



設計長壽社會：
高齡社會的勞動 ♥ 福祉與創新
Designing Longevity: Work, Welfare
and Innovation in Ageing Societies



— INTERNATIONAL CONFERENCE —

2026

設計長壽社會：
高齡社會的勞動 ♥ 福祉與創新

Designing Longevity: Work, Welfare
and Innovation in Ageing Societies

摘要電子手冊

— ABSTRACTS E-BOOK —

10.1_{THU} → 10.3_{SAT}

📍 台北世貿(南港館)

主辦單位：



國立中正大學

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高齡社會勞動與福祉研究中心

2026設計長壽社會：高齡社會的勞動、福祉與創新國際研討會議程

2026 Designing Longevity: Work, Welfare, and Innovation in Ageing Societies International Conference

第一天 十月一日（星期四）

時間	場地	活動內容		
		402A	402B	402C
09:00~09:30		報到(30mins)		
09:30~10:15 (45mins)		開幕式 政府官方代表：教育部劉國偉政務次長、衛福部呂建德政務次長、勞動部李健鴻政務次長、黃榮村前教育部部長 學術界代表：國立中正大學蔡少正校長、臺北市立大學邱英浩校長、暨南國際大學武東星校長、慈濟大學劉怡均校長、國立空中大學林俊裕教務長 業界代表：國際創新長壽社企公司 TICA 董事長暨宏碁集團創辦人施振榮先生、俊可傳媒創辦人李正雄先生		
10:15~10:30 (15mins)		休息時間		
10:30~11:05 (35mins)		專題演講：Work, Learning and Employability in the AI Age 主講人：Wai Luen, Terence Ho (Singapore) 主持人：教育部終身教育司梁學政司長		
11:05~11:15 (10mins)		休息時間		
11:15~11:50 (35mins)		專題演講：From Manchester to Manila: what a man with no one to go out with tells us about the failure of global economic policy on ageing 主講人：David Sinclair (ILC, UK) 主持人：國立中正大學戴浩一講座教授		
11:50~13:00 (70mins)		午餐時間		
13:00~14:20 (80mins)		Thematic panel 01 從陪伴、支持到學習、賦能-追尋高齡者邁向長壽的生命品質 主持人：張德永教授（國立臺灣師範大學社會教育學系） 發表人： ●1林彩媚博士候選人（國立臺灣師範大學社會教育學系） ●2盧祥富博士生（國立臺灣師範大學社會教育學系） ●3涂喜敏博士候選人（國立臺灣師範大學社會教育學系） 評論人：林儷蓉教授（國立臺灣師範大學運動休閒與餐旅管理研究所系）、鄭曉楓教授（國立臺灣師範大學教育心理與輔導學系）	論文發表 A AI 賦能長壽社會：無界學習、健康促進與政策創新 主持人：崔曉倩教授（國立中正大學經濟系教授兼清江進修推廣暨數位學習中心主任） 發表人： ■A1王玉如兼任助理教授/吳志康兼任副教授/胡夢鯨特聘教授 ■A2李莉娟助理教授 ■A3林嘉琪教授	Thematic panel 02 跨生命歷程的健康促進與學習創新-自然療癒、運動介入與 AI 失智溝通訓練 主持人：翁士恆副教授（臺北市立大學心理與諮商學系主任） 發表人： ●1彭凱榆（臺北市立大學身心障礙者轉銜及休閒教育學程研究生） ●2鄭伊玲（臺北市立大學心理與諮商學系碩士生） ●3胡聖民（臺北市立大學USR 計劃專任助理）

時間	場地	活動內容		
		402A	402B	402C
14:20~15:40 (80mins)		Thematic panel 03 老化的韌性與長壽 主持人：戴浩一講座教授（國立中正大學語言學研究所兼人文與社會研究中心主任） 發表人： ●1徐晏萱教授（國立中正大學心理學系/高齡社會勞動與福祉研究中心副主任） ●2陳丹怡博士後研究員（國立中正大學人文創新與社會實踐計畫） ●3戴浩一講座教授（國立中正大學語言學研究所兼人文與社會研究中心主任）	Thematic panel 04 學習續航長壽社會：友善學習環境、數位健康與中年職涯再設計 主持人：李雅慧教授（國立中正大學成人及繼續教育學系教授兼通識教育中心主任） 發表人： ●1賴一予博士生（國立中正大學成人及繼續教育學系） ●2查顯達博士生（國立中正大學成人及繼續教育學系） ●3潘叡昱博士生（國立中正大學成人及繼續教育學系）	Thematic panel 05 終身多元學習：跨世代成效、影像創作與幸福感建構 主持人：廖珮玟副教授（國立空中大學商學系） 發表人： ●1廖珮玟副教授（國立空中大學商學系） ●2施伯燁副教授（國立空中大學人文學系） ●3張歆祐副教授（國立空中大學生活科學系）
15:40~16:00 (20mins)		茶敘時間		
16:00~17:20 (80mins)		Thematic panel 06 微型學習與彈性認證：廣播教育與開放式大學的創新與實踐 主持人：林博文校長（國立中正大學高齡社會勞動與福祉研究中心特聘顧問） 共同發表人： ●1黃月麗臺長（國立教育廣播電臺） ●2林俊裕教授（國立空中大學教務長） ●3黃國瑞教授（高雄市立空中大學法律系主任） 評論人：賴弘基教授（國立暨南國際大學諮商心理與人力資源發展學系）	論文發表 B 智慧健康與地方創生：長壽社會的參與、需求與創新 主持人：徐晏萱教授（國立中正大學心理學系/高齡社會勞動與福祉研究中心副主任） 發表人： ■B1莊采穎/郭信宏助理教授 ■B2蔡文宜助理教授 ■B3戴慧真博士生	Thematic panel 07 長壽社會福祉：數位轉型、學習困境與在地化依戀 主持人：陳靜怡教授（國立空中大學生活科學系） 發表人： ●1李建錠副教授（國立空中大學管理與資訊學系）、林義倫組長、陳彥良技正、卓美涓技士（國立空中大學資訊科技處） ●2林添增副教授（國立空中大學社會科學系）、陳思帆副教授（國立臺南大學諮商與輔導學系） ●3陳靜怡教授（國立空中大學生活科學系）
17:20~		迎賓晚宴		

第二天 十月二日（星期五）

場地 時間	活動內容		
	402A	402B	402C
08:30~09:00	報到(30mins)		
09:00~09:30 (30mins)	專題演講：Social Engagement and Healthy Ageing: Evidence for Cognitive and Mental Health Benefits in Older Adults 主講人：Lee Smith (UK) 主持人：國立中正大學成人及繼續教育學系魏惠娟教授兼高齡教育研究中心主任		09:00~10:20 (80mins)
09:30~10:00 (30mins)	專題演講：Designing the future workforce: working towards 2050 主講人：Hope Scott, International Longevity Centre UK, ILC-UK) 主持人：國立臺灣大學國家發展研究所辛炳隆副教授		
10:00~10:10 (10mins)	休息時間		
10:10~10:40 (30mins)	專題演講：Designing Longevity through Social Innovation: Co-Creating Connected Communities in the Waigaya Project 主講人：Prof. Keiko Katagiri, Kobe University 主持人：亞洲大學健康產業管理學系胡淑貞特聘教授兼醫健學院院長		10:20~10:40
10:40~10:50	休息時間(10mins)		10:40~12:00 (80mins)
10:50~11:20 (30mins)	高齡新知・世界發聲 國際期刊創刊啟航 Journal Launch Journal of Aging, Work & Wellbeing 國立中正大學 高齡社會勞動與福祉研究中心 主持人：李雅慧教授兼副主任兼通識中心主任 Institute for Aging, Work and Well-being (IAWW)		
11:20~11:30	休息時間(10mins)		
11:30~12:00 (30mins)	《當我們老後：活生生的法律》 新書發表會 Book Launch 新書分享人： 國立中正大學法律系施慧玲教授 台灣長者人權學會何至皓秘書長		
			Thematic panel 08 終身學習邁向美好生活：驅動長壽社會創新與跨域共創的教育藍圖 主持人：林麗惠教授（國立中正大學成人及繼續教育學系系主任） 發表人： ●1賴弘基教授（暨南國際大學諮商心理與人力資源發展學系） ●2黃錦山教授（國立中正大學成人及繼續教育學系） ●3潘紅慧助理教授（國立中正大學成人及繼續教育學系） 評論人：胡夢鯨教授（國立中正大學成人及繼續教育學系）
			休息時間 (20mins)
			海報發表

場地 時間	活動內容				
	402A	402B	402C		
12:00~13:00 (60mins)	午餐時間				
13:00~14:20 (80mins)	Thematic panel 09 從社會連結到綠地參與：高齡友善社區的社會資本、心理福祉與在地老化 主持人：陳毓璟教授（國立中正大學成人及繼續教育學系） 發表人： ●1張聖琳教授（國立臺灣大學建築與城鄉研究所）、許宜珮教授（逢甲大學建築專業學院） ●2張伯茹副教授（國立臺灣大學園藝暨景觀學系） ●3潘紅慧助理教授（國立中正大學成人及繼續教育學系）、劉立凡教授（國立成功大學老年學研究所）	13:00~14:20 (80mins)	論文發表 C 長壽社會的照顧支持：健康識能、安寧療護與成人教育 主持人：盧靖宜副教授（亞洲大學健康產業管理學系） 發表人： ■C1蘇枳晴/馮卓奇講師 ■C2林佳慈博士生 ■C3黃菁萍博士生 ■C4Bei-Yun Wang 博士生	13:00~14:20 (80mins)	論文發表 D 長壽社會的權益保障與學習增能：制度、政策與實踐 主持人：孫若馨副教授（國立臺北護理健康大學 智慧健康照護跨領域學院） 發表人： ■D1劉宜君教授兼學務長、陳怡蓓助理教授兼校務研究中心主任 ■D2何至皓博士生 ■D3吳子頤博士生/張文馨社會工作師
14:20~15:40 (80mins)	Thematic panel 10 打造跨世代智慧學習新契機 主持人：林松柏教務長（國立暨南國際大學） 發表人： ●1陳建良菁英特聘教授兼（國立暨南國際大學副校長） ●2陳正芳教授（國立暨南國際大學中文系） ●3劉美吟助理教授、梁鎧麟副教授（國立暨南國際大學高齡健康與長期照顧管理學士學位學程原住民族專班） ●4林松柏教授（國立暨南國際大學教育政策與行政學系兼教務長）	14:20~15:40 (80mins)	Thematic panel 11 前瞻高齡社會的勞動市場：談促進中高齡者重返職場與建構尊嚴勞動的就業環境 主持人：林詩騰組長（勞動部勞動及職業安全衛生研究所勞動市場研究組） 發表人： ●1吳慧娜副研究員（勞動部勞動及職業安全衛生研究所勞動市場研究組） ●2高慧珠助理研究員（勞動部勞動及職業安全衛生研究所勞動市場研究組） ●3顏雅婷副研究員（勞動部勞動及職業安全衛生研究所勞動關係研究組）	14:20~15:40 (80mins)	Thematic panel 12 健身、健心、健腦：以臨床心理與運動指導為核心的跨專業人才培訓和健康促進之多模組推廣系統 主持人：李志謙理事長（嘉義市臨床心理師公會） 共同發表人： ●1王重凱博士生（國立中正大學教育學研究所運動與休閒教育組） ●2吳博軒博士生（國立中正大學心理學系臨床心理學研究所）

場地 時間	活動內容				
	402A	402B		402C	
15:40~16:00	茶敘時間 (20mins)	15:40~16:10 (30mins)	專題演講(線上) Understanding the Disproportional Effects of Environmental Change and Associated Planetary Health Risks on Ageing and Older Adult Populations 主講人：Sally Fowler-Davis (UK) (online) 主持人：徐晏萱教授兼高齡社會勞動與福祉研究中心副主任	15:40~16:00	茶敘時間(20mins)
		16:10~16:20	線上轉場		
16:00~17:20 (80mins)	Thematic panel 13 高齡社會歧視的結構、影響與突破 主持人：陳淑敏副教授（國立清華大學教育與學習科技學系副系主任） 共同發表人： ●1陳淑敏副教授（國立清華大學教育與學習科技學系副系主任） ●2林振春教授（國立臺灣師範大學社會教育學系） ●3詹盛如特聘教授（國立中正大學副校長兼高齡社會勞動與福祉研究中心主任） ●4陳柏霖教授（國立臺北教育大學心理與諮商學系系主任）	16:20~16:50 (30mins)	專題演講(線上) Improving population health and policy design using quantitative data 主講人：Wei Yang (UK) 主持人：國立中正大學高齡社會勞動與福祉研究中心周月清教授	16:00~17:20 (80mins)	Thematic panel 14 高齡學習與數位實踐：從福慧學堂到交通安全教育 主持人：劉怡均校長（慈濟大學） 發表人： ●1高慧娟副教授（慈濟大學醫務暨健康管理學系、兼任環境保護暨職業安全衛中心主任） ●2許峻嘉教授（慈濟大學國際數位媒體科技學士學位學程）

第三天 十月三日（星期六）

場地		活動內容			
時間		402A	402B	402C	
08:30~09:00		報到(30mins)			
09:00~09:30 (30mins)		專題演講："Culture" as a missing pillar in the concept of health: and its implications for social prescribing 主講人：Prof. Naoki Kondo (近藤尚己), Department of Social Epidemiology, Graduate School of Medicine and School of Public Health, Kyoto University (日本京都大學醫學研究科暨公共衛生學院社會流行病學系教授) 主持人：臺北市立大學衛生福利學系王實之教授兼市政管理學院院長	09:00~10:20 (80mins)	Thematic panel 15 中高齡與高齡者之持續就業 主持人：馬財專教授（國立中正大學勞工關係學系教授兼社科院院長） 發表人： ●1林宏陽教授（國立屏東科技大學社會工作系） ●2戴曉惠（中國文化大學勞動暨人力資源學系助理教授） ●3林淑慧（中正大學勞工關係學系副教授兼系主任）、馬財專教授（國立中正大學勞工關係學系教授兼社科院院長）	
09:30~10:00 (30mins)		專題演講：Bridging the Health and Social Care Divide: Social Prescribing as an Integrated Paradigm for Ageing Societies 主講人：Prof. Kheng Hock Lee, Duke-NUS Medical School; Academic Vice Chair, SingHealth Duke-NUS Family Medicine Academic Clinical Programme(杜克—新加坡國立大學醫學院；新加坡保健服務集團—杜克新加坡國立大學家庭醫學學術臨床計畫學術副主任) 主持人：慈濟大學人文醫學科王英偉教授兼主任			
10:00-10:10 (10mins)		綜合座談 General Discussion		10:20~10:40 (20mins)	休息時間
10:10-10:20		休息時間(10mins)			
10:20-11:00 (40mins)		圓桌交流會議 Roundtable Discussion 長壽行動：串聯公共衛生、基層醫療與社區 Longevity in Action: Bridging Public Health, Primary Care and Community 主持人：施慧玲教授 國立中正大學法律學系教授 台灣長者人權學會理事長		10:40-12:00 (80mins)	論文發表 F 長壽社會的數位與學習創新：健康增能與智慧照顧 主持人：陳冠良助理研究員（國立中正大學高齡教育研究中心） 發表人： ■F1黃芳誼副教授 ■F2林玉梅教師/博士 ■F3林則豪博士生/魏惠娟教授 ■F4劉霽琮博士生/胡夢鯨特聘教授
11:00-11:10		休息時間			
11:10-12:00 (50mins)		論文發表 E 長壽社會的服務創新：跨世代共學、AI 賦能與智慧照顧 主持人：蕭玉芬助理研究員（國立中正大學高齡社會勞動與福祉研究中心） 發表人： ■E1葉桂娥園長 ■E2吳茹慧理事長 ■E3余莉苹碩士生/黃文宗副教授			
12:00~13:00 (60mins)		午餐時間			

時間	場地	活動內容		
		402A	402B	402C
13:00~13:40 (40mins)		論文發表 G 數位敘事與成人持續學習 主持人：陳冠良助理研究員（國立中正大學高齡教育研究中心） 發表人： ■G1游立旻研究生/李采儒助理教授/黃妤潔研究生 ■G2江翊甄碩士生		論文發表 H 地方創生與社區參與 主持人：蕭玉芬助理研究員（國立中正大學高齡社會勞動與福祉研究中心） 發表人： ■H1高停雅碩士生/楊晰勛教授 ■H2余金娥碩士生-張苑珍教授
13:40~13:50 (10mins)		休息時間		13:40~14:00 (20mins) 休息時間
14:00~14:40 (40mins)		《時間銀行：理念與實踐》 新書發表會 Book Launch 新書分享人： 國立中正大學 社會福利系吳明儒教授、劉宏鈺助理教授 五南出版社同步進行新書展示		論文發表 I 再就業、照顧勞動與職涯轉銜 主持人：施宇澤助理研究員（國立中正大學高齡社會勞動與福祉研究中心） 發表人： ■I1黃冠豪碩士生 ■I2陳志昇碩士生 ■I3陳香婷碩士生
14:40~15:00 (20mins)		茶敘時間		
15:00~16:00 (60mins)		論文發表 J 失智參與、健康促進與智慧照顧設計 主持人：施宇澤助理研究員（國立中正大學高齡社會勞動與福祉研究中心） 發表人： ■J1張品儀碩士 ■J2秦秀蘭副教授/陳相訓副教授/蕭玉芬助理研究員/翁育玲碩士生 ■J3黃雪芳博士生		(場地撤收)
16:00~16:10		Closing Remark(閉幕)(暫定)		

專題發表 01 Thematic panel 01

從陪伴、支持到學習、賦能： 追尋高齡者邁向長壽的生命品質 From Companionship and Support to Learning and Empowerment: Pursuing Quality of Life for Older Adults in a Longevity Society

主持人：張德永教授（國立臺灣師範大學社會教育學系）

評論人：

林儷蓉教授（國立臺灣師範大學運動休閒與餐旅管理研究所系）

鄭曉楓教授（國立臺灣師範大學教育心理與輔導學系）

發表：

編號	題目	發表人
1	高齡家庭照顧者正念介入方案對提升覺察與緩解 照顧負荷及壓力知覺之探討 A Mindfulness Intervention Program for Older Family Caregivers: Exploring the Effects on Enhancing Mindful Awareness and Alleviating Caregiver Burden and Perceived Stress	林彩媚博士候選人 國立臺灣師範大學社會教育 學系
2	藝術陪伴作為社會處方箋：以蟾蜍山社區《歲月 花》策展促進高齡者社會連結之個案研究 Art Accompanying as Social Prescribing: A Case Study of Enhancing Social Connectedness among Older Adults through the Flowers of Time Community Art Exhibition in Toad Hill Community	盧祥富博士生 國立臺灣師範大學社會教育 學系
3	情境學習取向下生成式人工智慧支持中高齡志工 培力之可行性與學習經驗：前導量化研究 Feasibility and Learning Experiences of Generative AI-Supported Training for Middle-Aged and Older Volunteers: A Pilot Quantitative Study from a Situated Learning Perspective	涂喜敏博士候選人 國立臺灣師範大學社會教育 學系

高齡家庭照顧者正念介入方案對提升覺察與緩解照顧負荷及壓力知覺之探討

林彩媚博士候選人 國立臺灣師範大學社會教育學系

摘要

台灣自 2025 年正式邁入超高齡社會，家庭照顧者長期承受多重身心壓力，卻是長照體系中最被忽視的族群。國際標準正念減壓（MBSR）課程因時間密集、體力需求高，對高齡照顧者存在顯著適配障礙，形成「最需要支持者最難近用支持」的雙重困境。本研究旨在探討優化型正念介入支持團體方案對高齡家庭照顧者正念覺察能力、主觀照顧負荷及壓力知覺之影響，並探究照顧者態度轉化之內在歷程。

本研究採混合研究法，以單組前後測準實驗設計為主體，輔以半結構式訪談進行質性三角檢證。透過立意抽樣，招募20位高齡家庭照顧者分兩梯次參與八週優化型正念支持團體（每週三小時，共 24 小時）；有效問卷 18 份（女性 94.4%，平均62.2 歲，平均照顧年資10.4年），另邀請其中 5 位團體成員進行半結構式訪談，採主題分析法進行質性資料分析。量化工具包含正念注意覺察量表（MAAS）、照顧負荷量表（ZBI-12）及壓力知覺量表（PSS-14）。

量化結果依據成對樣本 *t* 檢定顯示，八週優化型正念介入方案後，三項依變項均呈顯著改變：（1）正念覺察（MAAS）顯著提升；（2）照顧負荷（ZBI-12）顯著降低；（3）壓力知覺（PSS-14）顯著降低。三項效果量均達極佳水準。相關分析進一步顯示，正念覺察改變量與照顧負荷改變量及壓力知覺改變量，均呈顯著負相關，支持正念覺察提升為緩解照顧負荷與壓力知覺之核心共變機制。質性分析則萃取出五大核心主題：（一）打破照顧慣性；（二）照顧負荷的重新詮釋；（三）自我慈心的萌發；（四）人際正念與界限建立；（五）正念的生活化實踐。研究揭示，本優化型正念介入方案在體力友善、時間可及的設計前提下，能有效提升中高齡照顧者之正念覺察，並同步緩解照顧負荷與壓力知覺，以「自我慈心」與「心理韌性（復原力）」為核心支持機制，為長照政策中照顧者身心支持系統之建構提供實證依據，強調照顧者心理賦能的重要性。

關鍵詞：高齡家庭照顧者、正念介入方案、正念覺察、照顧負荷、壓力知覺、自我慈心

A Mindfulness Intervention Program for Older Family Caregivers: Exploring the Effects on Enhancing Mindful Awareness and Alleviating Caregiver Burden and Perceived Stress

Ph.D. Candidate Choi-Mei Lin, Department of Social Education, National Taiwan Normal University

Abstract

Taiwan entered a super-aged society in 2025, yet family caregivers—who bear prolonged physical and psychological strain—remain the most overlooked group within the long-term care system. The internationally standardized Mindfulness-Based Stress Reduction (MBSR) program is time-intensive and physically demanding, posing adaptability barriers for older caregivers and creating a predicament in which those most in need of support find it hardest to access it. This study examined the effects of an optimized mindfulness-based support group program on older family caregivers' mindful awareness, caregiver burden, and perceived stress, and explored their inner process of attitudinal transformation.

A mixed-methods design was adopted, centered on a single-group pretest–posttest quasi-experimental design with semi-structured interviews for qualitative triangulation. Twenty older caregivers were purposively recruited across two cohorts for an eight-week program (three hours weekly, 24 hours total); 18 valid questionnaires were obtained (94.4% female; mean age 62.2 years; mean caregiving tenure 10.4 years). Five participants were interviewed and analyzed thematically. Quantitative instruments comprised the Mindful Attention Awareness Scale (MAAS), the Zarit Burden Interview (ZBI-12), and the Perceived Stress Scale (PSS-14).

