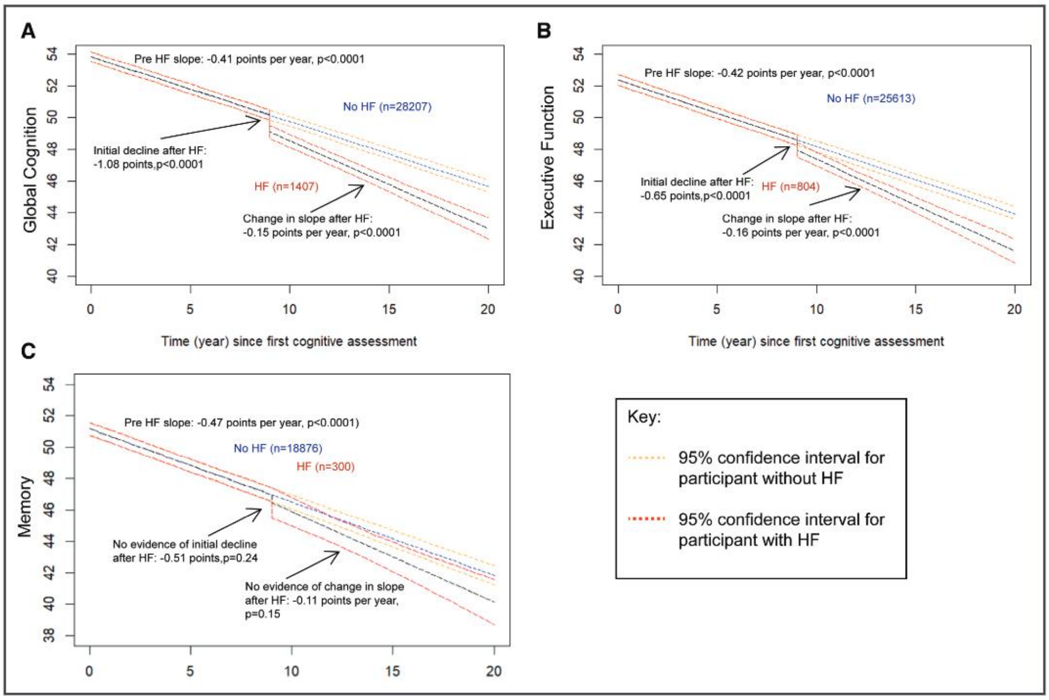


Figure 2. Predicted trajectory of change in cognitive function before and after heart failure (HF) diagnosis.
Global cognition measures global cognitive performance. All cognitive measures are set to a *t*-score metric (mean 50, SD 10) at a participant's first cognitive assessment; a 1-point difference represents a 0.1 SD difference in the distribution of the specified cognitive domain across the 6 cohorts. Higher cognitive scores indicate better performance. Cognitive observations were censored after stroke. Graphs represent a 70-year-old White male with a college degree or higher education, nonsmoker, no alcohol use, no history of atrial fibrillation, no history of myocardial infarction, some physical activity, no antihypertensive medication use, body mass index of 27.1 kg/m², waist circumference of 95.2 cm, fasting blood glucose of 97 mg/dL, low-density lipoprotein cholesterol of 124 mg/dL, glomerular filtration rate of 73 mL/min per m², and cumulative mean systolic blood pressure of 136 mm Hg. All values for continuous variables have been centered to the cohort median. **A**, Mean change in global cognition. **B**, Mean change in executive function. **C**, Mean change in memory.

Table 4. Modification of the Adjusted Changes in Cognitive Function After Incident Heart Failure Diagnosis by Age of Heart Failure Onset, Race/Ethnicity, and Sex