Paired-samples t-tests showed significant post-program changes across all variables: mindful awareness increased, while caregiver burden and perceived stress decreased, all with excellent effect sizes. Gains in mindful awareness correlated significantly and negatively with reductions in burden and stress, supporting awareness as the core shared mechanism. Thematic analysis yielded five themes: breaking caregiving inertia, reframing burden, emerging self-compassion, interpersonal mindfulness and boundary-setting, and integrating mindfulness into daily life. Under a physically friendly, time-accessible design, the program enhanced mindful awareness while alleviating burden and stress, with self-compassion and psychological resilience as core mechanisms, offering empirical evidence for embedding caregiver support within long-term care policy and underscoring psychological empowerment.

Keywords: Older Family Caregivers; Mindfulness Intervention Program; Mindful Awareness; Caregiver Burden; Perceived Stress; Self-Compassion

藝術陪伴作為社會處方箋：以蟾蜍山社區《歲月花》策展促進高齡者社會連結之個案研究

盧祥富 博士生 國立臺灣師範大學社會教育學系

摘要

臺灣已邁入超高齡社會，高齡者如何透過社區支持促進社會參與、強化社會連結並提升生活品質。世界衛生組織（WHO）於 2015 年提出「健康老化」概念，強調透過支持性環境與社區參與維持個人功能能力；此外，英國國民保健署（NHS）自 2019 年起將「社會處方箋」納入國家醫療政策，同年成立英國國家社會處方學院（NASP），倡導非醫療介入連結社區資源，以促進健康、福祉與社會參與，近年社區藝術逐漸成為社會處方的重要實踐形式。

本研究以臺北市蟾蜍山社區《歲月花》策展為個案，探討藝術陪伴如何作為社會處方，促進高齡者社會參與與社會連結。研究採質性個案研究法，以半結構式訪談、參與觀察及文件分析等方法蒐集資料，歸納分析3位高齡參與者、1位藝術陪伴教師與2位社區工作者參與經驗，探究藝術陪伴作為社會處方箋之實踐歷程及其促進社會連結的作用機制。

本研究初步發現，藝術陪伴不僅是社區高齡者的藝術創作實踐，更是一種融合陪伴、學習與賦能的社會處方箋模式。高齡者透過個人或集體創作、策展參與及公共展示的歷程，得以重新建構並表達生命經驗；此歷程提升參與者的人際互動、社區歸屬感與社會支持網絡，進而強化其社會連結並有助於支持健康老化及積極老化之實踐。本研究結果顯示，藝術陪伴具有作為社會處方箋之實踐潛力，其成果可作為成人教育、高齡社區工作及社會處方政策推動的重要參考。

關鍵詞：藝術陪伴、社會處方箋、社會連結、健康老化、質性個案研究法

**Art Accompanying as Social Prescribing:
A Case Study of Enhancing Social Connectedness among Older Adults through the
Flowers of Time Community Art Exhibition in Toad Hill Community**

Ph.D. Student Hsiang-Fu Lu, Department of Social Education, National Taiwan Normal University

Abstract

Taiwan has become a super-aged society, making community support increasingly important for promoting social participation, strengthening social connectedness, and enhancing quality of life among older adults. In 2015, the World Health Organization (WHO) introduced the concept of Healthy Ageing, emphasizing supportive environments and community participation in maintaining functional ability. Since 2019, the National Health Service (NHS) in England has incorporated social prescribing into national health policy, while the National Academy for Social Prescribing (NASP) was established to promote non-medical approaches that connect people with community resources for health, well-being, and social participation. Community arts have since emerged as an important form of social prescribing.

This qualitative case study examines the Flowers of Time exhibition in Toad Hill Community, Taipei, exploring how art accompanying as social prescribing fosters social participation and connectedness among older adults. Data were collected through semi-structured interviews, participant observation, and document analysis, involving three older participants, one art companionship instructor, and two community workers. The study investigates the practice of art accompanying as social prescribing and the mechanisms through which it fosters social connectedness.

Preliminary findings indicate that art accompanying is not only an artistic practice for older adults but also a form of social prescribing integrating companionship, learning, and empowerment. Through individual and collective art-making, curatorial participation, and public exhibition, older adults reconstructed and expressed their life experiences. These processes enhanced interpersonal interaction, community belonging, and social support networks, thereby strengthening social connectedness and supporting healthy and active ageing. The findings highlight the potential of art accompanying as social prescribing and offer practical implications for adult education, community-based work with older adults, and social prescribing policy.

Keywords: Art Accompanying; Social Prescribing; Social Connectedness; Healthy Ageing; Qualitative Case Study

情境學習取向下生成式人工智慧支持中高齡志工培力之可行性與學習經驗：前導量化研究

涂喜敏 博士生候選人 國立臺灣師範大學設為教育學系

摘要 Abstract

臺灣已邁入超高齡社會，中高齡志工如何持續運用生命經驗與志願服務能量，並因應志願服務數位化發展，已成為志工培力的重要課題。生成式人工智慧（Generative Artificial Intelligence, GenAI）具備互動、情境模擬與反覆練習等特性，為中高齡志工提供新的學習支持可能。然而，目前相關研究多聚焦一般學習者或專業訓練者，對中高齡志工應用 GenAI 進行情境式培力之研究仍有限。本研究以情境學習為理論取向，探討 GenAI 支持中高齡志工情境式培力之可行性與學習經驗，研究問題聚焦於互動擬真性、練習便利性、學習焦慮、心流體驗及訓練專業價值。研究採前導量化研究設計，以國內非營利心理健康服務機構20名45歲以上志工為對象，導入生成式人工智慧虛擬角色（GPT-NPC）進行情境互動與反覆練習，並以描述性統計分析參與者之學習經驗與訓練評價。本研究預期透過小樣本前導資料，檢視訓練情境與研究工具之可行性，並作為後續擴大樣本研究之基礎。實務上，研究結果可提供志工培訓者設計具情境性、可重複及具人工監督之 GenAI 培力模式參考，並協助中高齡志工在數位化志願服務環境中持續學習與參與。

關鍵字：生成式人工智慧、中高齡志工、情境學習、志工培力、學習經驗

Feasibility and Learning Experiences of Generative AI-Supported Training for Middle-Aged and Older Volunteers: A Pilot Quantitative Study from a Situated Learning Perspective

Ph.D. Candidate Hsi-Min Tu, Department of Social Education, National Taiwan Normal University

Abstract

Taiwan has entered a super-aged society, making the continued engagement of middle-aged and older volunteers an important issue for volunteer training and participation. Generative artificial intelligence (GenAI), with its capacity for interactive simulation and repeated practice, may provide an alternative form of training support. However, existing research has focused mainly on general learners and professional trainees, with limited attention to GenAI-supported training for middle-aged and older volunteers. Guided by situated learning, this study examines the feasibility and learning experiences associated with GenAI-supported situational training for middle-aged and older volunteers. The study focuses on perceived interaction fidelity, practice convenience, learning anxiety, flow experience, and perceived professional training value. A pilot quantitative design will be adopted with 20 volunteers aged 45 years and above from a nonprofit mental health service organisation in Taiwan. Participants will engage in situational interactions and repeated practice with a generative AI-based virtual character (GPT-NPC). Descriptive statistics will be used to examine participants' learning experiences and evaluations of the training. The study is expected to provide preliminary evidence on the feasibility of the training scenario and research measures, while informing the design of subsequent studies with larger samples. In practice, the findings may offer guidance for developing situational, repeatable, and human-supervised GenAI-supported training for middle-aged and older volunteers and for supporting their continued learning and participation in increasingly digital volunteer services.

Keywords: Generative artificial intelligence; middle-aged and older volunteers; situated learning; volunteer training; learning experiences

專題發表 02 Thematic panel 02

跨生命歷程的健康促進與學習創新： 自然療癒、運動介入與 AI 失智溝通訓練 Health Promotion and Learning Innovation Across the Life Course: Nature-Based Healing, Exercise Interventions, and AI- Assisted Communication Training for Dementia Care

主持人：翁士恆副教授（臺北市立大學心理與諮商學系主任）

發表：

編號	題目	發表人
1	武術運動對注意力不足過動症兒童抑制控制與問題行為之影響 The Effects of Martial Arts Intervention on Inhibitory Control and Problem Behaviors in Children with Attention Deficit Hyperactivity Disorder	彭凱榆 臺北市立大學身心障礙者轉銜及休閒教育學程研究生
2	當長者走進山林：高齡者戶外教育與自然療癒的實務經驗與反思 When Older Adults Enter the Mountains: Practical Experiences and Reflections on Outdoor Education and Nature-Based Healing for Older Adults	鄭伊玲 臺北市立大學心理與諮商學系碩士生
3	AI 虛擬人結合 STE ² P 溝通模型於失智症溝通訓練之成效與可行性研究 Effectiveness and Feasibility of AI Virtual Human-Based Dementia Communication Training Using the STE ² P Communication Model	胡聖民 臺北市立大學 USR 計劃專任助理

武術運動對注意力不足過動症兒童抑制控制與問題行為之影響

彭凱榆 研究生 臺北市立大學身心障礙者轉銜及休閒教育學程

摘要

背景

注意力不足過動症 (ADHD) 兒童常有抑制控制困難與問題行為。

目的

探討武術運動介入對 ADHD 兒童抑制控制與問題行為之影響，並觀察動作技能與有氧適能之變化。**方法：**採介入對照研究，納入35名8至12歲 ADHD 兒童 (介入組17名；控制組18名)。介入組接受8週、16次、每次90分鐘之武術散打課程，控制組維持原有生活型態。以 Simon 與 Flanker 任務逆向效能分數 (IES) 及 ASEBA 評估抑制控制與問題行為，並以[前後測差值](#)進行獨立樣本 t 檢定。

結果

介入組之內化問題、外化問題及整體問題改善幅度顯著優於控制組 ($p = .003$ 、 $p < .001$ 及 $p = .006$)；Simon 與 Flanker 任務 IES 分別呈現顯著組別主要效果與情境主要效果；注意力問題、動作技能及有氧適能均未達顯著差異。

結論

8週武術散打課程可能有助於改善 ADHD 兒童的內化問題、外化問題及整體問題；惟對注意力問題、動作技能及有氧適能尚未顯示顯著成效，仍待後續研究驗證。

The Effects of Martial Arts Intervention on Inhibitory Control and Problem Behaviors in Children with Attention Deficit Hyperactivity Disorder

Kai-Yu Peng, Graduate Student, Transition and Leisure Education for Individuals with
Disabilities, University of Taipei

Abstract

Background

Children with attention-deficit/hyperactivity disorder (ADHD) commonly experience difficulties with inhibitory control and behavioral problems.

Purpose:

This study investigated the effects of a martial arts intervention on inhibitory control and behavioral problems in children with ADHD and examined changes in motor skills and aerobic fitness.

Methods:

A controlled intervention study was conducted with 35 children with ADHD aged 8–12 years (intervention group, $n = 17$; control group, $n = 18$). The intervention group participated in 16 90-minute Sanda training sessions over eight weeks, whereas the control group maintained their usual lifestyle. Inhibitory control was assessed using inverse efficiency scores (IESs) derived from the Simon and Flanker tasks, while behavioral problems were evaluated using the Achenbach System of Empirically Based Assessment (ASEBA). Independent-samples t tests were conducted on the pre–post difference scores.

Results:

Compared with the control group, the intervention group demonstrated significantly greater improvements in internalizing problems, externalizing problems, and total problems ($p = .003$, $p < .001$, and $p = .006$, respectively). The IESs derived from the Simon and Flanker tasks showed a significant main effect of group and a significant main effect of task condition, respectively. No significant differences were observed in attention problems, motor skills, or aerobic fitness. **Conclusion:** An eight-week Sanda training program may help reduce internalizing, externalizing, and total behavioral problems in children with ADHD. However, no significant benefits were observed for attention problems, motor skills, or aerobic fitness, and further research is warranted.

當長者走進山林：高齡者戶外教育與自然療癒的實務經驗與反思

鄭伊玲 碩士生 台北市立大學心理與諮商學系

摘要

高齡者走入自然，可能經驗感官覺察、自主探索、關係連結與重新感受生命的歷程。本文以實務工作者的帶領經驗為核心，分享從海拔 0 至 3000 公尺、從 1 小時公園自然體驗到 10 天高山野外「靈境追尋」的多元案例，包含五感覺察、自然獨處、高強度登山與長時間野外生活，呈現長者在自然中面對限制、突破自我、重新感受身體與開展生命意義的真實故事，並整理活動結束後持續改變的觀察。同時參照自然體驗、自然療癒與心理健康相關文獻及實證資料，說明戶外與自然經驗可能帶來的身心效益，提供高齡教育、健康促進及社區工作者將自然融入長者生活的實務思考。

**When Older Adults Enter the Mountains: Practical Experiences and Reflections on
Outdoor Education and Nature-Based Healing for Older Adults**

Yi-Ling Cheng, Master's Student, Department of Psychology and Counseling, University of
Taipei

Abstract

Drawing on the author's experience as an outdoor education practitioner, this presentation shares diverse nature-based programs for older adults, ranging from one-hour park experiences at sea level to ten-day wilderness "Vision Quest" programs in high-altitude mountain environments reaching 3,000 meters. Through real-life stories involving sensory awareness, solitude in nature, and challenging mountain journeys, the presentation explores how older adults reconnect with their bodies, move beyond perceived limitations, explore the self, and discover renewed meaning in life. Relevant literature on nature-based experiences, nature-based healing, and mental health will also be discussed to explore the potential of integrating nature into later life.

AI 虛擬人結合 STE²P 溝通模型於失智症溝通訓練之成效與可行性研究

胡聖民 臺北市立大學 USR 計畫專任助理

摘要

隨著全球高齡化趨勢加劇，失智症人口持續增加，失智症患者因認知功能退化及行為與心理症狀 (Behavioral and Psychological Symptoms of Dementia, BPSD)，常伴隨溝通困難，進而增加照顧者之照護負荷與互動挑戰。有效的失智症溝通教育除提供疾病知識外，更需透過情境化與互動式訓練，協助學習者將溝通技巧應用於真實照護情境。近年來，虛擬實境 (Virtual Reality, VR) 及人工智慧 (Artificial Intelligence, AI) 等數位科技逐漸應用於健康照護教育，提供安全、可重複且具即時回饋之模擬學習環境，為失智症溝通教育提供新的發展方向。

本研究旨在探討 AI 虛擬人結合 STE²P(Smile, Thanks, Eye contact, Embrace the moment, & Patience) 溝通模型應用於大專生失智症溝通訓練之成效與可行性。研究採準實驗研究設計，以可行性研究為取向，採單組重複測量設計，於介入前 (T0)、介入後立即 (T1) 及一週後追蹤 (T2) 進行資料蒐集，以評估訓練之即時成效、延宕成效及可行性。研究對象預計透過線上方式招募 40 名臺北市大專院校在學學生參與研究。研究介入包含 1.5 小時失智症基本認識、失智症常見行為與心理症狀 (BPSD) 及 STE²P 溝通模型理論課程，以及 1.5 小時運用 Virti AI 虛擬人平台進行情境模擬與溝通演練。

研究工具包含「AI 虛擬人溝通演練評量表」及「失智症溝通訓練可行性與學習回饋問卷」，分別蒐集客觀溝通技能表現及受試者對課程內容、平台操作、情境擬真度、學習經驗、接受度與滿意度等主觀回饋。本研究預期可提供 AI 虛擬人應用於失智症溝通教育之初步實證，並作為未來失智症教育訓練、AI 數位教材發展及相關研究設計之參考依據。

關鍵詞：失智症、AI 虛擬人、STE²P 溝通模型、Virti、溝通訓練、可行性研究

Effectiveness and Feasibility of AI Virtual Human-Based Dementia Communication Training Using the STE²P Communication Model

Sheng-Min Hu, Research Assistant, USR Project, University of Taipei

Abstract

As global population aging accelerates, the number of people living with dementia continues to increase. Individuals with dementia often experience communication difficulties due to cognitive decline and Behavioral and Psychological Symptoms of Dementia (BPSD), which increase caregivers' burden and create challenges in daily interactions. Effective dementia communication education should extend beyond providing disease-related knowledge by incorporating contextualized and interactive training that enables learners to apply communication skills in real-world care settings. In recent years, digital technologies, including Virtual Reality (VR) and Artificial Intelligence (AI), have been increasingly adopted in healthcare education to provide safe, repeatable, and feedback-oriented simulated learning environments, offering new opportunities for dementia communication education.

This study aims to investigate the effectiveness and feasibility of integrating an AI virtual human with the STE²P communication model (Smile, Thanks, Eye contact, Embrace the moment, and Patience) into dementia communication training for university students. A quasi-experimental study with a feasibility study approach and a single-group repeated-measures design will be employed. Data will be collected at three time points: before the intervention (T0), immediately after the intervention (T1), and one week after the intervention (T2) to evaluate the immediate effects, retention effects, and feasibility of the training program. Participants will consist of 40 university students currently enrolled in universities in Taipei City, who will be recruited through online recruitment. The intervention includes a 1.5-hour theoretical course covering dementia, Behavioral and Psychological Symptoms of Dementia (BPSD), and the STE²P communication model, followed by a 1.5-hour scenario-based communication training session using the Virti AI virtual human platform.

The research instruments include the AI Virtual Human Communication Performance Assessment Scale and the Feasibility and Learning Feedback Questionnaire for Dementia Communication Training, which will be used to assess participants' objective communication performance as well as their subjective feedback regarding the course content, platform usability, scenario realism, learning experience, acceptability, and satisfaction. The findings of this study are expected to provide preliminary evidence supporting the application of AI virtual humans in dementia communication education and to serve as a reference for future dementia education programs, AI-based digital learning materials, and related research designs.

Keywords: dementia, AI virtual human, STE²P communication model, Virti, communication training, feasibility study

專題發表 03 Thematic panel 03

老化的韌性與長壽 Resilience in Aging and Longevity

主持人：戴浩一講座教授（國立中正大學語言學研究所兼人文與社會研究中心主任）

發表：

編號	題目	發表人
1	理性認知老化中的前瞻性記憶系列研究 Prospective Memory in Pathological Cognitive Aging	徐晏萱教授 國立中正大學心理學系/高齡 社會勞動與福祉研究中心副 主任
2	（缺）	陳丹怡博士後研究員 國立中正大學人文創新與社 會實踐計畫
3	Cognitive Reserve and Positive Emotions for Resilience and Longevity	戴浩一講座教授 國立中正大學語言學研究所 兼人文與社會研究中心主任

理性認知老化中的前瞻性記憶系列研究

徐晏萱 教授 國立中正大學心理學系

摘要

前瞻性記憶是個體在形成意圖後，能適時履行的能力。前瞻性記憶不必然隨認知老化而衰退，但十分敏感於腦部病理變化。一般認為前瞻性記憶缺損與前額葉功能缺失有關，本系列研究以四個實驗進一步探討海馬迴與預設模式網絡在意圖維持中的角色。實驗一檢驗遺忘型輕度認知缺損個體的海馬回體積與其前瞻性記憶表現之關聯；實驗二探討預設模式網路內部功能連結性與極早期阿茲海默症患者前瞻性記憶表現之相關性；實驗三觀察健康老年人意圖重新浮現與大型神經網路功能連結性的關係；實驗四則以隨機對照實驗探討是否可藉由強化意圖與行動之間的連結來改善前瞻性記憶表現。這些結果顯示，前瞻性記憶指標極具潛力作為後端記憶網路病理性老化的早期認知標記，且可望藉由行為策略來改善表現水準。

關鍵字：前瞻性記憶、高齡認知、認知障礙、認知介入

Prospective Memory in Pathological Cognitive Aging

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Abstract

Prospective memory refers to the ability to fulfill an intended action at an appropriate time. It does not necessarily decline with normal aging, but appears to be particularly sensitive to neuropathological changes. Beyond the predominant view that associates prospective memory impairment with prefrontal dysfunction, the present series of studies further examines the roles of midline structures in the maintenance of intentions. Study 1 investigated the association between hippocampal volume and prospective memory performance in individuals with amnesic mild cognitive impairment. Study 2 examined the relationship between default mode network functional connectivity and prospective memory in individuals with very early Alzheimer's disease. Study 3 investigated the biological basis of intention persistence in healthy older adults from a neural network perspective. Finally, Study 4 employed a randomized controlled trial to examine whether prospective memory performance could be improved by strengthening the bindings between intended actions and their associated cues. Together, these findings suggest that prospective memory has great potential to serve as a sensitive early cognitive marker of pathological aging with a neural basis in posterior memory networks. They further demonstrate that prospective memory remains amenable to improvement through targeted behavioral strategies.

Keywords: prospective memory; cognitive aging; cognitive impairment; cognitive intervention

(待補)

認知儲備與正向情緒對韌性與長壽

戴浩一 教授 國立中正大學語言學研究所

摘要

「修女研究」(Snowdon, et al. 1996, 1997, 2000, 2001) 對於生存韌性與長壽提供了兩項重要啟示：其一是建立於語言能力之上的認知儲備(cognitive reserve)，其二是建立於正向情緒之上的美德(virtues)。本演講將針對這兩項重要啟示加以闡述。「修女研究」是一項關於老化的縱貫性流行病學研究，旨在探討阿茲海默症的發展與長壽之相關因素，並特別著重於年輕時期的語言能力(Snowdon et al., 1996, 2000)。研究分析修女自進入修道院以來所撰寫的日記，檢視其中的詞彙與句法表現。結果發現，概念稠密度(idea density)與語法複雜度(grammatical complexity)較低的修女，比這兩項指標較高的修女更容易罹患阿茲海默症。因此，該研究顯示，年輕時期的語言能力可能有助於建立抵禦阿茲海默症的「認知儲備」。

「認知儲備」應與「大腦儲備(brain reserve)」加以區分(Varangis & Stern, 2020)。大腦儲備主要涉及個體腦容量的大小，或神經元與突觸的數量；相較之下，認知儲備則是指即使大腦已出現病理性或結構性損傷，個體仍能維持其執行功能。瑪麗修女(Sister Mary)於101歲去世，死後解剖顯示其腦部已有明顯的阿茲海默症神經病理變化(β -類澱粉蛋白斑塊與tau蛋白神經纖維糾結)，但她生前並未表現出明顯的認知障礙或認知衰退。針對瑪麗修女及其同一研究群體所進行的後續研究顯示，教育程度較高且活動參與程度較高的修女，罹患阿茲海默症的可能性顯著較低。Danner et al., 2001研究者進一步分析修女日記中的情緒表達(emotional expressions)，結果顯示，正向情緒(positive emotions)亦可能有益於執行功能與長壽正相關。

本演講將簡要介紹如何運用與兒童語言習得研究相似的方法，測量「概念密度」與「語法複雜度」，例如平均語句長度(Mean Length of Utterance, MLU)、類型與個例比率(Type-Token Ratio, TTR)，以及分析不同語言類型中的各種複雜句式，包括關係子句(relative clauses)等。此外，我們也將說明聽、說、讀、寫等語言技能對高齡者在社會互動(social interactions)與健康識能(health literacy)方面所發揮的功能，以及這些能力如何進一步增強高齡者晚年生活的韌性。尤其，我們認為透過手寫漢字進行書信往來、撰寫日記與文章等活動，可能是相當有益的抗老化方式之一；然而，此一主張仍有待進一步的實證研究加以驗證。在正向情緒方面，我們依循Seligman(2002)的理論架構，將24項性格優勢(strengths)，如好奇心[*curiosity*]至活力[*zest*]歸納於六項核心美德之下，包括「智慧與知識(wisdom and knowledge)」、「勇氣(courage)」、「人道(humanity)」、「正義(justice)」、「節制(temperance)」以及「超越(transcendence)」。這24項性格優勢也可以以Likert Scale量化。本演講將前四項美德視為具有普遍性，而後兩項美德則可能隨不同文化與宗教信仰而有所差異。總而言之，在年輕時期建立穩固的語言能力基礎，並培養正向情緒，是促進晚年身心健康的重要基礎，有助於個體邁向長壽且富有意義與成就感的人生。

Cognitive Reserve and Positive Emotions for Resilience and Longevity

James H.-Y. Tai The Graduate Institute of Linguistics, National Chung Cheng University

Abstract

Two key messages from ‘The Nun Study’ (Snowdon, et al. 1996, 1997, 2000, 2001) for resilience and longevity are cognitive reserve built upon linguistic ability and virtues built on positive emotions. In this talk, I will expound these two key messages. ‘The Nun Study’ can be viewed as consisting of two sequels. Originally, it is a longitudinal, epidemiological study of aging, investigating risk factors for the development of Alzheimer’s disease and longevity with a special focus on linguistic ability (Snowdon et al. 1996, 2000). The diaries written by the nuns since their entrance to the convents were analyzed with respect to their vocabulary and syntax. It was found that those sisters with low degrees of ‘idea density’ and ‘grammatical complexity’ were more susceptible to AD than those with higher degrees. The study thus suggests that linguistic abilities in early life helps to build up ‘cognitive reserve’ against AD.

The concept of ‘cognitive reserve’ is to be distinguished from ‘brain reserve’ (Varangis and Stern 2020). Brain reserve concerns larger brain size, or more neurons/synapses in individuals. In contrast, cognitive reserve refers to the preservation of executive functions, in spite of the pathological or structural damages to the brain. Sister Mary, who passed away at age 101 with clear evidence of AD-neuropathology at autopsy showed no signs of cognitive impairment or decline prior to autopsy. The neuropathology contains beta-amyloid plaque and tau tangles. Follow-up studies on Sister Mary and her cohort showed that those sisters with higher levels of educational attainment and activities were significantly less susceptible to AD. As a sequel to the linguistic study, the expressions of emotions in the diaries were analyzed, indicating that positive emotions are also beneficial to executive functions and longevity (Danner et al. 2001).

I will brief how ‘idea density’ and ‘grammatical complexity’ can be measured with similar methods used in child language acquisition, e.g., MLU, TTR, and different complex sentences including relative clauses in typologically different languages. In addition, I will outline the functions of language skills (listening, speaking, reading, and writing) for the elderly in social interactions and health literacy, thus adding to the resilience for the later life of the elderly. In particular, I propose that handwriting. Chinese characters for correspondences, diaries, and essays, etc., could be one of the most beneficial anti-aging methods, pending further empirical evidence. With respect to positive emotions, I follow Seligman (2002) in taking 24 strengths (curiosity....Zest) under six core virtues consisting of ‘wisdom and knowledge’, ‘courage’, ‘humanities’, ‘justice’, ‘temperance’, ‘transcendence’. I will treat the first four virtues as universal with the last two to vary in different cultures and religious beliefs. In sum, building up solid foundation for linguistic ability together with positive emotions in early life is fundamental to both physical and mental well-being of later life, leading to a long, meaningful, and rewarding life.

專題發表 04 Thematic panel 04

學習續航長壽社會：
友善學習環境、數位健康與中年職涯再設計
**Sustaining Learning in a Longevity Society: Age-Friendly
Learning Environments, Digital Health, and Midlife Career
Redesign**

主持人：李雅慧教授（國立中正大學成人及繼續教育學系教授兼通識教育中心主任）

發表：

編號	題目	發表人
1	Nature-Supportive Learning Spaces Environmental Needs of Middle-Aged and Older Graduate Students	賴一予博士生（國立中正大學成人及繼續教育學系）
2	Developing a Digital Health Education App: A Usability Perspective of Caregivers and People with Dementia	查顯達博士生（國立中正大學成人及繼續教育學系）
3	Midlife Career Pathways Understanding Motivations for Enrolling in Exercise Instructor Training Programs	潘叡昱博士生（國立中正大學成人及繼續教育學系）

**Nature-Supportive Learning Spaces:
Environmental Needs of Middle-Aged and Older Graduate Students**

Yi-Yu Lai, Ph.D. Student, Department of Adult and Continuing Education, National Chung Cheng University

Abstract

As higher education institutions increasingly admit adult learners, growing numbers of middle-aged and older adults are pursuing master's and doctoral degrees. This trend raises the question of whether university learning spaces adequately respond to their sensory, physical, and adaptive learning needs. Compared with general lifelong learning activities, degree study involves prolonged class attendance, academic reading, digital-device use, group discussion, and research tasks, which may increase visual, postural, mobility-related, and environmental burdens. This study aimed to: (1) explore age-related challenges and difficulties in using learning spaces among middle-aged and older graduate students; (2) examine the adaptation strategies they employ under spatial constraints; and (3) identify their needs for biophilic learning spaces.

A qualitative research design was adopted. Data were collected through semi-structured interviews with middle-aged and older graduate students and analyzed using inductive thematic analysis. Three themes emerged. First, age-related challenges and difficulties in using degree-learning spaces, including visual and physical fatigue, reduced viewing clarity, and susceptibility to distraction. Second, ongoing self-adjustment within constrained learning spaces, whereby participants modified their seating positions, viewing directions, movement patterns, and use of space to sustain learning participation. Third, natural environments as resources for regulating learning states, with natural light, ventilation, greenery, distant views, and open spaces supporting visual shifts, emotional relaxation, and changes in learning rhythm.

The findings indicate that these challenges arise from the interaction between degree-learning demands and university environments rather than ageing alone. Universities should therefore provide more accessible, flexible, and nature-integrated learning spaces for middle-aged and older learners.

Keywords: middle-aged and older graduate students; degree learning; personal adaptation; biophilic learning spaces

Developing a Digital Health Education App: A Usability Perspective of Caregivers and People with Dementia

Hsian-Ta Cha, Ph.D. Student, Department of Adult and Continuing Education, National Chung Cheng University

Abstract

As population ageing accelerates and the number of people living with dementia continues to increase worldwide, Taiwan faces growing demands for dementia care alongside a shortage of professional care personnel. The use of digital technology to support people with dementia in acquiring the knowledge and skills required for daily living, while easing the care burden experienced by primary caregivers, has therefore become an important issue in the development of gerontechnology. This study aimed to develop a smartphone-based dietary health education application for older adults with mild dementia and to examine its accessibility, usability, and areas for improvement through user testing. The health education knowledge incorporated into the application was reviewed by a registered dietitian to ensure its accuracy and appropriateness.

A qualitative research design was adopted, and semi-structured interviews were conducted to collect the experiences and perspectives of older adults with mild dementia, primary caregivers of people with dementia, and relevant professionals. The participants included 43 primary caregivers, nurses, social workers, and other relevant personnel, with a mean age of 56 years and an average of six years of caregiving or professional service experience. Four older adults with dementia also participated, including two individuals with very mild dementia and two with mild dementia, with a mean age of 77.25 years. After using the application, participants provided feedback on its interface design, operational procedures, game content, learning experience, and potential for practical application. The research team subsequently revised the system based on the findings of the user testing.

This study presents the development process of a digital dementia health education tool, encompassing content design, user testing, and iterative modification based on user feedback. Older adults with mild dementia generally reported that the application featured clear visual displays, intuitive operations, and a game-based experience that provided them with a sense of accomplishment. Primary caregivers and relevant professionals also expressed positive views regarding the use of game-based learning for dementia health education. They considered the interface clear and the operational procedures straightforward and suggested that the application had the potential to facilitate health knowledge acquisition and provide cognitive stimulation. Nevertheless, users identified several areas for improvement, including enlarging the font size and icons, strengthening auditory and visual feedback, modifying the gestures required to operate the games, and providing multiple levels of difficulty. The application was subsequently revised in response to these recommendations to enhance its age-friendliness and operational appropriateness. The findings may serve as a reference for dementia care organisations, primary caregivers, and developers of gerontechnology and digital dementia health education tools in future product design and effectiveness evaluations.

Keywords: older adult education, mild dementia, digital game-based learning, dementia health education, smartphone application, usability evaluation

**Midlife Career Pathways: Understanding Motivations for Enrolling in Exercise
Instructor Training Programs**

Rui-Yu Pan, Ph.D. Student, Department of Adult and Continuing Education, National Chung
Cheng University

Abstract

Taiwan entered a super-aged society in 2025, prompting the government to expand vocational training programmes for middle-aged and older adults to promote reemployment and address workforce demands associated with population ageing. However, existing policies and research have primarily evaluated these programmes in terms of labour market outcomes, with limited attention to how learners understand vocational training and its educational significance in a longevity society. This study explored the educational meaning of vocational training from the perspectives of middle-aged and older adult learners.

A qualitative research design was adopted, involving semi-structured interviews with 20 participants who completed a 320-hour Exercise Instructor Vocational Training Programme commissioned by Taiwan's Ministry of Labor. Data were analysed using thematic analysis. Four themes were identified: preparing for healthy ageing, preparing for family and social responsibility, preparing for a meaningful later life, and preparing for a new career. Collectively, these findings indicate that participants did not perceive vocational training merely as preparation for reemployment. Instead, they reconstructed the educational meaning of vocational training as a process supporting preparation for later life, with reemployment representing only one component of broader later-life planning rather than the ultimate learning goal.

Furthermore, the Exercise Instructor Vocational Training Programme demonstrated educational value beyond conventional employment-oriented outcomes, serving as an important adult education practice that supports preparation for later life. Based on these findings, this study argues that, in the context of a longevity society, the educational purpose of vocational training should be reconceptualised from preparation for work to preparation for later life.

Keywords: middle-aged and older adults; vocational training; adult education; healthy ageing; preparation for later life

專題發表 05 Thematic panel 05

終身多元學習： 跨世代成效、影像創作與幸福感建構 Diverse Lifelong Learning: Intergenerational Outcomes, Visual Creation, and Well-Being

主持人：廖珮玟副教授（國立空中大學商學系）

發表：

編號	題目	發表人
1	成人遠距學習之跨世代與性別差異對學習成效分析 An Analysis of Intergenerational and Gender Differences in Learning Outcomes of Adult Distance Learning	廖珮玟副教授 國立空中大學商學系
2	用旅行與影像紀錄生活：中高齡學習者手機創作課程之教學實踐研究 Documenting Life through Travel and Mobile Visual Creation: A Teaching Practice Study of a Smartphone-based Course for Middle-aged and Older Learners	施伯燁副教授 國立空中大學人文學系
3	國立空中大學新住民學生主觀幸福感之意義建構分析：正向心理學觀點 Meaning Construction of Subjective Well-Being Among New Resident Students at National Open University: From a Positive Psychology Perspective	張歆祐副教授 國立空中大學生活科學系

成人遠距學習之跨世代與性別差異對學習成效分析

廖珮玟 副教授 國立空中大學商學系

摘要

隨著高齡化社會與終身學習的蓬勃發展，全齡數位學習已成為成人教育的重要趨勢。本研究旨在探討國立空中大學成人學習者在遠距學習環境中，不同世代與性別在選課動機、媒介偏好及數位平台滿意度與學習成效之差異。研究採用次級資料分析法，以114學年度第1學期國立空中大學前三門熱門課程之教學意見調查資料，有效樣本共計1,742份。經獨立樣本t檢定、成對樣本t檢定、單因子變異數分析與多元迴歸分析後，研究發現：（1）選課動機具顯著世代與性別差異，青年世代多為公職考試，中壯年族群（30-49歲）與女性偏向就業與職涯轉型，高齡族群則轉為追求自我實現；（2）在教學模式上，視訊面授學習者對平台的滿意度顯著高於傳統實體面授；（3）跨世代學習者對助教協助及學習媒介認同高度一致，且高齡族群學習者對媒介認同度最高，且每週平台學習時數（學習黏著度）居各世代之冠；（4）此外，空大在全齡課程設計能有效發揮教育平權，確保任何年齡的學習者皆能獲得同等程度的成長與社會參與能力。未來在推動樂齡遠距教育時，應將資源優先投注於優化系統介面便利性，並延續友善強化互動的視訊教學模式。

關鍵字：跨世代、遠距學習、成人學習

An Analysis of Intergenerational and Gender Differences in Learning Outcomes of Adult Distance Learning

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Abstract

With the advent of an aging society and the flourishing development of lifelong learning, lifelong digital learning has emerged as a critical trend in adult education. This study aims to investigate the differences in course enrollment motivation, media preference, digital platform satisfaction, and learning outcomes across various generations and genders among adult learners in a distance learning environment the National Open University. Utilizing secondary data analysis, this study examined data from teaching evaluation surveys of the top three popular courses in the first semester of the 2025 academic year at the National Open University, yielding a total of 1,742 valid samples. Following independent samples *t*-tests, paired samples *t*-tests, one-way ANOVA, and multiple regression analysis, the empirical findings indicate that: (1) Significant generational and gender differences exist in course enrollment motivations, where the younger generation predominantly aims for civil service examinations, the middle-aged cohort (ages 30–49) and females lean toward employment and career transition, and the elderly cohort shifts toward self-actualization. (2) Regarding instructional modes, learners engaged in synchronous videoconference instruction demonstrated significantly higher platform satisfaction than those in traditional in-person instruction. (3) Cross-generational learners exhibited a high consensus regarding teaching assistant support and learning media alignment; notably, elderly learners reported the highest level of media alignment, and their weekly platform study hours (learning stickiness) ranked highest among all generations. (4) Furthermore, the age-inclusive curriculum design of the open university effectively promotes educational equity, ensuring that learners of any age can achieve equivalent levels of personal growth and social participation capacity. Future initiatives promoting distance education for senior citizens should prioritize allocating resources to optimize system interface usability, while sustaining and strengthening the interactive, videoconference-based instructional model.

Keywords: Intergenerational; Distance Learning; Adult learning

用旅行與影像紀錄生活：中高齡學習者手機創作課程之教學實踐研究

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摘要

本研究以國立空中大學114下全遠距課程《帶著 iPhone 去旅行》為場域，探討中高齡與成人學習者如何在遠距學習中，透過手機影像創作降低新科技焦慮，建立媒體近用、影像敘事與自主學習能力。課程以十八週非同步教材、六次同步面授、線上討論、動動手任務與期末影像作品，設計「拍攝—整理—分享—回顧」學習歷程，引導學生以旅行、家庭與日常生活為素材，完成個人化生活紀錄。研究採教學實踐與行動研究取向，蒐集教學觀察、平台紀錄、學生作品、期末問卷、開放式回應與後續訪談資料。初步問卷有效回覆74份，其中50歲以上學習者占56.8%（修課人數為117人）。

結果顯示，課程整體滿意度平均4.86，循序漸進教學降低新科技焦慮為4.82，影像記錄生活信心為4.60，願意繼續探索新媒體知識為4.69。質性回應指出，課程具有生活化、實用、陪伴與降低學習壓力等特色；惟動態影片／Vlog 與作品分享均為4.43，仍需強化支持。後續將從17位願意受訪者中抽樣，分析中高齡學習者從「接收影像」走向「創作影像」的轉變。本研究認為，手機影像課程不只是技術訓練，更是連結生活記憶、媒體素養與數位賦能的教學實踐，可作為長壽社會推動無界學習之參考。

關鍵詞：行動研究、手機影像創作、中高齡學習者、遠距教學、數位賦能

Documenting Life through Travel and Mobile Visual Creation: A Teaching Practice Study of a Smartphone-based Course for Middle-aged and Older Learners

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Abstract

This study takes the fully online course “Traveling with iPhone” offered by National Open University in the 114th academic year (second semester) as the research setting, exploring how middle-aged, older, and adult learners reduce new technology anxiety through mobile video creation in remote learning, thereby building media access, visual storytelling, and autonomous learning capabilities. Spanning eighteen weeks of asynchronous materials, six synchronous online sessions, online discussions, hands-on tasks, and a final video project, the course designs a learning journey of “shooting—organizing—sharing—reviewing,” guiding students to use travel, family, and daily life as materials to complete personalized life records. Adopting a scholarship of teaching and learning (SoTL) and action research approach, data were collected through teaching observations, platform logs, student works, end-of-course questionnaires, open-ended responses, and follow-up interviews. A preliminary questionnaire yielded 74 valid responses, with learners aged 50 and above accounting for 56.8% (out of 117 enrolled students).

The results showed an overall course satisfaction average of 4.86, a step-by-step teaching approach reducing new technology anxiety of 4.82, confidence in recording life through video of 4.60, and willingness to continue exploring new media knowledge of 4.69. Qualitative responses indicated that the course features characteristics such as being close to daily life, practical, companionable, and lowering learning pressure; however, dynamic videos/Vlogs and work-sharing both scored 4.43, indicating a need for strengthened support. Subsequent efforts will sample from 17 willing interviewees to analyze the transformation of middle-aged and older learners moving from “receiving images” to “creating images.” This study argues that mobile video courses are not merely technical training, but a pedagogical practice connecting life memories, media literacy, and digital empowerment, which can serve as a reference for promoting borderless learning in a longevity society.

Keywords: Action Research; Mobile Visual Creation; Middle-aged and Older Learners; Distance Learning; Digital Empowerment

國立空中大學新住民學生主觀幸福感之意義建構分析：正向心理學觀點

張歆祐 副教授 國立空中大學生活科學系

摘要

本研究旨在從正向心理學觀點探討國立空中大學新住民學生之主觀幸福感意義建構。研究對象為修讀「幸福學：正向心理學觀點」課程之二十八位新住民女性學生，年齡介於33至59歲，原生地包含中國大陸、越南、印尼、泰國等地。研究資料取自學生於期中繳交之書面作業，題目為「介紹你自己的幸福觀與幸福感主張」。本研究採質性內容分析法，先以意義單元為基礎進行開放編碼，再將編碼整併為次類別與主題。研究結果顯示，新住民學生的幸福感可歸納為三個核心主題：一、內在心靈與自我成長，包含知足感恩、內心平靜、學習探索、自主與目標達成；二、人際關係與社會連結，包含家人平安健康、角色責任與日常付出、家庭溫暖陪伴、友誼社群與助人經驗；三、日常生活與身心平衡，包含身體健康、基本作息滿足、微小確幸與工作生活平衡。

整體而言，受訪文本呈現出高度「關係本位」與「日常微觀化」的幸福觀，並同時展現新住民女性在跨文化生活、家庭角色與成人學習中的能動性。研究建議，新住民教育與家庭支持服務應由缺陷補救模式轉向優勢發展模式，強化社會支持、雙文化認同、終身學習與日常福祉資源。

關鍵詞：新住民、主觀幸福感、正向心理學、成人學習、內容分析

Meaning Construction of Subjective Well-Being Among New Resident Students at National Open University: From a Positive Psychology Perspective

Hsin-Yu Chang, Associate Professor, Department of Life Science, National Open University

Abstract

This study explores the meaning construction of subjective well-being among new resident students at National Open University from a positive psychology perspective. The participants were 28 female new resident students enrolled in the course “Happiness Studies: A Positive Psychology Perspective.” Their ages ranged from 32 to 55, and their places of origin included Mainland China, Vietnam, and Indonesia. The data consisted of students’ midterm written assignments responding to the prompt, “Introduce your personal view of happiness and your claims about well-being.” Using qualitative content analysis, the study identified meaning units, generated initial codes, and further organized the codes into categories and themes. Three major themes emerged: inner mind and self-growth, interpersonal relationships and social connections, and daily life and mind-body balance.

The findings suggest that participants’ happiness was strongly relational and grounded in everyday life, while also reflecting agency in cross-cultural living, family roles, and adult learning. The study argues that educational and family support services for new residents should move from a deficit-remedial model toward a strengths-based model that enhances social support, bicultural identity, lifelong learning, and everyday well-being resources.

Keywords: new residents; subjective well-being; positive psychology; adult learning; content analysis

專題發表 06 Thematic panel 06

微型學習與彈性認證： 廣播教育與開放式大學的創新與實踐 Microlearning and Flexible Credentialing: Innovations and Practices in Radio Education and Open Universities

主持人：林博文校長（國立中正大學高齡社會勞動與福祉研究中心特聘顧問）

評論人：賴弘基教授（國立暨南國際大學諮商心理與人力資源發展學系）

發表：

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2	林俊裕教授 國立空中大學教務長
3	黃國瑞教授 高雄市立空中大學法律系主任

微型學習與彈性認證：廣播教育與開放式大學的創新與實踐

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林俊裕 教務長 國立空中大學

黃國瑞 主任 高雄市立空中大學法律系

摘要

在課程規劃的創新上，30+大學計畫突破傳統學系本位藩籬，強調應用導向與職場實作能力，設計「全人健康」、「生涯轉型」與「社會連結」三大專長領域課程模組。此架構不僅結合「人生100素養」等核心課程，更落實《學位授予法》第5條之精神，放寬學生於院、系之間彈性修課（院進系出、系進院出）。透過問題導向的學習設計，引導30歲以上成人依個人職涯轉換與發展第二專長之需求累積學分，將終身學習與社會參與深度結合。

在微型學習與多媒體應用方面，本論壇聚焦透過教育電臺專屬架設之「Channel+ 聲活學院」數位學習平台，將優質且具備專業主持人的廣播節目與時事議題，無償轉化為30+學分學程之多媒體輔助教材。此舉不僅有效豐富大學課程之多元性，更建立起打破時空限制、隨選隨聽的成人自主學習模式。

針對彈性認證制度的實踐，本課程聯盟首創三大對接機制：「鐘點制」將線上專題講座納入正式授課時數；「學分制」規定學員於平台自主收聽達18小時，並通過指定作業或評量即可採計1學分；「協同授課制」則由具大專講師資格之電臺主持人共同參與學習輔導與評分。學員可透過平台完整追蹤收聽軌跡、進行線上課後測驗，並下載官方認證之學習證明。

最重要的是，此微型學習與認證機制與教育部政策深度結合：學生修畢相關規定學分後，不僅可獲頒「部頒學分學程證書」，其修習經審認通過之課程，亦能跨校抵免擬取得學位系所之相關學分（至少6學分）。本場次期能藉由剖析此一公私協力與資源整合模式，展現終身學習體系與高教體系如何善用微型學習與彈性認證，建構出無界線、高包容性之終身學習支持網絡。

Microlearning and Flexible Credentialing: Innovations and Practices in Educational Broadcasting and Open Universities

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Chun-Yu Lin Dean of Academic Affairs, National Open University
Kuo-Jui Huang Chair, Department of Law, Open University of Kaohsiung

Abstract

In terms of curriculum innovation, the 30+ University Program moves beyond conventional department-based structures by emphasizing application-oriented learning and practical competencies relevant to the workplace. The program is organized into three specialized curriculum modules: Holistic Health, Career Transition, and Social Connection. This framework incorporates core courses such as Life 100 Competencies while also reflecting the intent of Article 5 of Taiwan's Degree Conferral Act by allowing greater flexibility for students to take courses across colleges and departments. Through problem-based learning, the program enables adult learners aged 30 and above to accumulate academic credits according to their needs for career transition and the development of secondary areas of expertise, thereby integrating lifelong learning with social participation.