Measure	Global cognition, n=29 614; coefficient (95% CI)	Executive function, n=26 417; coefficient (95% CI)	Memory, n=19 176; coefficient (95% CI)
Baseline cognitive score	45.17 (44.88 to 45.47)	44.26 (43.94 to 44.59)	49.59 (49.20 to 49.97)
Baseline cognitive slope without incident HF, per year	−0.25 (−0.26 to −0.24)	−0.30 (−0.31 to −0.29)	−0.3 (−0.31 to −0.29)
Age			
Difference in baseline cognitive score, per 10-y older age	−2.08 (−2.18 to −1.97)	−2.94 (−3.06 to −2.82)	−1.54 (−1.68 to −1.39)
Change in baseline cognitive slope per year without HF, per 10-y older age	−0.15 (−0.16 to −0.15)	−0.12 (−0.12 to −0.11)	−0.18 (−0.20 to −0.17)
Difference in the initial change in cognitive score around incident HF diagnosis, per 10-y older age of HF onset	−1.52 (−1.99 to −1.04)	−0.34 (−1.18 to +0.50)	−1.9 (−3.91 to +0.10)
Difference in the change of cognitive slope per year after incident HF diagnosis, per 10-y older age of HF onset	+0.02 (−0.05 to +0.10)	+0.37 (+0.18 to +0.55)	+0.25 (−0.21 to +0.72)
Race			
Difference in baseline cognitive score in Black vs White individuals	−5.96 (−6.15 to −5.77)	−5.73 (−5.93 to −5.53)	−3.41 (−3.63 to −3.18)
Difference in baseline cognitive slope per year without HF, in Black vs White individuals	−0.01 (−0.03 to +0.01)	+0.01 (−0.01 to +0.02)	−0.07 (−0.09 to −0.04)
Difference in the initial change in cognitive score around incident HF diagnosis, in Black vs White individuals	+0.84 (+0.05 to +1.62)	+1.59 (+0.74 to +2.44)	+0.58 (−1.37 to +2.52)
Difference in the change of cognitive slope per year, after incident HF diagnosis in Black vs White individuals	+0.11 (−0.06 to +0.28)	−0.01 (−0.20 to +0.18)	+0.06 (−0.28 to +0.40)
Ethnicity			
Difference in baseline cognitive score in Hispanic vs non-Hispanic White individuals	−5.32 (−5.68 to −4.96)	−5.67 (−6.11 to −5.22)	−0.59 (−1.37 to +0.18)
Difference in baseline cognitive slope per year without HF, in Hispanic vs non-Hispanic White individuals	+0.11 (+0.09 to +0.14)	+0.04 (−0.02 to +0.10)	+0.28 (+0.18 to +0.37)
Difference in the initial change in cognitive score around incident HF between Hispanic vs non-Hispanic White individuals	+0.58 (−0.37 to +1.53)	+0.48 (−3.83 to +4.80)	+2.92 (−2.85 to +8.68)
Difference in the change of cognitive slope per year, after incident HF in Hispanic vs non-Hispanic White individuals	+0.1 (−0.09 to +0.30)	+0.01 (−2.34 to +2.36)	−1.67 (−4.49 to +1.15)
Sex			
Difference in baseline cognitive score for females vs males	+1.92 (+1.78 to +2.07)	+1.81 (+1.66 to +1.97)	+1.97 (+1.79 to +2.15)
Difference in baseline cognitive slope per year without HF, in females vs males	−0.06 (−0.07 to −0.05)	−0.07 (−0.08 to −0.06)	−0.01 (−0.03 to +0.01)
Difference in the initial change in cognitive score around incident HF diagnosis, in females vs males	−0.74 (−1.31 to −0.18)	+0.4 (−0.22 to +1.02)	−0.43 (−2.16 to +1.31)
Difference in the change in cognitive slope per year, after incident HF diagnosis in females vs males	+0.03 (−0.10 to +0.15)	−0.02 (−0.17 to +0.13)	+0.06 (−0.25 to +0.36)

All cognitive measures are set to a *t*-score metric (mean [SD], 50 [10]) at a participant's first cognitive assessment; a 1-point difference represents a 0.1-SD difference in the distribution of cognition across the 6 cohorts. Higher cognitive scores indicate better performance. The model used is a linear mixed-effects model with the following covariates: time since first cognitive assessment, time-varying incident HF, time after incident HF, age, sex, race and ethnicity, study cohort, education level, number of alcoholic drinks per week, active smoking, body mass index, waist circumference, any physical activity, cumulative mean systolic blood pressure (time-independent variable), antihypertensive medication use, history of myocardial infarction, history of atrial fibrillation, fasting glucose, low-density cholesterol, glomerular filtration rate, age × follow-up duration, race/ethnicity × follow-up duration, sex × follow-up duration, time after HF, race/ethnicity × time-varying incident HF, race/ethnicity × time after HF, sex × time-varying incident HF, sex × time after HF, age of HF onset × time-varying incident HF, and age of HF onset × time after HF. All covariates were measured either before or on the day of the first cognitive assessment. All continuous variables were centered at the median. HF indicates heart failure.