With regard to microlearning and multimedia applications, this forum highlights the “Channel+ 聲活學院” digital learning platform, established specifically by educational radio. High-quality professionally hosted radio programs and content addressing current issues are transformed, free of charge, into supplementary multimedia learning materials for the 30+ credit program. This approach not only enriches the diversity of university curricula but also facilitates a self-directed adult learning model that transcends temporal and geographical constraints by allowing learners to access audio content on demand.

To implement flexible credentialing, the curriculum consortium has developed three innovative articulation mechanisms. First, under the instructional-hour model, online thematic lectures are recognized as part of formal instructional hours. Second, under the credit-based model, learners who independently complete 18 hours of designated audio content on the platform and successfully fulfill the required assignments or assessments may earn one academic credit. Third, the co-teaching model engages radio hosts who hold qualifications equivalent to those required of higher education lecturers in providing learning support and participating in student assessment. Through the platform, learners can track their listening records, complete online post-learning assessments, and download officially certified records of learning.

Most importantly, this microlearning and credentialing mechanism is closely aligned with the policies of Taiwan's Ministry of Education. Upon completing the required credits, students may receive a Ministry-issued credit program certificate. Courses that have been formally reviewed and approved may also be transferred across institutions and recognized toward relevant degree requirements, with at least six credits eligible for transfer. By examining this model of public-private collaboration and resource integration, this forum seeks to demonstrate how lifelong learning and higher education systems can strategically employ microlearning and flexible credentialing to establish a boundaryless and highly inclusive support network for lifelong learning.

專題發表 07 Thematic panel 07

長壽社會福祉： 數位轉型、學習困境與在地化依戀 Welfare in a Longevity Society: Digital Transformation, Learning Challenges, and Place Attachment

主持人：陳靜怡教授（國立空中大學生活科學系）

發表：

編號	題目	發表人
1	基於跨學期修課關聯分析之數位遠距終身學習 智慧課程推薦機制 An Intelligent Course Recommendation Mechanism for Digital Distance Lifelong Learning Based on Cross-Semester Course Enrolment Association Analysis	李建錠副教授 國立空中大學管理與資訊學系 林義倫組長、陳彥良技正、 卓美涓技士 國立空中大學資訊科技處
2	中高齡者數位學習困境量表之建構與驗證研究 A Study on the Development and Validation of a Digital Learning Difficulties Scale for Middle-Aged and Older Adults	林烝增副教授 國立空中大學社會科學系 陳思帆副教授 國立臺南大學諮商與輔導學系
3	適地老化：高齡者家依戀與換居意願之異質性 分析 Ageing in a Place of Choice: A Heterogeneity Analysis of Older Adults' Home Attachment and Willingness to Relocate	陳靜怡教授 國立空中大學生活科學系

基於跨學期修課關聯分析之數位遠距終身學習智慧課程推薦機制

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林義倫 組長 國立空中大學資訊科技處

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摘要

隨著終身學習理念日益普及及數位教育環境快速發展，成人學習者對彈性修課與個人化學習規劃的需求持續增加。國立空中大學是一所以數位學習（digital learning）與遠距教學（distance learning）為主要特色的終身學習型大學，學生涵蓋在職人士、退休人士及不同年齡層的學習者，其修課歷程呈現跨學期、非連續與多元化等特性。為提升學生的選課決策品質與整體學習體驗，本研究延伸先前以單一學期資料為基礎的課程推薦研究，採用國立空中大學113學年度上、下學期教務行政資訊系統之選課資料，分析終身學習者的跨學期修課行為與課程關聯，並將應用範圍聚焦於管理與資訊學系的課程推薦。研究資料擷取自校務系統中的選課彙整紀錄，其中113學年度上學期涵蓋201門課程、16,061位學生及62,443筆選課紀錄；下學期則包含208門課程、14,961位學生及58,374筆選課紀錄。本研究運用人工智慧（Artificial Intelligence, AI）與教育資料探勘技術，採用 Apriori 與 FP-Growth 等關聯規則演算法，探討課程間的關聯規則，以及學習者跨學期修課組合與選課順序所呈現的關聯模式，據以建構符合成人終身學習需求之個人化智慧課程推薦機制。預期研究成果可提供學生更具參考價值的修課建議，提升選課決策與學習規劃效率，亦可作為終身學習課程設計、教學輔導及教育資料探勘應用之參考依據。

關鍵詞：人工智慧、終身學習、跨學期修課行為、關聯規則探勘、智慧課程推薦

An Intelligent Course Recommendation Mechanism for Digital Distance Lifelong Learning Based on Cross-Semester Course Enrolment Association Analysis

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Abstract

With the growing emphasis on lifelong learning and the rapid development of digital education, adult learners increasingly require flexible course enrolment and personalized learning pathways. National Open University, Taiwan, is a lifelong learning institution characterized by digital learning and distance education. Its students include working adults, retired individuals, and learners from a wide range of age groups. Their course-taking patterns are therefore often cross-semester, discontinuous, and diverse.

To enhance the quality of students' course selection decisions and their overall learning experience, this study extends previous research on course recommendation based on single-semester data. Course enrolment records from the academic administration information system of National Open University for both semesters of the 2024–2025 academic year were analyzed to examine lifelong learners' cross-semester enrolment behavior and course associations. The application scope was further focused on course recommendations for the Department of Management and Information. The dataset was extracted from aggregated enrolment records in the university information system. The first semester comprised 201 courses, 16,061 students, and 62,443 enrolment records, while the second semester included 208 courses, 14,961 students, and 58,374 enrolment records.

This research applies artificial intelligence and educational data mining techniques, using association rule algorithms such as Apriori and FP-Growth to identify relationships among courses and association patterns derived from learners' cross-semester course combinations and enrolment sequences. Based on these findings, a personalized intelligent course recommendation mechanism is developed to meet the needs of adult lifelong learners. The anticipated outcomes are expected to provide students with more informative course recommendations, improve the efficiency of course selection and learning planning, and offer useful insights for lifelong learning curriculum design, academic guidance, and educational data mining applications.

Keywords: Artificial intelligence; lifelong learning; cross-semester course enrolment behavior; association rule mining; intelligent course recommendation

中高齡者數位學習困境量表之建構與驗證研究

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摘要

本研究旨在編製一具有信、效度之「中高齡者數位學習困境量表」，作為國內中高齡者數位學習困境之評量工具，以利相關教育工作者快速評估，提供更適切之教學策略與介入作為。研究者透過半結構式訪談，利用主題分析法分析，編製「中老年族群數位學習困境量表」。因考量樣本收集不易，故採專家內容效度審查，以及10位中高齡者進行認知訪談作為題項修訂依據，修訂後即進入正式施測。本研究採立意取樣，以國內某大學之45歲以上343位在校生為研究對象。問卷經回收整理後，透過 SPSS 24.0 和 AMOS 28.0統計軟體進行資料分析，研究結果如下：

1. 中高齡者數位學習困境量表總計20題，共分為五個分量表，分別為「學習動機」分量表共5題、「數位技能」分量表共4題、「身體技能」分量表共4題、「人際支持」分量表共4題、「學習習慣」分量表共3題。

2. 本量表內部一致性 α 係數的分析，「數位技能」分量表 α 值為.802，「身體機能」分量表 α 值為.760，「學習動機」分量表 α 值為.725，「人際支持」分量表 α 值為.725，總量表 α 值為.846，顯示本量表具有良好內部一致性信度。此外，本量表具備良好適配之建構效度，量表結構獲得支持。

關鍵字：中高齡、數位學習困境、量表編制

A Study on the Development and Validation of a Digital Learning Difficulties Scale for Middle-Aged and Older Adults

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Department of Counseling and Guidance Szu-Fan, Chen, National University of Tainan

Abstract

The purpose of this study was to develop a reliable and valid “Digital Learning Difficulties Scale for Middle-Aged and Older Adults” as an assessment tool for evaluating the digital learning difficulties of middle-aged and older adults in Taiwan. The scale is intended to help educators rapidly assess learners’ difficulties and provide more appropriate instructional strategies and interventions. The researcher conducted semi-structured interviews and analyzed the data using thematic analysis to develop the “Digital Learning Difficulties Scale for Middle-Aged and Older Adults.” Considering the difficulty of sample collection, expert content validity review and cognitive interviews with 10 middle-aged and older adults were conducted as the basis for item revision. After revision, the scale was administered in the formal survey. This study adopted purposive sampling, recruiting 343 students aged 45 and above from a university in Taiwan as participants. After the questionnaires were collected and organized, data were analyzed using SPSS 24.0 and AMOS 28.0. The findings are as follows:

1. The Digital Learning Difficulties Scale for Middle-Aged and Older Adults consists of 20 items and five subscales: the “Learning Motivation” subscale with 5 items, the “Digital Skills” subscale with 4 items, the “Physical Functioning” subscale with 4 items, the “Interpersonal Support” subscale with 4 items, and the “Learning Habits” subscale with 3 items.
2. The analysis of internal consistency reliability showed that the Cronbach’s alpha coefficient was .802 for the Digital Skills subscale, .760 for the Physical Functioning subscale, .725 for the Learning Motivation subscale, .725 for the Interpersonal Support subscale, and .846 for the overall scale. These results indicate that the scale has good internal consistency reliability. In addition, the scale demonstrated good model fit in terms of construct validity, supporting the proposed scale structure.

Keywords: middle-aged and older adults, digital learning difficulties, scale development

適地老化：高齡者家依戀與換居意願之異質性分析

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摘要

家在哪，心就在那是世人普遍的認知，因此，人們直覺反應高齡者一定偏好在宅老化。然而，在宅可能是最不利支持生活獨立性的老化環境，或者是最不利健康因素的老化方式。過去研究在此一議題之討論，均立基於既有之理論架構輔以質化研究，表達在宅老化是高齡者最佳的養老方式。但晚近亦有另一派言論強調「選擇適當環境」老化才是最佳的養老方式。因此，本文以自行進行抽樣調查之一手資料，利用潛在變量依序 Probit 模型探討新北市高齡者之換居意願。此一模型之優勢在於同時考量樣本異質性之特性。

結果顯示，高齡者傾向不願意換居，且從研究設計之影響因素排序，增加經濟支出，高齡者愈不想換居的係數最大；其次是距離生活機能便利之區域越遠；再次為距離子女或最好的親朋好友距離越遠，高齡者越不想換居。影響係數最小的反而是與舊家的距離。但當考慮家依戀構面與感知壓力之影響時，依戀程度愈高，愈沒有換居意願；感知壓力愈大時，愈沒有換居意願。然而，現居住宅型式為透天或公寓之高齡者，確實表現出正向顯著之搬遷意願。研究結果意涵，在宅老化必須要在環境能支持高齡者獨立生活的情況下才能成立。當高齡者感知壓力愈大時會愈不願意換居，說明養老環境應盡早規畫安排適應，否則在宅老化造成困居或社會孤立，仍未必是養老最佳選擇。

關鍵字：換居、家依戀、感知壓力、高齡者、異質性

Ageing in a Place of Choice: A Heterogeneity Analysis of Older Adults' Home Attachment and Willingness to Relocate

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Abstract

“Home is where the heart is” is a widely held belief. Accordingly, people often intuitively assume that older adults must prefer ageing at home. However, ageing at home may in fact take place in an environment that is least supportive of independent living, or may represent an ageing arrangement that is most unfavourable to health. Previous studies on this issue have mostly been based on existing theoretical frameworks supplemented by qualitative research, suggesting that ageing at home is the best way for older adults to age. More recent discussions, however, have emphasised that ageing in an appropriate environment, or ageing in a place of choice, may be the best approach. Using primary data collected through a sample survey conducted by the author, this study applies a latent variable ordered Probit model to examine older adults' willingness to relocate in New Taipei City. The advantage of this model lies in its ability to account for sample heterogeneity.

The results show that older adults generally tend to be unwilling to relocate. Among the influencing factors considered in the research design, increased economic expenditure has the largest coefficient in explaining older adults' unwillingness to relocate. The second most influential factor is greater distance from areas with convenient daily living functions, followed by greater distance from children or close relatives and friends. By contrast, distance from the former home has the smallest effect. When the dimensions of home attachment and perceived stress are taken into account, higher levels of attachment are associated with a lower willingness to relocate. Similarly, higher levels of perceived stress are associated with a lower willingness to relocate. However, older adults currently living in townhouses or apartments do show a significantly positive willingness to relocate. The findings suggest that ageing at home can only be justified when the environment is capable of supporting older adults' independent living. The finding that older adults with higher perceived stress are less willing to relocate indicates that later-life residential environments should be planned and adapted as early as possible. Otherwise, ageing at home may lead to residential confinement or social isolation and may not necessarily be the best choice for later-life care.

Keywords: Relocation, Home attachment, Perceived stress, Older adults, Heterogeneity

專題發表 08 Thematic panel 08

終身學習邁向美好生活： 驅動長壽社會創新與跨域共創的教育藍圖 Lifelong Learning for a Better Life: An Educational Blueprint for Driving Innovation and Cross-Disciplinary Co-Creation in a Longevity Society

主持人：主持人：林麗惠教授（國立中正大學成人及繼續教育學系系主任）

評論人：胡夢鯨教授（國立中正大學成人及繼續教育學系）

發表：

編號	題目	發表人
1	越滑越精彩的高齡人生 A More Engaging Later Life Through Digital Technology	賴弘基教授 暨南國際大學諮商心理與人力資源發展學系
2	超高齡社會來臨中小學教育的新課題：中小學教師老化素養能力指標及權重體系建構之研究 New Challenges for Primary and Secondary Education in a Super-Aged Society: Developing Aging Literacy Competency Indicators and a Weighting System for School Teachers	黃錦山教授 國立中正大學成人及繼續教育學系
3	從比利時成人教育到長壽社會創新：跨域共創的教育藍圖 From Adult Education in Belgium to Innovation for a Longevity Society: An Educational Blueprint for Interdisciplinary Co-Creation	潘紅慧助理教授 國立中正大學成人及繼續教育學系

越滑越精彩的高齡人生

賴弘基 教授 國立暨南國際大學諮商心理與人力資源發展學系

摘要

本專題論文以〈越滑越精彩的高齡人生〉為題，探討高齡者如何運用數位科技達成終身學習、充分參與社會並提升生活品質。依據數位發展部114年數位近用調查，臺灣60歲以上上網率已躍升至70.5%，近用落差逐步縮小；但多數使用深度仍不足，65歲以上僅即時通訊使用率過半，顯示高齡者數位培力之重點應由近用轉向素養為發展導向。其次，本研究之文獻回顧美國 AARP（美國退休人員協會）科技趨勢調查，發現美國50歲以上成人生成式 AI 使用率兩年成長逾三倍；分析澳洲 Be Connected 計畫則發現，澳洲政府提供免費線上課程並結合社區據點提供的真人輔導，且將政策重心由提供連網設備轉向培養數位技能與信心，更能有效提升高齡者的數位參與。此外，本論文並以相關實徵研究說明「溝通與使用」構面最能預測高齡者幸福感，社會連結是科技轉化為幸福的關鍵。最後檢視臺灣樂齡體系 AI 課程的開課熱潮，提出深化課程設計、多元教學方法、素養融入各課程與持續支持系統四項教學策略，期使高齡者學得快樂、活得幸福，共創數位共融的樂齡社會。

關鍵詞：高齡者、數位科技、終身學習、數位素養、幸福感

A More Engaging Later Life Through Digital Technology

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Abstract

This paper, entitled “A More Engaging Later Life Through Digital Technology,” explores how older adults can use digital technologies to engage in lifelong learning, participate more fully in society, and enhance their quality of life. According to Taiwan’s 2025 Digital Access Survey conducted by the Ministry of Digital Affairs, the Internet usage rate among people aged 60 and above has risen to 70.5%, indicating a gradual narrowing of the digital access gap. However, the depth of digital use remains limited. Among adults aged 65 and above, only the use of instant messaging exceeds 50%, suggesting that digital empowerment for older adults should shift from a primary emphasis on access toward the development of digital literacy and meaningful use.

The study further reviews international evidence and policy practices. Findings from the AARP technology trends survey in the United States indicate that the use of generative artificial intelligence among adults aged 50 and above increased more than threefold over a two-year period. An analysis of Australia’s Be Connected program shows that combining free online learning resources with face-to-face support provided through community-based organizations, while shifting policy emphasis from the provision of connectivity and devices to the development of digital skills and confidence, can more effectively promote the digital participation of older adults.

In addition, empirical studies reviewed in this paper suggest that the dimension of communication and use is a particularly strong predictor of well-being among older adults, highlighting social connectedness as a key mechanism through which technology may contribute to subjective well-being. Finally, by examining the rapid expansion of artificial intelligence courses within Taiwan’s senior learning system, this paper proposes four instructional strategies: strengthening course design, adopting diverse teaching approaches, integrating digital literacy across curricula, and establishing systems for continuous learning support.

Through these strategies, the paper seeks to promote enjoyable learning experiences, greater well-being, and more meaningful digital participation among older adults, thereby contributing to the development of an age-friendly and digitally inclusive society.

Keywords: older adults; digital technology; lifelong learning; digital literacy; well-being

超高齡社會來臨中小學教育的新課題：中小學教師老化素養能力指標及權重體系建構之研究

黃錦山 教授 國立中正大學成人及繼續教育學系

摘要

超高齡社會已經來臨，未來的社會，100歲人瑞將是到處都有。對此，該要如何協助目前的中小學生去迎向他們的百歲人生呢？還可以使用「過去」的舊思維老化刻板印象，來教導「現在」的中小學生，去面對他們「未來」的百歲人生嗎？這是因應超高齡社會來臨，中小學教育必須面對的新課題。誠如世界衛生組織的《全球年齡歧視報告書》所言，在世界全球內，「每兩個人當中，就有一個人對老年人持有年齡歧視；在歐洲，每三個人當中，就有一個人指出自己有遭受到年齡的歧視」。

面對這麼嚴重的年齡歧視現象，要如何來打擊與消除呢？世界衛生組織於2022年提出「全球打擊年齡歧視運動」，指出三大策略：政策法律、教育介入與代間接觸介入。其中，「教育介入」與「代間接觸介入」的兩大策略的實施，就有賴身處於中小學第一線的工作人員「教師」了。然而，中小學教師本身是否具備有「老化素養」呢？抑或是教師本身也是年齡歧視者呢？這是迎接超高齡社會來臨的重要課題。

因此，本研究旨在因應百歲人生趨勢，系統性地建構一套具實證基礎的中小學教師老化素養能力指標與權重體系，因應全球人口平均壽命延長與超高齡社會來臨、師生普遍面臨老化知識不足及年齡歧視之嚴峻挑戰。以為超高齡社會來臨而預做準備，從而為老化教育的未來研究與實務發展建立起指引的方向。

New Challenges for Primary and Secondary Education in a Super-Aged Society: Developing Aging Literacy Competency Indicators and a Weighting System for School Teachers

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Cheng University

Abstract

As societies enter the era of super-aging, living to the age of 100 is becoming increasingly common. This demographic transformation raises an important educational question: how can today's primary and secondary school students be adequately prepared for a potential centenarian life? Relying on outdated ways of thinking and stereotypical perceptions of aging to educate younger generations may no longer be sufficient for preparing them for the realities of longevity. Accordingly, the advent of a super-aged society presents new and pressing challenges for primary and secondary education.

As highlighted in the World Health Organization's Global Report on Ageism, ageism remains widespread worldwide. The report indicates that one in every two people globally holds ageist attitudes toward older adults, while in Europe, one in three people reports having experienced age discrimination. Addressing and reducing ageism therefore requires systematic intervention. In 2022, the World Health Organization advanced the Global Campaign to Combat Ageism, identifying three major strategies: policy and legal measures, educational interventions, and intergenerational contact interventions. The effective implementation of the latter two strategies depends substantially on teachers, who serve as frontline professionals in primary and secondary education.

This raises a critical question: do primary and secondary school teachers possess adequate aging literacy, or might teachers themselves also hold ageist attitudes? Enhancing teachers' aging literacy is therefore an essential educational task in preparation for a super-aged society. In response to the trend toward longer lifespans and centenarian lives, this study aims to systematically develop an empirically grounded set of aging literacy competency indicators and a corresponding weighting system for primary and secondary school teachers. The framework is intended to address the challenges associated with increasing global longevity, the emergence of super-aged societies, insufficient knowledge of aging among teachers and students, and the continuing prevalence of ageism.

By establishing a structured and evidence-based framework for teachers' aging literacy competencies, this study seeks to contribute to educational preparedness for a super-aged society and to provide a foundation for future research and practice in aging education.

從比利時成人教育到長壽社會創新：跨域共創的教育藍圖

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摘要

一、研究背景

比利時弗拉芒地區將「成人教育」提升為長壽社會的公共政策方法論，透過 VUB SARLab (Society and Ageing Research Lab) 所屬 Adult Educational Sciences (Agogiek) 體系，與弗拉芒政府、歐盟科研框架、公民社會共構可複製的社會創新流程。本摘要回應台灣 2025 年邁入超高齡社會的提問：成人教育如何由單一系所升級為社會介入方法論？跨域共創如何設計？

二、方法

以社會老年學三大視角取徑：環境老年學 (environmental gerontology) 關注人與環境互動及在地老化；生命歷程 (life-course) 社會學探討早期條件、遷移、職涯對晚年的累積影響；批判老年學 (critical gerontology) 挑戰「老化＝衰退」敘事，主張學習即賦權。

三、發現

Caring Neighbourhoods 自 2013 年 3 個里擴張至 2022–2025 年 132 個里，證明關懷社區可制度化；D-SCOPE 建立「偵測—支持—照顧—預防—賦能」五步流程；HOMeAGE (2023–2027) 培育博士人才投入 ageing in place 的研究)：跨國、跨族群、跨場域驗證社會參與、學習、孤獨感三者的連動。

四、貢獻

對台灣的教育藍圖 提出「三個處方、五個槓桿」：①設立「長壽社會與成人教育」跨域學位學程；②以里為單位啟動 Caring Neighbourhoods 試辦；③設立孤獨感與社會資本國家級監測指標。五槓桿為成人教育專業化、參與式研究、社區共學網絡、數位與媒體素養、政策回饋鏈。

五、結論

歐洲的成人教育並非授課技術以及終身學習，而是文化、健康、經濟三條線的交集；唯有把學習鑲嵌在社區治理中，長壽社會才能從存活轉向美好生活。

關鍵詞：終身學習、成人教育、長壽社會、社會創新、社區共學、孤寂防治、社會參與、移民長者、Caring Neighbourhoods、D-SCOPE、Flanders、跨域共創

From Adult Education in Belgium to Innovation for a Longevity Society: An Educational Blueprint for Interdisciplinary Co-Creation

Hung-Hui Pan Assistant Professor, Department of Adult and Continuing Education, National Chung Cheng University

Abstract

1. Research Background

In the Flemish region of Belgium, adult education has evolved beyond the boundaries of conventional educational provision and has increasingly become a public policy approach to addressing the challenges of a longevity society. Through the Adult Educational Sciences (*Agogiek*) framework associated with VUB SARLab (Society and Ageing Research Lab), collaborations among academic institutions, the Flemish government, European Union research frameworks, and civil society have contributed to the development of replicable processes for social innovation. In response to Taiwan's transition into a super-aged society in 2025, this study raises two central questions: How can adult education be transformed from an academic discipline into a methodology for social intervention? How can interdisciplinary co-creation be effectively designed and implemented?

2. Methodological Approach

The analysis adopts three major perspectives from social gerontology. First, environmental gerontology examines person–environment interactions and aging in place. Second, the life-course sociological perspective explores how early-life conditions, migration experiences, and career trajectories exert cumulative influences on later life. Third, critical gerontology challenges the dominant narrative that equates aging with decline and instead emphasizes learning as a process of empowerment.

3. Findings

The Caring Neighbourhoods initiative expanded from three neighbourhoods in 2013 to 132 neighbourhoods during 2022–2025, demonstrating the potential for community-based care models to become institutionalized. D-SCOPE developed a five-stage process consisting of detection, support, care, prevention, and empowerment. In addition, HOMeAGE (2023–2027) focuses on developing doctoral researchers in the field of aging in place and examines, across countries, population groups, and social settings, the interrelationships among social participation, learning, and loneliness.

4. Contributions: An Educational Blueprint for Taiwan

Drawing on these experiences, this study proposes three prescriptions and five policy levers for Taiwan. The three prescriptions are: (1) establishing an interdisciplinary degree program in Longevity Society and Adult Education; (2) initiating pilot Caring Neighbourhoods projects at the neighbourhood level; and (3) establishing national monitoring indicators for loneliness and social capital. The five policy levers include the professionalization of adult education, participatory research, community-based co-learning networks, digital and media literacy, and the development of policy feedback loops.

5. Conclusion

The European experience demonstrates that adult education should not be understood merely as a set of instructional techniques or as lifelong learning in a narrow sense. Rather, it lies at the intersection of culture, health, and the economy. Only when learning is embedded within community governance can a longevity society move beyond an emphasis on survival toward the pursuit of well-being and a good life.

Keywords: lifelong learning; adult education; longevity society; social innovation; community-based co-learning; loneliness prevention; social participation; older migrants; Caring Neighbourhoods; D-SCOPE; Flanders; interdisciplinary co-creation

專題發表 09 Thematic panel 09

從社會連結到綠地參與： 高齡友善社區的社會資本、心理福祉與在地老化 From Social Connections to Green-Space Engagement: Social Capital, Psychological Well-Being, and Ageing in Place in Age- Friendly Communities

主持人：陳毓璟教授（國立中正大學成人及繼續教育學系）

發表：

編號	題目	發表人
1	氣候調適在地老化的大學—社區協力：雲林五塊村生活實驗室 University–Community Collaboration for Climate-Adaptive Aging-in-Place: A Living Lab in WuKuai Village, Yunlin	張聖琳教授 國立臺灣大學建築與城鄉研究所 許宜珮教授 逢甲大學建築專業學院
2	當恢復性感受轉化為公園參與：高齡者在亞熱帶鄰里公園中的社會與季節條件 When Restorativeness Becomes Park Engagement: Social and Seasonal Contingencies among Older Adults in Subtropical Neighborhood Parks	張伯茹副教授 國立臺灣大學園藝暨景觀學系
3	The Mediating Role of Community Social Capital in the Relationship Between Loneliness and Depression Among Community-dwelling Older Adults in Taiwan	潘紅慧助理教授 國立中正大學成人及繼續教育學系 劉立凡教授 國立成功大學老年學研究所

氣候調適在地老化的大學—社區協力：雲林五塊村生活實驗室

張聖琳 教授 國立臺灣大學建築與城鄉研究所
許宜珮 教授 私立逢甲大學建築學院

摘要

面對人口快速高齡化與氣候威脅加劇，基礎設施與公共資源有限的偏鄉地區尤為脆弱。本研究旨在發展一套「超高齡社區可自行操作的微氣候舒適度自我診斷工具」，使偏鄉社區能自主評估日常公共空間的熱環境。研究以氣候調適都市主義及 WHO 高齡友善城市架構為理論基礎，整合大氣科學、景觀建築、空間分析與服務設計，採用生活實驗室（Living Lab）為研究方法。

實證案例為雲林縣元長鄉五塊村。本研究於國科會永續學門「雲林健康社區」跨領域研究計畫支持下執行，結合臺灣大學建築與城鄉研究所、中原大學景觀學系及逢甲大學建築專業學院之 USR 計畫，共同以該村為生活實驗場域。研究透過微氣候模擬、GIS 分析與參與式訪談，以生理等效溫度（PET）評估高齡農民熱壓力，並辨識公共空間與移動網絡的危險熱點，發現遮蔭不足、道路不安全及農事活動高熱傷害暴露等缺口，進而將技術程序簡化為居民與照顧人員免專業訓練即可操作的自我診斷流程。

在診斷之外，研究提出社區改善行動的機制原則：由長照 C 據點與社區營造協會偕同鄉公所，依診斷結果爭取小額經費，優先改善熱傷害最嚴重的公共空間，形成「診斷—提案—改善」的社區驅動機制，促進社會韌性與安全在地老化，並為資源不足的偏鄉提供可擴散的規劃參考。

關鍵詞：社區自我診斷、熱舒適度、在地老化、超高齡社會、氣候調適、生活實驗室

University–Community Collaboration for Climate-Adaptive Aging-in-Place: A Living Lab in WuKuai Village, Yunlin

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Abstract

Rural communities with limited infrastructure and public resources are particularly vulnerable to rapid population aging and intensifying climate threats. This study aims to develop a self-assessment tool for microclimatic thermal comfort that super-aged communities can use independently to evaluate thermal conditions in everyday public spaces. Drawing on climate-adaptive urbanism and the World Health Organization’s age-friendly cities framework, the study integrates atmospheric science, landscape architecture, spatial analysis, and service design through a living lab approach.

The case study was conducted in Wukuai Village, Yuanchang Township, Yunlin County, Taiwan, as part of the interdisciplinary “Healthy Communities in Yunlin” project supported by sustainability research funding from the National Science and Technology Council. The collaboration brought together University Social Responsibility (USR) initiatives at the Graduate Institute of Building and Planning at National Taiwan University, the Department of Landscape Architecture at Chung Yuan Christian University, and the School of Architecture at Feng Chia University, with the village serving as a shared living lab. Through microclimate simulations, geographic information system (GIS) analysis, and participatory interviews, the study used physiological equivalent temperature (PET) to assess heat stress among older farmers and identify hazardous hotspots in public spaces and mobility networks. The findings revealed insufficient shade, unsafe road conditions, and high exposure to heat-related health risks during agricultural work. The technical procedures were then simplified into a self-assessment process that residents and care workers could use without specialized training.

Beyond assessment, the study proposes guiding principles for community-led improvements. Under the proposed mechanism, community long-term care stations (C-level) and community development associations work with the township office to seek small grants based on assessment results, prioritizing improvements to public spaces with the greatest risk of heat-related harm. This community-driven “assessment–proposal–improvement” process aims to strengthen social resilience and support safe aging in place, while offering a transferable planning approach for resource-constrained rural communities.

Keywords: community self-assessment; thermal comfort; aging in place; super-aged society; climate adaptation; living lab

當恢復性感受轉化為公園參與：高齡者在亞熱帶鄰里公園中的社會與季節條件

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摘要

鄰里公園是高齡者進行日常活動、社會互動與心理恢復的重要環境，但公園被感受為具有恢復性，是否會進一步轉化為實際參與，可能受到社區社會關係與季節條件影響。本研究以臺中市31座鄰里公園為場域，採四季重複橫斷調查，蒐集6,208份55歲以上使用者問卷，並以兩層次多層次模型分析環境壓力感受、鄰里社會資本、知覺恢復性與公園參與之關聯。

結果顯示，較高的鄰里社會資本與較低的環境壓力感受、較強的知覺恢復性及較高的公園參與皆呈穩定關聯。知覺恢復性與公園參與呈顯著正向關聯，且此關聯在春季較強、冬季較弱；空氣污染、垃圾、活動噪音與交通噪音則呈現不同季節型態，但在納入知覺恢復性、社會資本與季節後，均未獨立預測公園參與。研究指出，高齡友善公園不應只著重綠量，而應同時營造舒適、熟悉且可支持低壓力互動的社會環境，並透過遮蔭、休憩、防風、聲景與季節性管理維持全年可使用性，使心理恢復更可能轉化為持續的日常參與與在地老化支持。

關鍵詞：高齡者、鄰里公園、知覺恢復性、鄰里社會資本、季節性

When Restorativeness Becomes Park Engagement: Social and Seasonal Contingencies among Older Adults in Subtropical Neighborhood Parks

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Abstract

Neighborhood parks are everyday settings for older adults' activity, social interaction, and psychological restoration. Yet it remains unclear when perceiving a park as restorative is associated with actual park engagement, especially in subtropical cities where social context and seasonal conditions shape outdoor use. This study used a four-season repeated cross-sectional design in 31 neighborhood parks in Taichung, Taiwan. A total of 6,208 adults aged 55 years and older completed onsite surveys assessing stressor-specific environmental ratings (air pollution, litter, activity noise, and traffic noise), neighborhood social capital, perceived restorativeness, and engagement in six park-based activity domains. Two-level multilevel models accounted for respondents nested within parks.

Higher neighborhood social capital was consistently associated with lower perceived stressor impact, stronger perceived restorativeness, and greater park engagement. Perceived restorativeness was positively associated with park engagement, and this association varied by season: it was stronger in spring and weaker in winter. The four environmental stressors displayed distinct seasonal patterns, but none remained independently associated with park engagement after perceived restorativeness, social capital, season, and sociodemographic covariates were considered. These findings suggest that the behavioral relevance of restorative appraisal is socially embedded and seasonally contingent. Age-friendly park planning should therefore move beyond a greenery-centered approach and create socially comfortable, low-strain, and seasonally usable environments. Shaded seating, sheltered rest areas, acoustic comfort, visible maintenance, and small spaces for familiar, low-pressure interaction may help translate restorative experiences into sustained everyday engagement and support aging in place.

Keywords: older adults; neighborhood parks; perceived restorativeness; neighborhood social capital; seasonality

The Mediating Role of Community Social Capital in the Relationship Between Loneliness and Depression Among Community-dwelling Older Adults in Taiwan

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Abstract

Background

Loneliness in old age is found to be a significant predictor of depression, with lonely older adults at higher risk of depression. However, not all lonely individuals develop depressive symptoms, and social capital may play a mediating role in this relationship.

Methods

We conducted a secondary data analysis of the University Responsibility dataset from National Cheng Kung University in Tainan City, Taiwan. The study included 530 older adults aged 65 and above. Loneliness was measured using the 6-item De Jong Gierveld Loneliness Scale (2006), and depression was assessed using the CES-D (Center for Epidemiological Studies Depression Scale). Data analysis was performed using SPSS 29.0 and the PROCESS v4.3 macro for regression and mediation effect analysis. Demographic covariates, including age, gender, marital status, ethnicity, educational level, health, and income, were also included in the analysis.

Results

Predictors of depression included higher levels of loneliness ($\beta = 0.11$, $p < 0.001$), low social participation ($\beta = 0.03$, $p < 0.001$), and poor health ($\beta = 0.10$, $p = 0.002$). Mediation analysis indicated that social capital in the community mediated the impact of loneliness on depression (effect = 0.006, BootLLCI = 0.002, BootULCI = 0.011).

Conclusion

The findings highlight the importance of building social capital among community-dwelling older adults. To facilitate healthy aging in place, policymakers and practitioners should focus on developing community-level interventions that combat loneliness, increase opportunities for social participation, and foster social capital.

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打造跨世代智慧學習新契機 Creating New Opportunities for Intergenerational Smart Learning

主持人：林松柏教務長（國立暨南國際大學）

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高等教育角色在長壽社會下的重塑：從第三人生到30+大學

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摘要

人口高齡化不只是人口年齡結構的改變，更意味著生命歷程、工作型態、健康福祉與教育制度都必須重新設計。根據人力資本理論，教育要在青年時期完成，然後透過工作貢獻社會；這種將人生區分為「受教育—工作—退休」三階段的線性生命模式，已無法回應長壽社會的需求。當前科技快速發展、人工智慧普及與產業結構轉型，30歲以後的青壯年及中高齡人口，面對的知識更新、職涯轉銜、健康管理、財務安全與社會參與，也與上一代完全不同。高齡化伴隨著少子化而來，當整體社會以前所未見的方式快速轉變，高等教育也必須重新思考其學生來源、課程內容、學習方式及社會角色。

本研究旨在探討長壽社會下高等教育角色重新設計的可能性，並以計畫下國立暨南國際大學試辦教育部第三人生大學「健康福祉科技學分學程專班」為實踐案例。本研究發現，第三人生大學的功能與角色，並不是只有將大學開放接受中高齡者學習，更在於重新檢視人力資本強調的教育應儘早完成的傳統觀念。當我們身處的環境經歷高齡化與快速變遷，大學的功能也應該由原本只注重人生前期的人力資本投資，逐步轉型為支持個人在生命歷程中能力更新與人生再設計的終身學習平台。

國立暨南國際大學的經驗顯示，長壽社會中的成人高等教育，可從「健康資本」、「人力與數位資本」、「財務安全」及「社會與職涯資本」四個面向整合，並透過大學、醫療機構、金融機構與企業之跨域合作，將高等教育、生活實務與社會參與相互連結。質言之，高齡化社會下的高等教育政策重點，應不在只注重青年人力資本投資，必須轉而涵蓋整個生命歷程的終身學習機構。大學應重新設計入學制度、課程模組、學習場域、學習支持與跨部門合作機制，成為建構包容性與永續社會的重要基礎。

關鍵詞： 30+大學、第三人生、長壽社會、終身學習

Reshaping the Role of Higher Education in a Longevity Society: From the Third Age to the 30+ University

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Abstract

Population aging is not merely a change in the age structure of the population; it also requires a fundamental redesign of the life course, patterns of work, health and well-being, and educational institutions. According to the conventional human capital perspective, formal education is largely completed during youth, after which individuals contribute to society through employment before eventually entering retirement. However, this linear three-stage life course of “education–work–retirement” is increasingly unable to respond to the needs of a longevity society. Rapid technological advancement, the widespread adoption of artificial intelligence, and ongoing industrial restructuring have significantly changed the challenges faced by adults aged 30 and above, including midlife and older adults. Their needs for knowledge renewal, career transition, health management, financial security, and social participation are substantially different from those of previous generations. As population aging is accompanied by declining birth rates and society undergoes unprecedented demographic and technological transformation, higher education must reconsider its student population, curriculum design, learning models, and broader social role.

This study explores the possibilities for redesigning the role of higher education in a longevity society, using the “Health and Welfare Technology Credit Program” implemented by National Chi Nan University under Taiwan’s Ministry of Education Third Age University initiative as a practical case. The study argues that the role of the Third Age University extends beyond simply opening university campuses to middle-aged and older learners. More importantly, it calls for a re-examination of the traditional human capital assumption that education should be completed as early as possible in life. In an era characterized by population aging and rapid social and technological change, universities should gradually move beyond their conventional emphasis on early-life human capital investment and transform into lifelong learning platforms that support continuous capability renewal and life redesign throughout the life course.

The experience of National Chi Nan University further suggests that adult higher education in a longevity society can be organized around four interconnected dimensions: “health capital,” “human and digital capital,” “financial security,” and “social and career capital.” Through cross-sector collaboration among universities, healthcare institutions, financial organizations, and enterprises, higher education can more effectively connect academic learning with everyday life and social participation. In short, higher education policy in an aging society should no longer focus solely on human capital investment among young people; instead, it should evolve toward a lifelong learning system that serves individuals across the entire life course. Universities should therefore redesign admission mechanisms, curriculum modules, learning environments, student support systems, and cross-sector collaboration in order to become a key institutional foundation for building a more inclusive and sustainable society.

Keywords: 30+ University; Third Age; longevity society; lifelong learning

智慧學習新定義，以人文為方法

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摘要

本論文的「智慧學習」是針對從第三人生大學到30+大學招生與開課的教育經驗所提出，一般對「智慧學習」比較是從數位科技想像，我想提出的是「第三人生」大學的人文智慧學習（humanities-based smart learning）。

當我們以為要用最先進的 A.I. 才能帶領第三人生進入未來，實際上，藉由大數據產生對話、文稿甚至研究的生成式 A.I.，如 chatgpt 其實是浸潤「歷史」最多的現代工具，相較第一或第二人生，第三人生的學生也是浸潤「歷史」最多的人。智慧學習的新定義，不是忘記背後的，而是如何借助「過去」成為學習前進的推力；換言之，如何轉化經驗和舊有知識，是第三人生大學課程設計的挑戰。由於「智慧學習」源於良好的課程設計，本文將以我們所開設的「身心舒健與人文創新學分學程」及其課程為分析案例，如此將會進入人文素養的環節，這也是何以本文要以人文為方法。其中將透過課程設計、教學實踐和招生宣導三個面向來探討智慧學習的新定義，從而建構終身學習的新價值，翻轉國人既有思維，而能理解重返大學的時代新意義。

關鍵詞：智慧學習、新定義、人文

Title: Redefining Smart Learning: Humanities as a Method

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Nan University

Abstract

In this paper, the concept of “smart learning” is developed from educational experiences gained through the establishment of a University for the Third Age and the subsequent recruitment and implementation of courses for a 30+ university program. In general, “smart learning” tends to be imagined primarily in terms of digital technologies. What I propose, however, is a form of humanities-based smart learning for universities serving learners in the “third stage of life.”

When we assume that the most advanced A.I. technologies are necessary to lead people in the third stage of life into the future, we may overlook the fact that generative A.I. tools such as ChatGPT—which can generate dialogue, manuscripts, and even research through the processing of massive amounts of data—are, in fact, among the modern tools most deeply immersed in “history.” Compared with learners in the first or second stages of life, students in the third stage of life are likewise those whose lives are most deeply immersed in “history.” A new definition of smart learning, therefore, does not mean forgetting what lies behind us, but rather understanding how to draw upon the “past” as a driving force for moving learning forward. In other words, the central challenge in curriculum design for universities serving learners in the third stage of life is how to transform accumulated experience and existing knowledge into new sources of learning. Because “smart learning” originates in thoughtful and effective curriculum design, this paper takes as its case study the Interdisciplinary Credit Program in Physical and Mental Well-being and Humanities Innovation and the courses offered within the program. This approach necessarily brings the discussion into the domain of the humanities, which explains why this paper proposes the humanities as a method. From three perspectives—curriculum design, teaching practice, and recruitment and outreach—this paper explores a new definition of smart learning and, in doing so, seeks to construct new values for lifelong learning, transform conventional perceptions among the Taiwanese public, and foster an understanding of the contemporary significance of returning to university in later life.

Keywords: Smart Learning, New Definition, Humanities

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大學社會責任的在地實踐：暨大 × 埔里鎮公所共構珠仔山社區長照機構，打造 AI 智慧照顧與產學實習場域

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摘要

臺灣已於 2025 年邁入超高齡社會，偏鄉與原鄉地區長期面臨照顧服務據點與專業照顧人力不足之困境。國立暨南國際大學秉持大學社會責任（USR）理念，與南投縣埔里鎮公所、珠仔山社區發展協會三方共構，於 2026 年 8 月設立「國立暨南國際大學附設珠仔山社區長照機構」，提供日間照顧與交通接送服務，並簽署產學合作備忘錄，將機構定位為高齡長照原住民族專班學生之產學實習與學習場域。

本機構以「職人公會」理念設計照顧活動，視長輩為具技藝與生命經驗的職人，將復能訓練融入有意義的角色任務；同時導入校內社區福祉研究室自主研發、部署於 NAS 與 Mac mini 之三套 AI 智慧照顧系統：「職人賦能」以電腦視覺辨識動作，發展沉浸式遊戲化體能運動；「腦友會」以十款在地文化遊戲結合難度自適應機制，促進認知功能；「厝邊伴」以合作互惠之互動遊戲提升社會連結。

遊戲歷程資料自動綁定世界衛生組織 ICOPE 六大內在能力與社會連結指標（UCLA-LS3、LSNS-6、WHO-5），經三系統整合分析後由 AI 產出照顧行動建議，協助照顧服務員擬定個別化照顧計畫，以達延緩失能與認知退化之目標。本案展現大學將研發知識轉譯至照顧現場、培育在地長照人才之 USR 實踐模式。

關鍵詞：大學社會責任、社區長照機構、產學實習、AI 智慧照顧、ICOPE

Practicing University Social Responsibility in Place: NCNU and Puli Township Co-creating the Zhuzaishan Community Long-Term Care Institution as an AI-Enabled Care and Industry–Academia Learning Field

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Abstract

Taiwan became a super-aged society in 2025, and rural and Indigenous areas continue to face shortages of community care facilities and trained care workers. Guided by the principles of University Social Responsibility (USR), National Chi Nan University (NCNU) partnered with the Puli Township Office and the Zhuzaishan Community Development Association to establish the NCNU-affiliated Zhuzaishan Community Long-Term Care Institution, which opened in August 2026. The institution provides day care and transportation services, and a memorandum of understanding designates it as an industry–academia internship and learning field for students in the university's Indigenous program in aging health and long-term care management. Care activities follow an “Artisan Guild” philosophy: older adults are regarded as artisans with valuable skills and life experience, and reablement training is embedded in meaningful role-based tasks. The institution also adopts three AI-enabled care systems developed in-house by the university's Community Welfare Lab and deployed on local NAS and Mac mini servers. Shokunin Empowerment uses computer-vision motion recognition to deliver immersive, gamified physical exercise; BrainBuddy offers ten culturally grounded games with adaptive difficulty to stimulate cognitive function; and NeighborCompanion promotes social connectedness through cooperative and reciprocal interaction games.