第二节　主讲人：2025 级硕士蓝科

题目：中国护士职业倦怠的系统性根源：基于社交媒体数据的自然语言处理混合方法研究

（DOI: 10.1016/j.jinurstu.2025.105324）

一、研究背景

1. 护士职业倦怠的全球性与中国特殊性：护士因高强度工作成为职业倦怠的高发人群，全球约 1/10 护士报告倦怠，美

国超过 50%。中国情况更为严峻，整体倦怠患病率高达 64.5%，其中 12.5%处于严重水平，严重威胁护理队伍稳定。

2. 传统研究方法的局限：以往研究多采用问卷或访谈，存在两大短板——回忆偏差（事后填写问卷难以准确回忆压力细节）和社会期望效应（面对面访谈时受访者倾向于隐藏真实负面情绪），难以捕捉护士最真实的职业体验。
3. 新研究机会的涌现：护士常在微博、小红书、知乎、丁香园等相对匿名的社交媒体上自发“吐槽”与分享，形成了海量的、未经过滤的“第一人称叙事”数据库，为研究提供了前所未有的真实材料。
4. 研究目的：本研究旨在通过分析护士们在网上自然流露的“吐槽”和分享，系统性地找出导致她们倦怠的核心问题及其背后的深层原因，从而为真正有效的干预提供方向。

二、研究结论

1. 识别出 11 个核心倦怠主题（按 prevalence 排序）：

   T1：职业发展机会有限（15.1%）

   T2：繁重的流程性工作量（14.3%）

   T3：过多的非临床任务与形式主义负担（11.4%）

   T4：昼夜节律紊乱与生理恢复受损（11.3%）

   T5：高强度情绪劳动与情绪耗竭（10.0%）

   T6：不良组织氛围与无效管理（8.5%）

   T7：工作-家庭冲突与缺乏社会支持（7.2%）

T8：早期职业阶段的被剥削感（6.8%）

T9：职场暴力与职业贬低（6.6%）

T10：严重的努力-回报失衡（5.4%）

T11：高负荷科室的复合压力（3.4%）

2. 提出“系统压力模型”：揭示压力从宏观医疗体系矛盾（公益与盈利冲突、价值倒挂、形式主义），传导到中观医院组织生态（高需求、低资源的恶性环境），最终压垮微观个体护士（从早期剥削到身心耗竭再到职业绝望）的完整传导链条。

三、研究的创新性

1. 价值创新：基于一线护士最真实、未修饰的声音，将问题根源从“个人不坚强”转向“系统不健康”，为政策制定者提供了清晰的改革清单。
2. 方法创新：突破传统问卷局限，从公开社交媒体采集大规模实时数据，开辟了理解职业情感等复杂议题的新路径。
3. 思路创新：实现“电脑”与“人脑”的强强联合——用 NLP 处理海量文本发现宏观模式，用研究者深度解读理解背后逻辑，适合研究职业倦怠这类复杂社会现象。

四、老师总结与点评

首先，这次汇报让老师们眼前一亮。这篇文献发表在护理学顶刊《International Journal of Nursing Studies》上，影响因子高达 7.1，是护理领域非常难得的高分成果。老师提到，这是

第一次在研究生文献汇报中看到这么高影响因子的护理研究，也是第一次接触到用社交媒体数据做护理研究的这种方法——非常新颖，很有冲击力。

更值得关注的是，这项研究的作者其实只是广西中医药大学的一个团队，很可能主要由学生构成，而且研究明确标注“未接受任何基金资助”。这说明没有大项目、没有经费支持，靠学生团队也能做出顶刊成果。老师特别强调：这种“低门槛、高产出”的研究范式，非常适合我们现阶段的研究生去学习和模仿——不需要庞大的课题组，不需要昂贵的设备，关键在于找到好的数据源、掌握新的分析方法。