Gameplay data are automatically linked to the six domains of intrinsic capacity in the World Health Organization's Integrated Care for Older People (ICOPE) framework and to social connectedness indicators, including the UCLA Loneliness Scale (UCLA-LS3), the Lubben Social Network Scale (LSNS-6), and the WHO-5 Well-Being Index. After cross-system integration, AI generates care action recommendations that help care workers develop individualized care plans aimed at delaying functional disability and cognitive decline, while final decisions remain with care professionals. This case demonstrates a USR practice model in which a university translates research and development into frontline care while cultivating local long-term care talent.

Keywords: University Social Responsibility; community long-term care; industry–academia internship; AI-enabled care; ICOPE

從計畫績效到個體價值內化：建構大學生高齡社會創新與關懷素養量表

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摘要

面對超高齡社會的衝擊，高等教育積極推動大學社會責任(USR)。然而，現行USR評估多聚焦於學校層級的計畫執行KPI與量化成果，忽視了評估最核心的對象——學生端之「個體價值內化」。若僅以計畫績效為導向，難以驗證學生是否將外部關懷轉化為個人素養，凸顯出評估大學生個人社會責任(ISR)的重要性與必要性。

將USR轉化為ISR具有深遠的時代意義：大學生是長壽社會下的關鍵創新者與世代橋樑，建構ISR量表能將組織層級的責任落地為個人素養，引導學生建立面對高齡社會所需的創新解方與同理關懷。

在研究方法上，本研究結合SROI邏輯架構，運用「模糊德懷術(FDM)」收斂專家意見，篩選出包含「議題知覺與動機觸發」、「專業轉化與溝通合作」、「情感連結與認同感」及「公民實踐與永續行為」四大構面之指標；並導入「模糊熵權法(FEM)」進行客觀賦權，有效排除主觀偏誤，建構出具客觀性與科學性之權重體系。

在實務應用層面，本量表指標能精準對接高齡社會需求：引導學生察覺高齡困境、運用課堂專業進行福祉創新、建立跨世代情感連結與尊嚴認同，並最終落實為日常生活中的友善高齡實踐。本量表可作為高等教育檢視學生高齡關懷素養與個體價值內化之重要工具。

關鍵詞：社會責任、高等教育、模糊統計

From Project Performance to Individual Value Internalization: Constructing a Scale for University Students' Social Innovation and Care Competence in an Aging Society

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Abstract

Facing the challenges of a super-aged society, higher education institutions have actively promoted University Social Responsibility (USR). However, current USR evaluations predominantly focus on institutional-level project KPIs and quantitative outputs, neglecting the "individual value internalization" of the primary stakeholders—the students. Relying merely on project performance makes it difficult to verify whether students internalize external social care into personal competence, underscoring the necessity and significance of assessing Individual Social Responsibility (ISR) among university students.

Transforming USR into ISR carries profound contemporary importance. University students serve as crucial innovators and intergenerational bridges in a longevity society. Constructing an ISR scale bridges organizational-level responsibility with individual competence, guiding students to develop innovative solutions and empathetic care essential for an aging society.

Methodologically, this study integrates the Social Return on Investment (SROI) framework and employs the Fuzzy Delphi Method (FDM) to consolidate expert consensus. It identifies indicators across four key dimensions: "Issue Perception and Motivation Triggering," "Professional Transformation and Collaborative Communication," "Emotional Connection and Identity," and "Civic Practice and Sustainable Behavior". Furthermore, the Fuzzy Entropy Method (FEM) is applied for objective weighting, mitigating subjective bias to establish a scientifically rigorous weight system.

Practically, the scale directly addresses the needs of an aging society. It guides students to perceive the challenges of aging, apply academic expertise to care innovation, cultivate intergenerational emotional bonds and mutual dignity, and ultimately realize age-friendly practices in daily life. This scale serves as an essential evaluation tool for higher education to assess students' value internalization and care competence regarding aging issues.

Keywords: Social Responsibility, Higher Education, Fuzzy Statistics

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前瞻高齡社會的勞動市場：
談促進中高齡者重返職場與建構尊嚴勞動的就業環境
**Looking Ahead to the Labor Market in an Ageing Society:
Promoting the Reemployment of Middle-Aged and Older Adults
and Building a Decent Work Environment**

主持人：林詩騰組長（勞動部勞動及職業安全衛生研究所勞動市場研究組）

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2	促進中高齡及高齡者重返職場之措施探討：國內 勞動流動、就業需求與國際政策借鏡 Exploring Policy Measures Supporting Workforce Re-entry Among Middle-Aged and Older Adults: Domestic Labor Mobility, Employment Needs, and International Policy Insights	高慧珠助理研究員 勞動部勞動及職業安全衛生 研究所勞動市場研究組
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高齡社會下未來勞動市場前景與因應

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摘要

研究背景與目的

臺灣正處於人口結構高齡化與產業數位轉型的關鍵轉折期。本文呈現勞動部勞動及職業安全衛生研究所的最新研究成果，以國家發展委員會人口推估資料為基礎，進一步推估未來十年各產業及不同年齡層勞動力人數的變化；前瞻探討在未來缺工環境下，面對全球經濟不確定性衝擊時，企業與政府應如何動態調整因應策略，以提升勞動市場韌性。

研究方法

本研究運用國家發展委員會2035年中推計之單齡及性別人口資料，並結合2024年12月勞工保險資料中的行業別、性別及單齡人口結構，推估未來我國非農產業勞工的就業人數。除量化推估外，本研究亦透過專家觀點質性研究與問卷調查等系統化研究設計，歸納未來勞動市場的關鍵趨勢。考量臺灣除面臨高齡社會所帶來的壓力外，亦須因應全球經濟不確定性的衝擊，本研究進一步運用情境分析矩陣，交叉分析不同勞動力短缺程度與經濟景氣情境，據以提出相應的因應對策，並展望未來人力資源發展方向。

研究結果

本研究以假設未來十年各年齡層勞參率不變的情境下進行推估，我國非農產業就業人數至2035年將減少131萬人，其中，作為勞動市場中堅的35至54歲壯年族群預估減少67萬人。臺灣在全球製造供應鏈中扮演重要角色，相關產業對人才的需求殷切；然而，未來十年的缺工壓力將更加嚴峻。研究推估，製造業勞動力在未來十年將減少33萬人。展望未來，科技業憑藉較高薪資吸引人才，亦將持續對傳統製造業及高度依賴人力的民生產業產生顯著的人才排擠效應。

另一方面，結構性缺工在營建工程業、醫療保健及社會工作服務業尤為顯著。此類產業通常具有較高的專業技能門檻，且常伴隨高體力負荷或較高職業風險，因而降低勞動者的投入意願，進一步形成長期性的人力供給斷層。研究推估，至2035年，營建工程業勞動力將減少9萬人，醫療保健及社會工作服務業則將減少近6萬人。若再考量未來十年扶養比增加以及隨之增加的照護需求，醫療保健及社會工作服務業的實際人力需求缺口將接近7萬人。

在民生服務方面，批發及零售業、住宿及餐飲業，以及運輸及倉儲業多具有勞力密集、技術門檻較低及人員流動率高等特性，並以婦女與青年為主要勞動力。研究推估，至2035年，上述產業的勞動力將合計減少37萬人；除勞動力規模大幅縮減外，非典型就業亦呈增加趨勢。

缺工因應的建議策略

一、不同類型勞動力短缺的因應策略

- (一) 流動性缺工的因應：流動性缺工主要發生於進入門檻較低的服務業，其成因多為薪資水準、工作條件及職涯發展空間有限，導致人員流動率偏高。政策宜透過改善勞動條件、導入自動化、促進中高齡者就業及強化勞動市場監測，提升人力留任與就業穩定性。
- (二) 結構性缺工的因應：結構性缺工主要源於專業門檻、高體力負荷與職業風險，造成勞動者投入意願不足。政策應透過改善薪資與勞動條件、推動職務再設計、強化職業安全衛生、適度補充外籍人力及促進退休者再就業，以改善人力供需失衡與技術斷層。
- (三) 職能落差型缺工的因應：職能落差型缺工主要源於產業轉型速度快於勞工技能更新，造成職缺與失業並存的結構性錯配。企業應強化內部訓練、產學合作與員工再培訓；政府則應調整職業訓練資源配置、強化轉職支持，並深化教育與產業之間的連結。
- (四) 關鍵人才競爭的因應：關鍵人才競爭主要源於全球科技產業同步搶才，以及國內人才培育量能不足，致使人工智慧、半導體等領域的高階人才供不應求。企業應優化薪酬與股權激勵制度，並強化國際合作；政府則應精進國際攬才與移民政策、擴充產學培育量能，並提升國際人才留臺誘因。

二、政府因應不同景氣階段的策略

- (一) 景氣擴張 × 輕微／摩擦性短缺：此情境的核心問題在於勞動市場資訊不對稱與媒合效率不足。政策應強化人工智慧就業媒合，促進二度就業婦女、身心障礙者等潛在人力投入勞動市場，並搭配短期、實務導向的職業訓練，以提升勞動參與率與即時人力供給效率。
- (二) 景氣擴張 × 嚴重／結構性短缺：短期補充人力已不足以因應需求，政策應轉向中長期結構調整，透過國際攬才、數位轉型與自動化，降低產業對人力的依賴，並深化產學合作與人才培育，以同步擴充高品質人力供給及提升產業競爭力。
- (三) 景氣衰退 × 輕微／摩擦性短缺：政策重點應轉向失業保障與轉職支持。政府除應強化失業給付與短期公共就業措施外，亦須結合職業訓練與前瞻性人力規劃，引導受夕陽產業衰退或產業轉型影響的勞工，轉移至具成長潛力的產業。
- (四) 景氣衰退 × 嚴重／結構性短缺：政策核心應由失業調節轉向人力資本保存。政府可透過就業安定措施、以減班方式替代裁員、推動在職訓練及中高齡職務再設計，維持關鍵勞動力與技能累積，並為景氣復甦預作人力準備。

關鍵詞：高齡社會、未來工作、缺工、景氣循環、勞動力轉型

The Future Labor Market Outlook and Responses in an Aging Society

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Abstract

Purpose and Scope

Taiwan is at a critical turning point of population aging and industrial digital transformation. This article presents the latest research findings from the Institute of Labor, Occupational Safety and Health, Ministry of Labor. Based on population projection data from the National Development Council (NDC), it further estimates the changes in the workforce across various industries and age groups over the next decade. It prospectively examines how enterprises and the government should dynamically adjust their response strategies to enhance labor market resilience when facing the impact of global economic uncertainty in a future labor shortage environment.

Research Methodology

This study utilizes the NDC's medium-projection data for single-age and gender populations in 2035, combined with data on industry, gender, and single-age population structure from the December 2024 Labor Insurance statistics, to estimate the future employment figures for workers in Taiwan's non-agricultural industries. In addition to quantitative projections, this research also synthesizes key future labor market trends through systematic research designs, including qualitative research based on expert opinions and questionnaire surveys. Given that Taiwan faces not only the pressure brought by an aging society but also the necessity to respond to the impact of global economic uncertainty, this study further employs a scenario analysis matrix to cross-analyze different levels of labor shortage severity and economic cycle scenarios, thereby proposing corresponding countermeasures and outlining the future direction of human resource development.

Study Outcomes

Based on the assumption that the labor force participation rate for each age group remains unchanged over the next decade, this study projects that employment in Taiwan's non-agricultural industries will decrease by 1.31 million people by 2035. Specifically, the decline is estimated at 670,000 for the core workforce aged 35 to 54. Taiwan plays a significant role in the global manufacturing supply chain, and related industries have an urgent demand for talent; however, the pressure from labor shortages will become even more severe in the next decade. The study projects that the manufacturing workforce will decrease by 330,000 people over the next ten years. Looking ahead, the technology sector, with its higher salaries, will continue to attract talent, leading to a significant talent-crowding-out effect on traditional manufacturing and human-labor-intensive service industries.

Moreover, structural labor shortages are particularly pronounced in the construction engineering industry and the health care and social work services sector. These industries often have high professional skill barriers and are frequently associated with high physical demands or higher occupational risks, which lowers workers' willingness to enter, leading to a long-term discontinuity in labor supply. The study projects that by 2035, the construction engineering workforce will decrease by 90,000 people, and the health care and social work services sector will decline by nearly 60,000 people. Considering that the dependency ratio will rise over the next decade, along with the corresponding increase in care demands, the actual human resource gap in the health care and social work services sector will approach 70,000 people.

Regarding consumer services, the wholesale and retail trade, accommodation and food service, and transportation and storage industries are often characterized by labor intensity, lower skill barriers, and high personnel turnover, primarily employing women and youth. The study projects that the combined workforce in these sectors will decrease by 370,000 people by 2035. In addition to the significant reduction in workforce size, atypical employment is also trending upward.

Proposed Strategies for Addressing Labor Shortages

I. Reaction Techniques for Various Labor Shortage Types

1. Handling Fluid Shortages: The majority of fluid shortages happen in service sectors with low entry barriers. These shortages are frequently brought on by poor pay scales, unfavorable working conditions, and little opportunity for professional advancement, which results in high turnover rates. To strengthen workforce retention and employment stability, policies should focus on enhancing labor market monitoring, promoting employment for middle-aged and older workers, introducing automation, and improving working conditions.
2. Addressing Structural Shortages: Professional obstacles, high physical demands, and occupational hazards are the primary causes of structural shortages, which lead to a lack of employee participation. Policies should improve wages and working conditions, promote job redesign, strengthen occupational safety and health, appropriately supplement foreign labor, and encourage re-employment of retirees to address the imbalance in labor supply and demand and the skills gap.
3. Addressing Skills Gap Shortages: The main cause of skills gap shortages is that industry transformation is happening faster than worker skill upgrades, which leads to a structural mismatch where job openings and unemployment coexist. Businesses should improve internal training, industry-academia cooperation, and staff retraining; the government should modify the distribution of resources for vocational training, improve career transition assistance, and increase the link between education and business.
4. Addressing the Competition for Key Talent: There is a shortage of top talent in industries like artificial intelligence (AI) and semiconductors due to the simultaneous global race for talent in the technology sector and a lack of domestic talent cultivation capacity. Businesses should enhance international cooperation and optimize compensation and stock incentive programs; the government should enhance immigration and international talent recruitment policies, increase industry-academia cultivation capacity, and boost incentives for foreign talent to remain in Taiwan.

II. Government Strategies for Various Economic Phrases

1. Economic Expansion × Slight/Frictional Shortage: The core issue in this scenario is labor market information asymmetry and inefficient matching. Policies should strengthen AI-based job matching, facilitate the entry of potential workers—such as re-entering women and people with disabilities—into the labor market, and be supplemented by short-term, practice-oriented vocational training to enhance labor participation rates and the efficiency of immediate labor supply.
2. Economic Expansion × Severe/Structural Shortage: Demand cannot be met by temporary manpower augmentation. To lessen sectors' dependency on human labor, policies should move toward medium-to-long-term structural changes through automation, digital transformation, and international talent acquisition. Furthermore, in order to concurrently increase the supply of top-notch human resources and boost industrial competitiveness, industry-academia collaboration and talent cultivation must be strengthened.
3. Economic Downturn × Slight/Frictional Shortage: The policy focus should shift to unemployment protection and transition support. In addition to strengthening unemployment benefits and short-term public employment measures, the government must integrate vocational training with forward-looking human resource planning to guide workers affected by the decline of sunset industries or industrial transformation toward industries with growth potential.
4. Economic Downturn × Severe/Structural Shortage: The policy core should shift from unemployment regulation to human capital preservation. The government can utilize employment stabilization measures, replace layoffs with reduced working hours, and promote on-the-job training and job redesign for middle-aged and older workers to maintain critical labor and skill accumulation, preparing the workforce for economic recovery.

Keywords: Aging Society; Future of Work; Labor Shortage; Business Cycle; Workforce Transformation

促進中高齡及高齡者重返職場之措施探討：國內勞動流動、就業需求與國際政策借鏡

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摘要

面對少子高齡化加劇與產業缺工常態化，活化退離職場之中高齡及高齡人力，已成為穩定我國勞動力供給與促進經濟發展之重要策略。相較於日、韓等主要國家，我國勞工平均退離勞動市場年齡（男性64.3歲、女性61.4歲）顯著偏早，且55歲後勞動參與率呈現陡降。為落實《中高齡者及高齡者就業促進法》之意旨，支持退休及非自願離職者再就業，本研究整合政府次級統計調查、勞保公務資料長期串接追蹤（2016–2023年）、勞資雙方深度訪談，以及美、日、韓、德與北歐等主要國家就業政策進行比較分析，系統性剖析國內中高齡及高齡勞動流動軌跡、就業需求落差與重返職場之具體促進措施。

大數據與實證分析顯示，在勞動流動方面，中高齡在職勞工雖具極高之職場穩定性，但離職後再就業的跨業與跨區域流動性隨年齡顯著遞減，多數限縮於原居住縣市及原產業內部流動，且薪資向下變動風險隨年齡增加而加劇；在就業需求與尋職障礙方面，中高齡失業者未能就業之主因以「缺乏工作機會」最高（逾7成），細分情形以「未遇到合適職缺」占近7成居首，且「年齡限制」長年被視為求職的最大障礙；此外，訪談發現勞方重返職場高度渴望適性職能培訓、彈性工時及低體力負荷職缺，而雇主端則企盼政府政策具備延續性、透明度與實質誘因。

借鏡國際推動「全生命週期職涯支持」、「專屬銀髮就服網絡」與「彈性漸進退休」等成功實踐，本研究建議：政府應落實年齡友善僱用環境以消除制度與隱性就業歧視；強化轉型與數位技能培訓以提升勞工就業競爭力；擴大建置中高齡專屬求職媒合平台與銀髮人才服務據點以提升適性職缺可見度；並積極鼓勵企業採行部分工時、兼職顧問與職務再設計等多元模式，有效契合勞資雙方就業需求，促進中高齡及高齡勞動力順利且持續地重返職場。

關鍵字：中高齡及高齡者、重返職場、勞動流動、就業需求、就業促進、國際借鏡

Exploring Policy Measures Supporting Workforce Re-entry Among Middle-Aged and Older Adults: Domestic Labor Mobility, Employment Needs, and International Policy Insights

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Abstract

Amid the dual challenges of population aging and structural labor shortages, mobilizing middle-aged and older individuals who have exited the labor force has become an essential human resource strategy in Taiwan. The effective age of retirement in Taiwan (64.3 for males and 61.4 for females) remains markedly earlier than that in Japan and South Korea, with labor force participation dropping precipitously after age 55. To fulfill the legislative intent of the Middle-aged and Elderly Employment Promotion Act and facilitate post-retirement re-employment, this study synthesizes national secondary survey data, longitudinal administrative labor insurance records (2016–2023), qualitative in-depth interviews, and comparative policy reviews from Japan, South Korea, Germany, the United States, and Nordic countries, offering a comprehensive examination of domestic labor mobility, employment needs, and support measures for workforce re-entry.

Empirical findings indicate that while older workers exhibit high job tenure stability, their inter-industry and geographic mobility decreases significantly after job departure; re-employment predominantly remains confined to the same locality and original industry sector, alongside heightened risks of downward wage adjustments as age advances. Regarding employment needs and obstacles, over 70% of unemployed middle-aged and older jobseekers attribute their unemployment to a lack of job opportunities, with the absence of suitable vacancies being the most prevalent factor (nearly 70%), while age restrictions remain the most persistent structural barrier. Qualitative interviews further reveal that older jobseekers prioritize adaptive vocational upskilling, flexible hours, and roles with reduced physical strain, whereas employers demand sustainable, predictable, and transparent policy incentives.

Drawing upon international practices in lifecycle career navigation, dedicated silver talent service windows, and phased retirement frameworks, this study proposes that policy interventions should prioritize: enforcing age-friendly labor standards to dismantle ageist hiring barriers; expanding digital and vocational transition training to bolster employability; establishing dedicated silver matching platforms alongside localized service centers to increase job visibility; and incentivizing flexible arrangements, consultative roles, and ergonomic job redesign to bridge supply-demand mismatches and facilitate successful, sustained workforce re-entry for older adults.

Keywords: Middle-Aged and Older Adults; Workforce Re-entry; Labor Mobility; Employment Needs; Employment Promotion; International Lessons

中高齡者與高齡者就業彈性樣態之勞動條件探討

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摘要

我國於 114 年 65 歲以上人口占總人口比率突破 20%，正式邁入超高齡社會。在少子化趨勢及勞動力就業年齡存在「晚進早出」的結構影響下，預估 45 歲以上中高齡者將成為職場主力軍，面對勞動力運用議題，我國於民國 108 年制定專法並於 109 年 12 月 4 日正式實施，推動中高齡及高齡者續留職場或再就業，因應時代變遷與社會經濟發展需求，勞動彈性措施亦漸被討論。然而對於中高齡及高齡者就業彈性職場之資料與發展尚未臻完備，爰以相關資料之蒐集發掘中高齡及高齡者就業彈性之職場現況，並藉由盤點個案經驗，瞭解案例管理規範與就業條件，分析發展就業彈性之可能挑戰，做為促進中高齡與高齡者就業之政策建議基礎。

本研究透過國內外文獻蒐集，聚焦美、日、韓三國之經驗，並納入國內司法實務裁判事件判決，以及針對勞、資、政三方的深度訪談進行就業彈性資料之蒐集，再經由專家座談蒐集推動就業彈性之因應策略，分析彙整出 11 案例作為職場常見就業彈性運用為計畫成果。

美國中高齡及高齡者對於彈性工作時間安排重視度高，其職場彈性樣態豐富，內容包括彈性工時、兼職工作、工作分享、遠端辦公、職務再設計與定期性契約；日本就業彈性強調工作環境的改善與時間彈性，並搭配教育訓練及健康等配套措施；韓國彈性化措施仍尚未普及，中高齡者易被迫退離勞動市場而造成老人貧窮現象，故其政府積極推廣中高齡者促進就業計畫，輔導企業改善就業環境、減少工時、職務再設計、工作分享及調整職務內容。而我國以兼職工作、彈性工時、跨世代合作團隊、工作分享及退休後回聘等彈性就業類型，協助打造友善中高齡及高齡者的職場環境。

透過研究及調查，獲取就業彈性職場之資料，經分析檢討，就業彈性於國內之推動，仍待提升勞資溝通管道、簡化政府補助申請程序並適量放寬申請條件、加強企業宣導、加強中高齡及高齡輔導及諮詢與多元化媒合管道等作為。

關鍵詞：中高齡與高齡者就業、彈性職場、勞動力高齡化、彈性工作方案

Exploring Labor Conditions for Employment Flexibility Among Middle-aged and Elderly Workers

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Abstract

In 2025, the proportion of Taiwan's population aged 65 and above exceeded 20%, marking its official transition into a super-aged society. Against the backdrop of a declining birthrate and a labor market characterized by the structural pattern of “late entry and early exit,” individuals aged 45 and above are expected to become a major component of the workforce. In response to the challenges associated with labor force utilization, Taiwan enacted dedicated legislation in 2019, which took effect on December 4, 2020, to promote the continued employment and re-employment of middle-aged and elderly individuals. As society and the economy continue to evolve, flexible work arrangements have also received increasing attention. However, information on the development and current practices of flexible workplaces for middle-aged and elderly individuals remains insufficient. Accordingly, this study collected relevant data to examine current flexible employment practices for middle-aged and elderly individuals. By reviewing practical cases, the study further explored management practices and employment conditions and analyzed potential challenges in developing flexible employment, thereby providing a basis for policy recommendations aimed at promoting the employment of middle-aged and elderly individuals.

This study reviewed domestic and international literature, with a particular focus on the experiences of the United States, Japan, and South Korea. It also examined domestic court decisions and conducted in-depth interviews with representatives of labor, employers, and government agencies to collect information on flexible employment practices. In addition, expert panel discussions were held to identify strategies for promoting employment flexibility. Based on the findings, 11 cases representing common applications of flexible employment in the workplace were identified and analyzed.

In the United States, middle-aged and elderly individuals place considerable importance on flexible work arrangements, and a wide variety of workplace flexibility practices are available, including flexible working hours, part-time work, job sharing, remote work, job redesign, and fixed-term contracts. In Japan, employment flexibility emphasizes improvements in the work environment and flexibility in working time, complemented by supporting measures such as education, training, and health-related programs. In South Korea, flexible employment measures have yet to become widespread, and middle-aged and elderly individuals are more likely to be forced to withdraw from the labor market, contributing to elderly poverty. The South Korean government has therefore actively promoted employment programs for middle-aged and elderly individuals and assisted enterprises in improving working environments, reducing working hours, redesigning jobs, implementing job sharing, and adjusting job duties. In Taiwan, flexible employment practices, including part-time work, flexible working hours, intergenerational collaborative teams, job sharing, and post-retirement re-employment, have been adopted to help create friendly workplace environments for middle-aged and elderly individuals.

Based on the research and survey findings regarding flexible workplaces, the study concludes that further efforts are needed in Taiwan to strengthen labor-management communication channels, streamline government subsidy application procedures while moderately relaxing eligibility requirements, enhance outreach to enterprises, strengthen guidance and consultation services for middle-aged and elderly individuals, and diversify employment matching channels.

Keywords: Middle-aged and Elderly Employment; Flexible Workplaces; Workforce Aging; Flexible Work Arrangements

專題發表 12 Thematic panel 12

健身、健心、健腦：
以臨床心理與運動指導為核心的跨專業人才培訓和健康促進之多
模組推廣系統

**Fitness for Body, Mind, and Brain: A Multi-Module Promotion
System for Interprofessional Training and Health Promotion
Centered on Clinical Psychology and Exercise Instruction**

主持人：李志謙理事長（嘉義市臨床心理師公會）

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**健身、健心、健腦：以臨床心理與運動指導為核心的跨專業人才培訓和健康促進之多
模組推廣系統**

王重凱 博士生 國立中正大學

吳博軒 博士生 國立中正大學

摘要

區普及率仍低。為釐清推廣瓶頸，針對 144 位一般民眾進行調查，結果顯示逾八成民眾在專業指導下可接受高齡者使用啞鈴與槓鈴等自由重量，其主要疑慮為「缺乏專業指導」與「受傷風險」。由此可知，推廣關鍵不在於說服民眾「重訓有效」，而在於建立「能安全指導」的信任體系。

結合「健康台灣計畫」種子學員培訓經驗，指導高齡者的關鍵概念為「Knowing ≠ Doing ≠ Coaching」。學員學會操作動作（Doing）不等於具備指導能力（Coaching）；真正的專業核心在於動作觀察、實時判斷、個別化進退階與風險管理。此能力無法僅憑課程或證照取得，必須經由觀摩、實作、帶領與專業督導等過程方能建立。

本報告以「健康台灣深耕計畫高齡者自由重量運動指導模組」為例，主張社區推廣不能僅發布運動課程，更須建構「專業培訓 → 能力評估 → 實作帶領 → 場域實習 → 專業督導 → 人才再培育」的永續支持系統，方能真正實現高齡重量訓練之社區落地與安全保障。

關鍵詞：高齡者重量訓練、自由重量訓、心理健康、多模組培訓、健康台灣深耕計畫

Fitness, Mental Wellness, and Cognitive Health: A Multi-Module Promotion System for Interprofessional Workforce Training and Health Promotion Centered on Clinical Psychology and Exercise Instruction

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Abstract

The adoption of such programs at the community level remains limited. To identify barriers to wider implementation, a survey was conducted among 144 members of the general public. The results showed that more than 80% of respondents considered the use of free weights, such as dumbbells and barbells, acceptable for older adults when appropriate professional supervision was provided. Their primary concerns were the lack of professional guidance and the risk of injury. These findings suggest that the key challenge in promoting resistance training among older adults is not convincing the public that resistance training is effective, but rather establishing a trusted system capable of providing safe and professional instruction.

Drawing on training experiences from the seed instructor program of the Healthy Taiwan Initiative, this report highlights the principle of “Knowing $\neq$ Doing $\neq$ Coaching” as a core concept in preparing professionals to work with older adults. Being able to perform an exercise correctly (Doing) does not necessarily mean that an individual is capable of instructing others effectively (Coaching). Professional competence instead depends on the ability to observe movement, make real-time judgments, individualize exercise progression and regression, and manage potential risks. Such competencies cannot be acquired solely through coursework or certification; rather, they must be developed through a sustained process of observation, hands-on practice, supervised instruction, field-based experience, and professional supervision.

Using the Free-Weight Exercise Instruction Module for Older Adults under the Healthy Taiwan Deepening Initiative as an example, this report argues that community-based implementation should go beyond simply offering exercise programs. A sustainable support system should be established that incorporates professional training, competency assessment, supervised practice, field-based practicum, professional supervision, and the continued development of future instructors. Such a system is essential for ensuring both the effective community implementation and the safe delivery of free-weight resistance training for older adults.

Keywords: older adults; resistance training; free-weight training; psychological health; multi-module training; Healthy Taiwan Deepening Initiative

專題發表 13 Thematic panel 13

高齡社會歧視的結構、影響與突破 Ageism in an Ageing Society: Structures, Impacts, and Pathways Beyond

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高齡社會歧視的結構、影響與突破

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摘要

本論壇以「高齡社會歧視的結構、影響與突破」為主題，從社會變遷與文化、生活資源與環境支持、勞動再參與及個體學習增能四個層面，討論高齡歧視的形成背景、社會影響及可能的突破方向。高齡歧視並非單純源自個人對高齡者的態度與偏見，而是與社會結構和文化、勞動市場、生活環境及個人學習機會相互關聯。四位講者依序從不同層次切入，分析高齡者在社會變遷中的位置，以及高齡社會需要重新思考的文化觀念、生活條件、勞動制度與學習支持。

陳淑敏教授：社會變遷與文化層面

高齡歧視並非單純源自個人對老年人的負面態度，而是與社會變遷過程中的文化價值、權力關係及制度安排密切相關。傳統社會對「老」具有多重文化意義。從告老還鄉、扶老攜幼、白頭偕老、老當益壯、老吾老以及人之老、敬老尊賢等語言使用，可以發現年齡曾與經驗、知識、權威及社會地位相互連結。然而，現代社會強調民主、自由、平等與個人自主，傳統年齡秩序及其權威基礎逐漸受到挑戰；另一方面，科技發展、消費文化與效率導向的社會價值，也使高齡者容易被置於能力衰退、依賴照顧與退出生產活動的位置。福利國家的發展使原本由家庭承擔的部分照顧責任逐漸公共化，高齡者也成為社會福利與長期照顧制度的重要服務對象。然而，與此同時，銀色經濟將高齡人口重新界定為具有市場價值的消費群體，醫療、藥物、保健、器材與休閒服務大量進入高齡生活。高齡者因而同時尊重、照顧、治理與消費等參與之多重社會角色和限制。因此，基於關切臺灣社會的高齡歧視問題，本文分析「老」在社會變遷中的意義轉換，以及文化、制度與市場脈絡下，當代臺灣社會對高齡群體之理解與對待。

林振春教授：生活資源與環境支持

高齡者是否或如何成為社會弱勢的群體或對象？除了從生理年齡或個人能力加以解釋，亦需要檢視其所處的生活環境與社會支持條件。高齡者之所以容易受到歧視，往往與其在快速變遷的社會中缺乏必要的生活能力，以及社會環境未能充分回應高齡者的需求有關。不過，當公共服務、交通系統、金融活動、醫療資訊與日常溝通快速數位化之際，若是高齡者缺乏網路使用、資訊判讀及數位服務操作能力，則容易在日常生活中遭遇新的排除。教育的重要性在於協助高齡者取得網路社會所需要的核心能力，使其能夠維持生活自主性並持續參與社會。然而，能力問題不能完全由個人承擔。如果社會制

度、公共空間與服務系統皆以年輕人的身體條件、數位能力與生活方式作為設計標準，即使高齡者持續學習，仍可能面臨結構性的生活障礙。本文主張高齡友善環境應該致力於建立符合友善運用的物理環境，以及尊重、理解與支持所形成的人際互動與交往環境。從德國、法國、日本及韓國等高齡社會的發展經驗來看，高齡問題並非增加福利服務即可處理，而需要重新思考教育、社區、公共服務與生活環境之間的關係，提升高齡者持續自主生活與社會連結的真實脈絡。

詹盛如教授：勞動再參與

人口高齡化往往牽動勞動力不足的產業或經濟發展挑戰，因此，有關高齡者的勞動再參與成為重要的社會議題。不過，高齡就業困境的解方，並非僅由個人工作能力調整得以改善，實際上，密切和勞動市場之組織方式、產業結構及社會對老年角色的期待有關。更進一步言之，尤其資本主義運作邏輯下，資訊科技社會高度重視效率、速度、變動與技術更新，此產業發展需求下，企業更易於對高齡者的工作能力與生產效率有所遲疑，導致企業對高齡者之招募、升遷、職務安排及再就業過程，面臨多重的制度障礙。再者，由於臺灣中小企業比例較高，企業在工作調整、職務再設計與人力培訓方面，需要由企業主承擔更高的轉換成本，此更加減降企業主雇用或留任高齡工作者的意願。高齡就業問題同時涉及資源移轉與世代關係。對此，社會若是要突破高齡勞動歧視，需要重新檢視年齡與工作能力之間的既定連結，藉由對於工作制度、職務設計、組織文化及社會角色期待等層面，建立高齡者持續參與勞動的多元途徑。

陳伯霖教授：個體學習增能

高齡歧視會影響個人的自我認知、社會參與及生活選擇，當社會長期將老年與能力退化、被動依賴及社會退出相互連結，高齡者可能逐漸接受外部社會對年齡的刻板期待，降低參與學習、公共活動與人際互動的意願。終身學習提供高齡者重新理解自身能力與社會位置的重要途徑。高齡者參與學習的動機並不限於知識或技能取得，也包括人際關係建立、生活適應、社會參與及自我價值的重新確認。透過持續學習，高齡者可以發展新的知識與能力，提升自我效能，並在學習團體與社會互動中建立支持網絡。學習歷程也可能促使高齡者重新檢視過往經驗、生活角色與未來規劃，使老年生活不再只是退休後的被動適應，而具有持續選擇與行動的可能性。然而，個體增能仍受到學習資源、支持系統與規範制度的影響。高齡者是否能夠持續學習，取決於教育機會的可近性、課程設計的適切性，以及家庭、社區與社會制度所提供的支持。從個體學習增能的角度突破高齡歧視，重點不在要求高齡者證明自己仍然有用，而是透過學習擴展其自主選擇、社會參與及生活規劃的能力，建立較具主體性的老年生活。

Structures, Impacts, and Pathways Beyond Age Discrimination in an Aging Society

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University of Education

Abstract

This forum, entitled “Structures, Impacts, and Pathways Beyond Age Discrimination in an Aging Society,” examines the origins, social consequences, and possible responses to age discrimination from four interrelated dimensions: social change and culture, living resources and environmental support, labor-force re-engagement, and individual empowerment through learning. Age discrimination does not arise solely from individual attitudes or prejudice toward older adults; rather, it is closely intertwined with social structures and cultural values, labor-market arrangements, living environments, and access to learning opportunities. The four speakers approach the issue from different levels of analysis, examining the social position of older adults in the context of social transformation and identifying cultural assumptions, living conditions, labor institutions, and learning support systems that require reconsideration in an aging society.

Shu-Min Chen: Social Change and Cultural Dimensions

Age discrimination is not simply the result of negative individual attitudes toward older adults. It is also deeply embedded in cultural values, power relations, and institutional arrangements that evolve through processes of social change. In traditional societies, old age carried multiple cultural meanings and was often associated with experience, knowledge, authority, and social status. These meanings can be observed in traditional expressions that emphasize respect for older adults, intergenerational responsibility, longevity, and continued vitality in later life. In modern societies, however, the growing emphasis on democracy, freedom, equality, and individual autonomy has gradually challenged traditional age-based hierarchies and the authority historically associated with age. At the same time, technological development, consumer culture, and efficiency-oriented social values may position older adults as declining in competence, dependent on care, or withdrawing from productive activity. The development of the welfare state has also shifted part of the responsibility for care from families to public institutions, making older adults a major target population for social welfare and long-term care systems. Simultaneously, the rise of the silver economy has redefined older populations as consumers with market value, as healthcare, pharmaceuticals, wellness products, assistive devices, and leisure services increasingly enter later-life consumption. Older adults are therefore situated within multiple

and sometimes contradictory social roles involving respect, care, governance, participation, and consumption. Against this background, this presentation analyzes the changing meanings associated with old age and examines how older adults are understood and treated in contemporary Taiwanese society within broader cultural, institutional, and market contexts

Chen-Chun Lin: Living Resources and Environmental Support

Whether and how older adults become socially disadvantaged cannot be explained solely in terms of chronological age or individual ability. Their living environments and the availability of social support must also be taken into account. Older adults may become vulnerable to discrimination when they lack the capabilities required to navigate a rapidly changing society and when social environments fail to adequately respond to their needs.

As public services, transportation systems, financial activities, healthcare information, and everyday communication become increasingly digitalized, older adults who lack internet skills, information literacy, or the ability to use digital services may encounter new forms of exclusion in daily life. Education therefore plays an important role in helping older adults acquire the core competencies needed to participate in a networked society, maintain autonomy, and remain socially engaged. Nevertheless, capability gaps should not be treated solely as an individual responsibility. If social institutions, public spaces, and service systems are designed primarily around the physical conditions, digital skills, and lifestyles of younger people, older adults may continue to encounter structural barriers despite ongoing learning efforts. This presentation argues that age-friendly environments should include both accessible physical settings and interpersonal environments characterized by respect, understanding, and support. Experiences from aging societies such as Germany, France, Japan, and South Korea further suggest that population aging cannot be addressed merely through the expansion of welfare services. Rather, it requires a reconsideration of the relationships among education, community, public services, and everyday environments in order to strengthen the conditions that enable older adults to live independently and maintain meaningful social connections.

Sheng-Ju Chan: Labor-Force Re-engagement

Population aging often creates labor shortages and broader challenges for industrial and economic development, making the labor-force re-engagement of older adults an increasingly important social issue. However, difficulties related to employment in later life cannot be resolved solely by improving individual work capacity. They are also closely related to labor-market organization, industrial structures, and social expectations regarding the roles of older adults. Within the operating logic of contemporary capitalism, information- and technology-intensive societies place a strong emphasis on efficiency, speed, adaptability, and technological renewal. Under these conditions, employers may be more likely to question the productivity and work capacity of older workers, creating institutional barriers in recruitment, promotion, job assignment, and re-employment. In Taiwan, where small and

medium-sized enterprises constitute a substantial proportion of businesses, employers may also face relatively high transition costs associated with workplace adjustment, job redesign, and workforce training, further reducing their willingness to hire or retain older workers.

Employment in later life also involves issues of resource distribution and intergenerational relations. Addressing age discrimination in the labor market therefore requires a reconsideration of the assumed relationship between age and work ability. More diverse pathways for the continued labor-force participation of older adults can be developed through changes in employment systems, job design, organizational culture, and social expectations regarding age and work.

Po-Lin Chen: Individual Empowerment Through Learning

Age discrimination can affect individuals' self-perceptions, social participation, and life choices. When aging is persistently associated with declining ability, passive dependence, and withdrawal from society, older adults may gradually internalize age-based stereotypes and become less willing to participate in learning, public activities, and interpersonal interaction.

Lifelong learning provides an important means through which older adults can reinterpret their abilities and social positions. Their motivations for learning extend beyond the acquisition of knowledge and skills to include relationship building, adjustment to everyday life, social participation, and the reaffirmation of personal value. Through continuous learning, older adults can develop new knowledge and competencies, enhance self-efficacy, and build supportive networks through learning communities and broader social interaction.

The learning process may also enable older adults to reconsider previous experiences, life roles, and future plans, allowing later life to be understood not merely as a period of passive adjustment following retirement, but as a stage characterized by continued choice and action. Nevertheless, individual empowerment is also shaped by learning resources, support systems, and institutional arrangements. Whether older adults are able to continue learning depends on the accessibility of educational opportunities, the appropriateness of curriculum design, and support from families, communities, and social institutions. From the perspective of empowerment through learning, overcoming age discrimination should not require older adults to prove that they remain socially useful. Rather, learning should expand their capacity for autonomous choice, social participation, and life planning, thereby supporting a more agentic and self-directed experience of later life.

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高齡學習與數位實踐： 從福慧學堂到交通安全教育 Older Adult Learning and Digital Practice: From the Fuhui Learning Program to Road Safety Education

主持人：劉怡均校長（慈濟大學）

發表：

編號	題目	發表人
1		高慧娟副教授 慈濟大學醫務暨健康管理學系 兼任環境保護暨職業安全衛中 心主任
2	應用數位科技-輔助高齡者交通安全宣導之研究 A Study on the Use of Digital Technology to Enhance Traffic Safety Education for Older Adults	許峻嘉教授 慈濟大學國際數位媒體科技學 士學位學程

(待補)

(待補)

專題發表 15 Thematic panel 15

中高齡與高齡者之持續就業 Continued Employment among Middle-Aged and Older Adults

主持人：馬財專教授（國立中正大學勞工關係學系教授兼社科院院長）

發表：

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1	高齡者延長工作年限之社會處方方案：從英國經驗思考我國相關制度與方案之設計 Social Prescribing Programmes for Extending Older People's Working Lives: Reflecting on the British Experience for Institutional and Programme Design in Taiwan	林宏陽教授 國立屏東科技大學社會工作系
2	中高齡及高齡者持續就業的工會因應：以英國及德國經驗為借鏡 Trade Union Responses to the Continued Employment of Middle-Aged and Elderly Workers: Lessons from the British and German Experiences	戴曉惠 中國文化大學勞動暨人力資源學系助理教授
3	中高齡及高齡者勞動退出的彈性路徑：撤退理論與選擇性最佳化補償理論的整合觀點 Flexible Pathways to Labor Force Exit among Middle-Aged and Older Adults: An Integrated Perspective of Disengagement Theory and Selective Optimization with Compensation Theory	林淑慧 中正大學勞工關係學系副教授兼系主任 馬財專教授 國立中正大學勞工關係學系教授兼社科院院長

高齡者延長工作年限之社會處方方案：從英國經驗思考我國相關制度與方案之設計

林宏陽教授 國立屏東科技大學社會工作系

摘要

本文旨在探討如何借鏡英國社會處方（social prescribing, SP）之發展經驗，設計具有一定成效的 SP 服務方案，藉以規劃協助有意延續就業之中高齡者的制度與方案。質言之，年金給付與勞動市場資歷高度連動，各項社會保險須與勞動市場現況與需求相互搭配，延長工作年限亦為年金適足的前提；而在 SP 自英國擴展至世界各國、我國全民健康保險自2025年起規劃將其納入給付並於2026年試辦的趨勢下，或可思考如何透過 SP 協助中高齡勞動者延續就業。據此，將以在職的中高齡勞動者為對象，基於「留任優先、重返為輔」之理念，降低其提早離開勞動市場的可能。在理論上，本文一方面從社會投資與積極勞動市場政策（active labour market policy, ALMP）之論述切入，另一方面以活躍老化（active ageing）為視角，主張 SP 或可作為在個人層次維持並增進人力資本的工具。在方法上，係採文獻分析與方案比較為方式：以芬蘭國家高齡計畫（FINPAW）與工作能力屋為基礎，依各樓層探究回應各面向障礙的英國 SP 方案組合，萃取其成功要素。在實務上，我國若欲以現有的制度與社會結構趨近 FINPAW 的組織形式或有困難；相對可行的方向，或在於以全民健康保險補助所需的 SP 服務方案，循「健保先行、勞動接續」的分工，逐步發展具整體性的政策與服務方案。

關鍵詞：社會處方、積極勞動市場政策、社會投資、活躍老化、延長工作年限

Social Prescribing Programmes for Extending Older People's Working Lives: Reflecting on the British Experience for Institutional and Programme Design in Taiwan

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Abstract

This paper examines how the British experience of social prescribing (SP) might inform the design of SP programmes with a demonstrable effect, and thereby the planning of institutions and programmes to support middle-aged and older people who wish to continue working. In essence, pension entitlements are closely tied to labour-market careers, so each branch of social insurance must be aligned with the realities and needs of the labour market, and extending working lives is itself a precondition of pension adequacy. As SP spreads from Britain across the world—with Taiwan's National Health Insurance having planned SP coverage since 2025 and piloting it in 2026—it is worth asking how SP might help middle-aged and older workers to remain in employment. Accordingly, the paper takes middle-aged and older workers still in employment as its object and, guided by the principle of 'retention first, return second', seeks to reduce the likelihood of their premature exit from the labour market. Theoretically, it draws on social investment and active labour market policy (ALMP) on the one hand and adopts active ageing as its perspective on the other, arguing that SP may serve as a tool for sustaining and enhancing human capital at the individual level. Methodologically, it combines documentary analysis with programme comparison: taking the Finnish National Programme on Ageing Workers (FINPAW) and the work ability house as its foundation, it examines, floor by floor, a package of British SP programmes responding to the barriers in each dimension, and distils their success factors. In practical terms, approximating FINPAW's organisational form within Taiwan's existing institutional and social structure would be difficult; a more feasible direction may lie in funding the requisite SP programmes through National Health Insurance and, following a division of labour in which 'health insurance leads and labour policy follows', gradually developing an integrated set of policies and service programmes.