当然，老师也指出了几点需要改进和深入的地方：

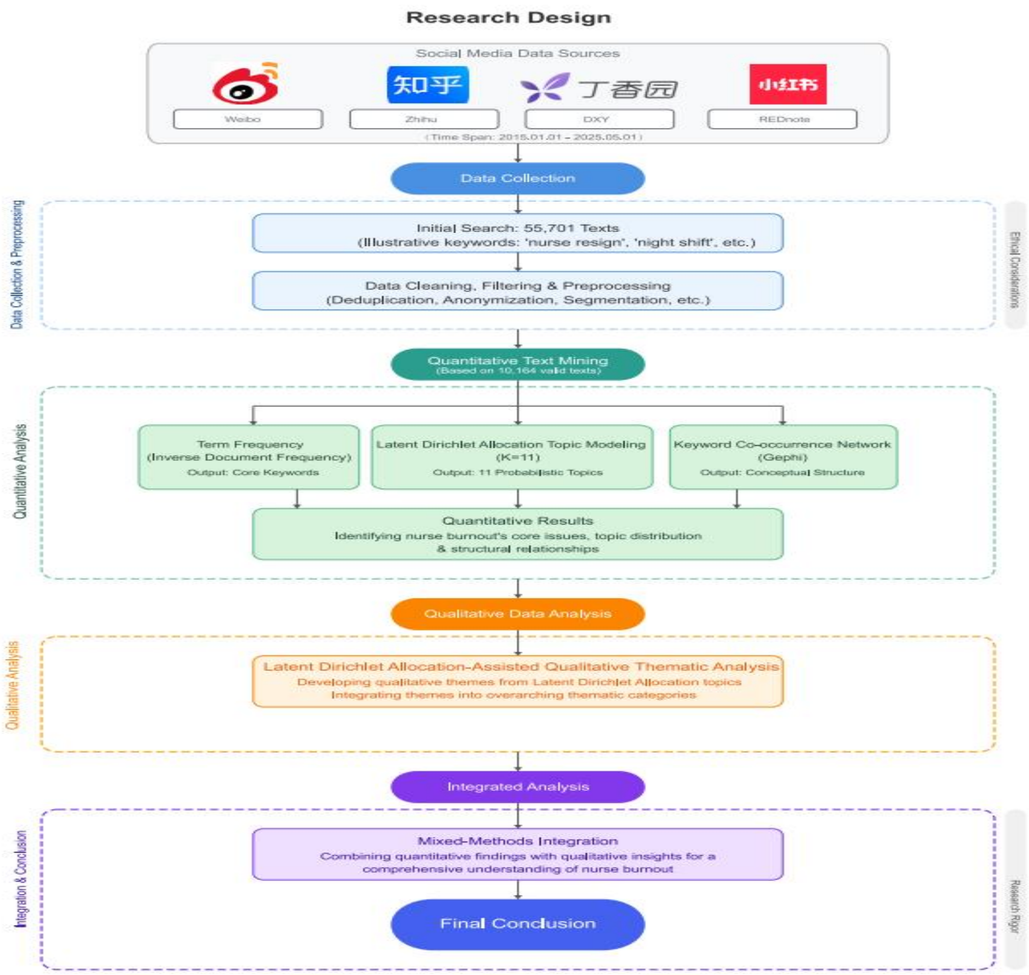
1. 图表绘制工具需要深挖：文章中使用了大量精美的可视化图表（如关键词共现网络图、桑基图、主题距离图等），这些图是用什么软件、什么方法绘制的？作为汇报人，需要对技术细节有更深入的了解，才能在汇报中讲清楚、讲透彻。

2. 选题应与自身研究方向结合：汇报最后的“对自身研究的启示”部分，虽然提到了可以将该方法拓展到其他群体（如医学生、护生等），但没有结合我自己的研究方向和课题进行具体阐述。老师希望下次能看到更落地的思考——比如，我的小论文方向是否可以用类似的方法？我关注的群体是否也有类似的“网络声音”可以挖掘？

3. LDA 主题模型的理解需要深化：作为本研究的核心技术工

具，LDA 主题模型的原理、K 值确定过程、一致性评分等细节，可以在后续学习中进一步钻研。只有把工具吃透，将来自己用的时候才能真正得心应手。

总之，这次汇报选题前沿、解读到位，展现了护理研究方法创新的可能性，也为我们自己开展类似研究打开了思路。后续可以在技术细节深挖、选题与自身方向结合上下功夫，让文献解读更有深度、更接地气。



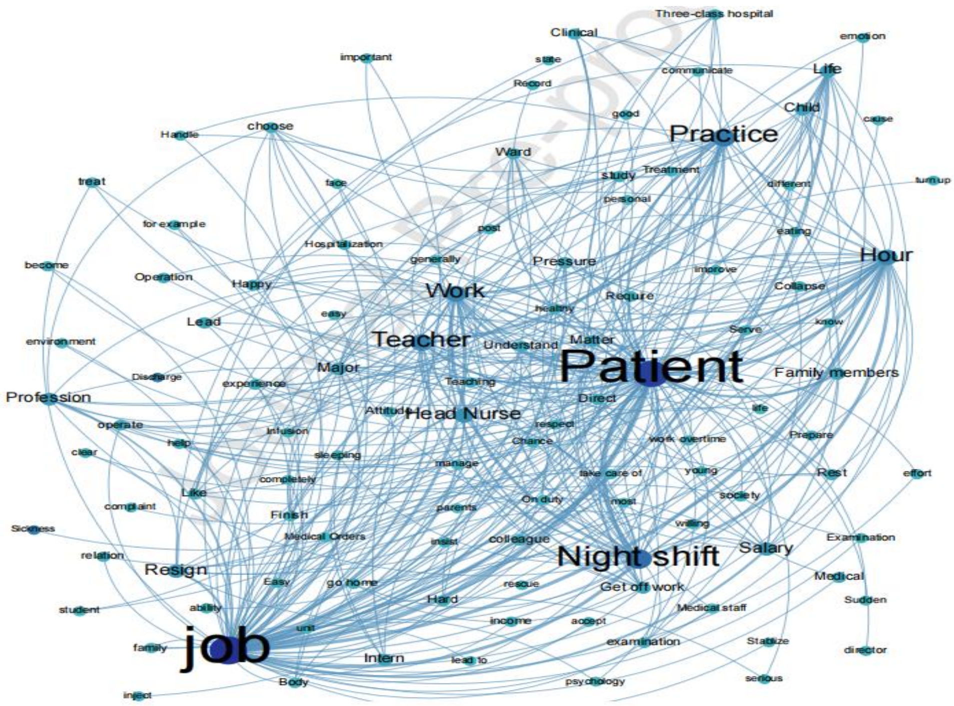
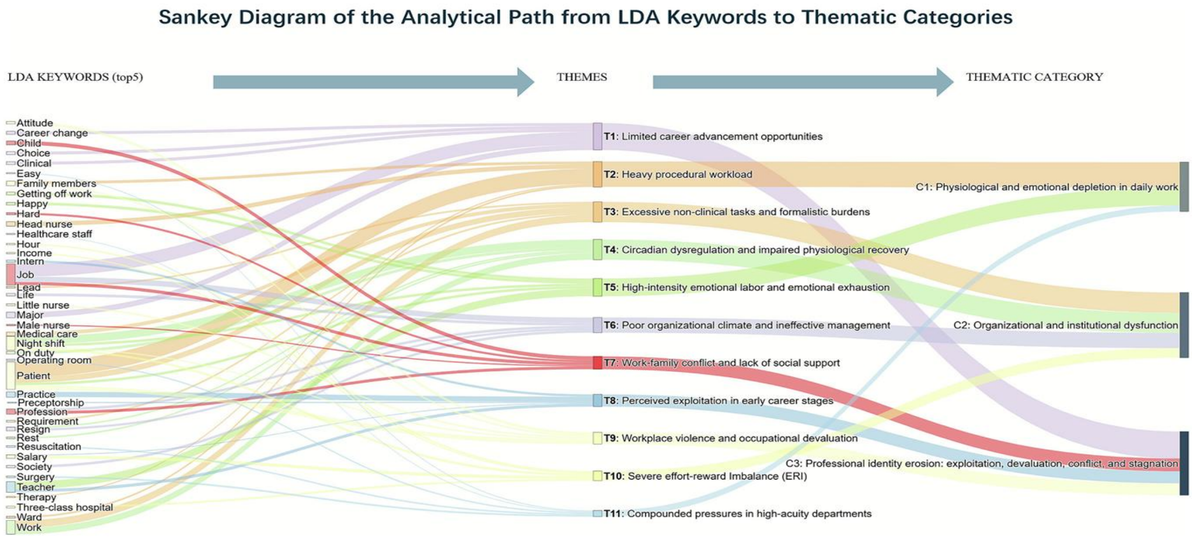


Fig. 2. Keywords co-occurrence network

Table 1

Summary of all 11 Latent Themes Identified from 9883 documents, with keywords and prevalence.

Theme number	Theme title	Keywords (probability)	Prevalence (n = 9883), n (%)
1	Limited career advancement opportunities	Job (0.0477), major (0.0205), clinical (0.0109), choice (0.0109), career change (0.0108), learning (0.0107), practice (0.0082), effort (0.0070), time (0.0062), like (0.0059), experience (0.0051), teacher (0.0050), career (0.0050), position (0.0050), patient (0.0047), opportunity (0.0046), life (0.0044), university (0.0043), exam (0.0042), company (0.0042)	1492 (15.1 %)
2	Heavy procedural workload	Patient (0.0986), head nurse (0.0282), family members (0.0178), ward (0.0117), therapy (0.0079), infusion (0.0079), handover (0.0079), duties (0.0078), medical orders (0.0076), handling (0.0070), time (0.0068), record (0.0067), hour (0.0066), surgery (0.0065), on duty (0.0064), work (0.0064), night shift (0.0064), procedure (0.0061), resuscitation (0.0058), tasks(0.0058)	1413 (14.3 %)



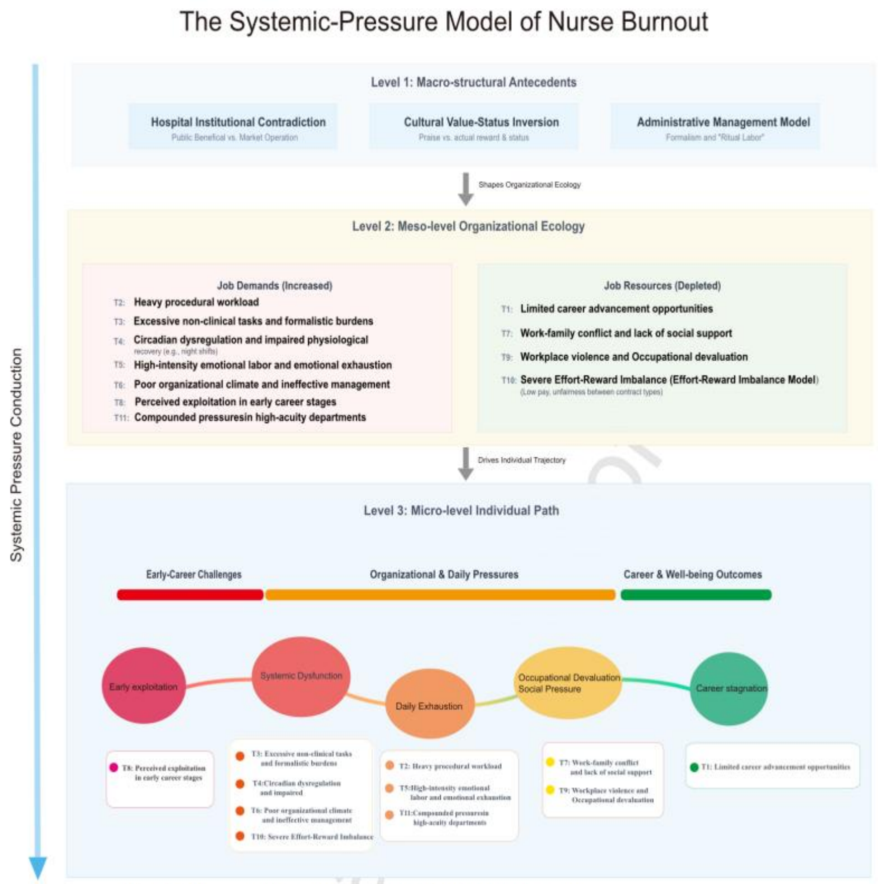


Fig. 4. The systemic-pressure model of nurse burnout