Keywords: social prescribing; active labour market policy; social investment; active ageing; extending working lives

中高齡及高齡者持續就業的工會因應：以英國及德國經驗為借鏡

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摘要

因應人口高齡化與延後退休趨勢，勞動力結構正面臨劇烈轉變。面對工會會員組成日益多元化之現況，現代工會組織必須打破傳統僅關注年輕或全職勞工之框架，積極將中高齡與高齡會員的需求納入核心議程。本文以英國與德國工會經驗為主軸，剖析兩國工會如何透過集體協商機制與組織改革，促進高齡者持續就業並保障其勞動尊嚴。

英國總工會（Trades Union Congress, TUC）因應勞動力轉變的多元會員需求，積極教育會員運用法定彈性工作申請權，並制定工會代表指引，輔導基層幹部透過集體協商推動彈性工時、職務共享、終身培訓等，並嚴防高齡勞工因調整工時而面臨退休金權益的折算損失。

德國工會（如德國金屬工業工會，IG Metall）則透過團體協約將「漸進式退休」（Altersteilzeit）制度化，推動高齡部分工時模式，並強制要求雇主給予薪資補貼與養老金加碼；同時，工會積極調整內部組織結構，設置專責的高齡與退休會員代表機制，確保多元世代的集體發言權。

綜合英國與德國經驗，現代工會應積極發揮集體協商功能，引導雇主導入中高齡及高齡就業促進措施（如職務再設計、健康管理與漸進式退場機制）。臺灣工會可借鏡兩國經驗，將集體協商重心轉向高齡友善條款，並深化工會內部之多元代表性，以集體力量守護高齡勞動尊嚴。

關鍵字：中高齡就業、高齡就業、漸進式退休、高齡部分工時、集體協商、工會對策

Trade Union Responses to the Continued Employment of Middle-Aged and Elderly Workers: Lessons from the British and German Experiences

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Abstract

In response to population ageing and the trend towards delayed retirement, the structure of the workforce is undergoing a profound transformation. Confronted with an increasingly diverse membership base, modern trade union organisations must transcend their traditional focus on younger or full-time workers and actively integrate the needs of middle-aged and elderly members into their core agendas. Taking the experiences of British and German trade unions as its central axis, this paper analyses how unions in both nations utilise collective bargaining mechanisms and organisational reforms to promote the continued employment of older workers while safeguarding their dignity at work.

Responding to the diverse demands of a shifting workforce, the Trades Union Congress (TUC) in the UK actively educates members on exercising their statutory right to request flexible working. The TUC has also formulated guidance for union representatives to assist workplace reps in bargaining for flexible working hours, job sharing, and lifelong learning through collective negotiations, whilst rigorously guarding against reductions in older workers' pension entitlements resulting from working-time adjustments.

Conversely, German trade unions (such as the industrial union IG Metall) have institutionalised 'phased retirement' (Altersteilzeit) through collective agreements. This model promotes part-time employment for older workers while mandating employer-funded wage top-ups and supplementary pension contributions. Concurrently, German unions have restructured their internal organisation by establishing dedicated representation mechanisms for older and retired members, thereby securing collective voice across generations.

Synthesising the British and German experiences, modern trade unions ought to leverage their collective bargaining functions to guide employers in introducing employment promotion measures tailored to middle-aged and elderly workers—such as job redesign, occupational health management, and phased exit mechanisms. Taiwanese trade unions can draw on these dual experiences to shift the locus of collective bargaining towards age-friendly provisions and deepen internal diversity of representation, ultimately deploying collective power to protect the dignity of older workers.

Keywords: Middle-aged employment, elderly workers' Employment, phased retirement, part-time work for elderly workers, collective bargaining, trade union strategies

中高齡及高齡者勞動退出的彈性路徑：撤退理論與選擇性最佳化補償理論的整合觀點

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摘要

本研究探討中高齡及高齡者勞動參與和退出職場的現象，研究以撤退理論（Disengagement Theory）與選擇性最佳化補償理論（Selective Optimization with Compensation, SOC Model）的整合解析中高齡者與高齡者不同的勞動選擇。研究結果顯示，高達72.2%的非勞動力，並無重返職場意願，反映高齡者隨年齡增長逐漸退出勞動市場的現象，符合撤退理論所指出個體與社會逐步降低互動與角色參與的觀點。然而，研究亦發現，近兩成非勞動力在特定條件下仍具有重返職場的意願，尤其受到友善工作環境與經濟需求等因素影響。

此結果顯示，中高齡者與高齡者的勞動退出並非單一且不可逆的過程，部分仍會依據本身的條件進行選擇。本研究呈現高齡勞動力原則性撤退、條件性回歸的雙重現象，說明高齡者勞動參與不宜僅以退出或留任二分法看待，而應關注其在不同生命情境與工作條件下展現的選擇與彈性。

關鍵詞：中高齡者及高齡者、撤退理論、選擇性最佳化補償理論、彈性就業

Flexible Pathways to Labor Force Exit among Middle-Aged and Older Adults: An Integrated Perspective of Disengagement Theory and Selective Optimization with Compensation Theory

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Abstract

This study examines labor participation and workplace exit among middle-aged and older workers, integrating Disengagement Theory and the Selective Optimization with Compensation (SOC) Model to analyze their varied employment choices. The findings reveal that 72.2% of non-labor force participants have no intention of returning to the workforce. This reflects a gradual withdrawal from the labor market with advancing age, aligning with Disengagement Theory's perspective that individuals and society progressively reduce interaction and role participation. However, the study also indicates that nearly 20% of non-labor force participants express a willingness to return to work under specific conditions, particularly influenced by factors such as a friendly work environment and financial needs.

These results demonstrate that labor market exit among middle-aged and older workers is not a uniform or irreversible process; rather, some individuals make strategic choices based on their own circumstances. By highlighting the dual phenomenon of "principled withdrawal and conditional return," this study suggests that senior labor participation should not be viewed through a binary lens of either retention or exit. Instead, attention must be paid to the choices and flexibility these individuals exhibit across different life situations and working conditions.

Key Words: Middle-Aged and Older Workers, Disengagement Theory, Selective Optimization with Compensation Theory(SOC), Flexible Employment

論文發表 A Paper Session A

AI 賦能長壽社會：無界學習、健康促進與政策創新 AI-Empowered Longevity Society: Boundaryless Learning, Health Promotion, and Policy Innovation

主持人：崔曉倩教授（國立中正大學經濟系教授兼清江進修推廣暨數位學習中心主任）

發表：

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A2	高齡受刑人在監生活狀況與出監轉銜機制之質性研究 A Qualitative Study on the Living Conditions and Release Transition Mechanisms of Elderly Prisoners in Taiwan	李莉娟 南臺科技大學財經法律研究所助理教授
A3	設計長壽社會的無界學習：生成式 AI 旅遊課程對高齡者數位賦能之成效分析 Borderless Learning for Designing Longevity: An Effectiveness Analysis of a Generative AI Travel Course on Digital Empowerment of Ageing Adults	林嘉琪 淡江大學歷史學系教授

以服務設計藍圖探討高齡旅遊非正式學習接觸點：無形服務再設計之途徑

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胡夢鯨 國立中正大學成人及繼續教育學系特聘教授

摘要

高齡化社會催生了對健康長壽與終身學習的深層關注。休閒旅遊提供了真實生活場域，讓長者在日常探索中實踐非正式學習，藉此維繫身心福祉與人際連結。然而，過往學界多將年長旅客預設為被動接受服務的消費者，忽略了動態情境中的人機互動、數位載具操作如何實質誘發自主學習機制。為解構此一盲點，本研究聚焦於不同旅遊型態下的學習機制運作。

在理論建構上，本研究跨域串聯成人教育學的 Knowles 自我導向學習、Kolb 經驗學習圈、McClusky 餘力理論，與服務管理學，導入「服務設計藍圖」(Service Design Blueprint, SDB) 作為核心分析工具。研究採質性多元個案研究法，深度訪談 10 位年齡介於 65 至 94 歲且經驗豐富的高齡旅行者；比對團體套裝旅遊 (GIT) 與散客自由行 (FIT) 在「行前、行中、行後」三階段的經驗軌跡，將其對應至交通、住宿、導覽等六大關鍵服務接觸點。

實證分析顯示，旅遊服務接觸點扮演著關鍵的教育觸發機制，具體展現於六大向度：認知深化、情意共鳴、身體動作技能、科技應用熟練度、人際社群連結，以及個人生命價值的重塑。旅遊型態的抉擇，實為長者面對身心老化的主動調適策略：團體旅遊者善用高度結構化的專業後勤服務，有效降低認知與體能負荷，將精力聚焦於文化體驗與同儕互動；自由行長者則憑藉自主規劃與數位敏捷度投入「問題導向學習」，運用智慧型手機導航與即時查詢克服行程挑戰，逐步確立科技自我效能。

基於服務藍圖分析，本研究提出無形服務再設計方案：觀光業者應針對高齡身心特質優化數位接觸點之介面親和度，化解數位焦慮；同時培訓第一線從業人員兼具「學習引導者」職能，在遊程各環節帶動體驗後的沉澱與反思。本研究為長壽經濟之旅遊實務指引具體轉型方向，拓展動態服務情境中非正式學習的理論對話空間。

關鍵字：活躍老化、非正式學習、服務設計藍圖、無形服務再設計、移動學習

Mapping Informal Learning Across Senior Travel Touchpoints: A Service Design Blueprint Approach to Intangible Service Redesign

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Chih-Kang Wu, Adjunct Associate Professor, Department of Tourism Management, National Kaohsiung University of Science and Technology
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Abstract

Global population aging underscores the urgency of fostering healthy longevity and lifelong learning. Leisure travel offers an authentic environment where older adults pursue informal learning, sustaining psychosocial well-being and social connectedness. Nevertheless, prevailing scholarship frequently depicts older travelers as passive service recipients; it leaves unexamined the dynamic ways service touchpoints and mobile technologies catalyze self-directed inquiry. This study investigates these underlying learning mechanisms across divergent travel styles.

Theoretically, this inquiry bridges adult education, drawing upon Knowles's self-directed learning, Kolb's experiential learning cycle, and McClusky's theory of margin, and service management through the analytical lens of the Service Design Blueprint (SDB). Methodologically, a qualitative multiple-case design was adopted; in-depth interviews were conducted with ten seasoned travelers aged 65 to 94. The investigation tracked and compared the experiential trajectories of Group Inclusive Tour (GIT) and Free Independent Travel (FIT) participants across pre-trip, during-trip, and post-trip phases, mapping them systematically across six primary touchpoints (including transportation, lodging, and guided activities).

The findings show that service touchpoints trigger learning in six areas: cognitive growth, emotional engagement, physical skills, technology use, social connection, and personal values. Travel mode also serves as a deliberate response to aging. Group travelers use structured services to reduce mental and physical demands, allowing them to focus on cultural experiences and social interaction. Independent travelers, by contrast, learn through problem-solving, using mobile devices for navigation and immediate solutions while building confidence in their technology skills.

Drawing from these service design insights, the study advances actionable strategies for intangible service redesign: tourism providers must adapt digital interfaces to mitigate technology anxiety among older users; frontline practitioners should be equipped as learning facilitators who prompt post-trip reflection. This work delivers strategic guidance for the longevity economy while broadening theoretical frontiers on informal learning within dynamic service ecosystems.

Keywords: Active Aging, Informal Learning, Service Design Blueprint, Intangible Service Redesign, Mobile Learning

高齡受刑人在監生活狀況與出監轉銜機制之質性研究

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摘要

高齡受刑人的在監處遇與出監轉銜是當前矯正實務亟待關注的議題。截至 2025 年 3 月，全台矯正機關收容 60 歲以上高齡受刑人達 2,693 名，其多元處遇需求已超出以往矯正機關所能因應的範疇。本研究採質性研究取向，針對北、中、南、東四區矯正機關承辦出監轉銜業務之 7 名第一線矯正工作者進行半結構式深度訪談，以主題分析法歸納四大主題，探究高齡受刑人的在監保護性處遇與出監轉銜機制現況。

研究發現，高齡受刑人類型多元，矯正機關已逐步推動多元保護性處遇，涵蓋體適能、懷舊課程、宗教教化及微型創業訓練，並透過混齡共融模式安排年輕受刑人協助日常生活，硬體設施亦逐步改善。出監轉銜機制上，各機關透過調查表單、場舍主管通報及跨科室合作等多項管道篩選個案，以資料核實與實地訪談兩條路徑進行評估。然而轉銜困境涉及刑期變動頻繁、戶籍異地、社福身份中斷及跨機關協力資源落差等困境，現行更生保護機制偏向短期協助，難以滿足高齡受刑人回到社會的長期生活支持需求。

本研究建議強化矯正機關跨部門協作、建立個別化轉銜評估機制，並將高齡受刑人納入長期照顧政策體系，以落實高齡友善之社會安全網，並期滿足社會保安需求。

關鍵字：高齡受刑人、出監轉銜、保護性處遇、社會復歸、社會安全網

A Qualitative Study on the Living Conditions and Release Transition Mechanisms of Elderly Prisoners in Taiwan

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Abstract

The in-prison treatment and release transition of elderly prisoners represent pressing concerns in contemporary correctional practice. As of March 2025, Taiwan's correctional institutions housed 2,693 prisoners aged 60 and above, whose diverse care needs have increasingly exceeded the capacity of traditional prison management. This study adopts a qualitative research approach, conducting semi-structured in-depth interviews with seven frontline correctional staff responsible for release transition services across four regions—Northern, Central, Southern, and Eastern Taiwan. Using thematic analysis, four major themes were identified to examine the current state of protective treatment and release transition mechanisms for elderly prisoners.

The findings reveal that elderly prisoners are a heterogeneous population, and correctional institutions have progressively implemented diversified protective treatment measures, including fitness activities, reminiscence programs, religious counseling, and micro-entrepreneurship training. An age-integrated living model, in which younger inmates assist elderly peers with daily routines, has also been adopted, and physical facilities have been gradually improved. Regarding release transition mechanisms, institutions identify cases through multiple channels—survey forms, ward supervisor referrals, and interdepartmental collaboration—and conduct assessments via dual pathways of document verification and in-person interviews. However, significant barriers impede smooth transitions, including frequent sentence modifications, residence registration issues in different jurisdictions, interruption of welfare eligibility, and resource discrepancies across agencies. Current aftercare protection measures tend toward short-term assistance and are insufficient to meet the long-term living support needs of elderly ex-prisoners.

This study recommends strengthening cross-departmental collaboration within correctional institutions, developing age-differentiated transition assessment tools, and integrating elderly prisoners into the long-term care policy framework in order to build an age-friendly social safety net.

Keywords: Elderly Prisoners; Release Transition; Protective Treatment; Social Reintegration; Social Safety Net

設計長壽社會的無界學習：生成式 AI 旅遊課程對高齡者數位賦能之成效分析

林嘉琪 淡江大學歷史學系教授

摘要

隨著全球快速邁入長壽社會，高齡者的社會參與、勞動福祉與創新能力發展已成為關鍵政策議題，在數位轉型浪潮下，生成式人工智慧（Generative AI）技術雖為高齡者的終身學習與健康管理帶來前所未有的契機，卻也潛藏加劇數位落差的風險。為探究大學教育如何回應此社會挑戰，本研究以淡江大學所開設之「人工智慧與歐洲旅遊規劃」30⁺大學課程為核心，旨在評估將生成式 AI 工具導入跨領域史學課程後，對高齡學習者在數位賦能、克服科技恐懼以及促進活躍老化的實踐成效。

本研究採量化與質化混合研究法，量化資料來源為 16 位高齡學習者的期末學習成效問卷（採五點李克特量表），涵蓋自主學習、科技人文及學術倫理等指標；同時導入 O365 AI 情緒分析工具，針對質性反饋進行整體情緒及正向、中立、負向得分的客觀判定。質化資料則蒐集 16 份學生的期末深度反思報告，剖析學習歷程的生命經驗與實務轉化。

首先，研究發現生成式 AI 的自然對話介面能創造「成功體驗」，大幅降低學習門檻，成功協助高齡者跨越數位恐懼，整體正向情緒得分超過八成，顯著提升自我效能感；其次，結合史學敘事與 Google Maps 空間標記，賦予科技深厚的人文底蘊，引導高齡者完成「記憶數位化」實作；最後，透過「AI 人臉辨識分類」應用在樂齡活動記錄等延伸教學案例指出：數位能力能從休閒福祉外溢至實質的社會志工勞動與照顧創新，並展現出對防範「AI 幻覺」及維護學術倫理的高度批判性思維。

生成式 AI 結合人文史學的教育模式，是促進高齡者數位賦能與活躍老化的強大催化劑，本研究建議未來應全面推動「人文引導、科技賦能」的跨領域熟齡終身教育，並積極將高齡行政科技納入中高齡就業與志願服務培訓體系，共創深具包容性與創新活力的長壽社會新典範。

關鍵詞： 生成式人工智慧、數位賦能、活躍老化、高齡科技、教學實踐研究

Borderless Learning for Designing Longevity: An Effectiveness Analysis of a Generative AI Travel Course on Digital Empowerment of Ageing Adults

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Abstract

In the wave of digital transformation, while generative artificial intelligence (AI) technology offers unprecedented opportunities for lifelong learning and health management for the elderly, it also carries the risk of exacerbating the digital divide. This study focuses on 30+ university courses in "Artificial Intelligence and European Tourism Planning" offered by the Tamkang University. The aim is to evaluate the effectiveness of integrating generative AI tools into interdisciplinary history courses in empowering older learners digitally.

Quantitative data comes from a five-point Likert scale questionnaire on the final learning outcomes of 16 older learners, covering indicators such as self-directed learning, science and humanities, and academic ethics. The O365 AI sentiment analysis tool was also used to objectively determine the overall sentiment and positive, neutral, and negative scores for the qualitative feedback. Qualitative data includes 16 reflection reports from students at the end of the semester, analyzing the life experiences and practical applications of the learning process.

First, the study found that the natural dialogue interface of generative AI can create a "successful experience," significantly lowering the learning threshold and successfully helping older adults overcome digital phobia. Overall positive emotion scores exceeded 80%, significantly improving self-efficacy. Second, combining historical narratives with Google Maps spatial markers imbues technology with a profound humanistic foundation, guiding older adults through the practical application of "memory digitization." Finally, through extended teaching cases such as the application of "AI facial recognition classification" in recording senior activities, the study demonstrates that digital skills can spill over from leisure and well-being to substantive social volunteer work and care innovation, showcasing a highly critical thinking approach to preventing "AI illusions" and upholding academic ethics.

This educational model combining generative AI with humanities and history is a powerful catalyst for promoting digital empowerment and active aging among older adults. This study recommends that future efforts should comprehensively promote interdisciplinary lifelong education for seniors that is "humanistically guided and technologically empowered," and actively integrate senior administrative technology into the employment and volunteer service training systems for middle-aged and older adults, jointly creating a new paradigm of a long-lived society that is highly inclusive and innovative.

Keywords: Generative AI; Digital Empowerment; Active Aging; Gerontechnology; Scholarship of Teaching and Learning (SoTL)

論文發表 B Paper Session B

智慧健康與地方創生：長壽社會的參與、需求與創新 Smart Health and Regional Revitalization: Participation, Needs, and Innovation in a Longevity Society

主持人：徐晏萱教授（國立中正大學心理學系/高齡社會勞動與福祉研究中心副主任）

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B2	跨越青年創生限制：中介組織協作熟齡者參與地方創生之機制初探 Beyond Youth-Centric Revitalization: A Preliminary Study on Intermediary Organizations Collaborating with Older Adults in Rural Local Revitalization	蔡文宜 臺北醫學大學醫療暨生物科技法律研究所助理教授
B3	家長共學社群社會資本與中學生終身學習意識之個案研究 A Case Study on the Influence of Social Capital in Parent Learning Communities on Middle School Students' Awareness of Lifelong Learning.	戴慧真 國立中正大學成人及繼續教育學系博士班

單一腰部穿戴式三軸加速度感測器之活動監測與久坐提醒系統開發

莊采穎 中原大學生物醫學工程系研究生

郭信宏 中原大學生物醫學工程系助理教授（通訊作者）

摘要

隨著高齡化社會發展，如何透過穿戴式科技協助日常活動監測與久坐管理，已成為智慧健康照護的重要研究方向。本研究開發一套基於單一腰部穿戴式三軸加速度感測器之活動監測與久坐提醒系統，旨在建立低成本且具即時監測能力之活動辨識原型平台。系統以 WiFiBoy 蒐集腰部三軸加速度訊號，首先透過個人化坐姿與站姿雙基準校正建立使用者姿態基準，再利用兩階段規則式判別方法辨識坐姿、站姿及行走三種活動狀態。辨識結果透過 Wi-Fi 與 MQTT 傳送至 Node-RED 平台，進行活動狀態即時顯示、活動時間累計、連續久坐時間計算及久坐提醒。為評估系統之活動辨識可行性，本研究招募 5 名受試者，於受控室內環境進行坐姿、站姿與行走等活動測試，共分析 75 個活動試次及 7,078 個資料視窗，整體 Accuracy 為 95.14%，Macro F1-score 為 95.19%。另進行即時系統功能測試，共取得 2,259 筆有效三分類紀錄，Accuracy 為 95.17%，Macro F1-score 為 94.51%。結果顯示，本系統在受控室內環境下可維持穩定之三分類活動辨識表現，並可完成活動監測、資料傳輸、活動時間紀錄及連續久坐提醒等功能。未來可進一步擴大受試者人數，納入高齡者及不同日常生活情境，以評估系統於居家健康促進與高齡照護應用之可行性。

關鍵詞：穿戴式感測器、三軸加速度感測、活動辨識、久坐提醒、智慧健康照護

Preliminary Validation of an Activity Monitoring and Sedentary Reminder System for Middle-Aged and Older Adults Using a Single Waist-Worn Triaxial Accelerometer

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Abstract

With the development of an aging society, the use of wearable technologies to support daily activity monitoring and sedentary behavior management has become an important research direction in smart healthcare. This study developed an activity monitoring and sedentary behavior reminder system based on a single waist-worn three-axis accelerometer, aiming to establish a low-cost activity recognition prototype platform with real-time monitoring capabilities. The system uses WiFiBoy to acquire three-axis acceleration signals from the waist. Personalized dual-baseline calibration for sitting and standing postures is first performed to establish the user's postural reference, followed by a two-stage rule-based classification method to identify three activity states: sitting, standing, and walking. The recognized activity states are transmitted via Wi-Fi and the MQTT protocol to a Node-RED platform for real-time activity display, activity duration accumulation, continuous sedentary time calculation, and sedentary behavior reminders. To evaluate the feasibility of activity recognition, five participants were recruited to perform sitting, standing, and walking activities in a controlled indoor environment. A total of 75 activity trials and 7,078 data windows were analyzed, yielding an overall accuracy of 95.14% and a Macro F1-score of 95.19%. In addition, a real-time system functional test was conducted, resulting in 2,259 valid three-class records, with an accuracy of 95.17% and a Macro F1-score of 94.51%. The results demonstrated that the proposed system maintained stable three-class activity recognition performance in a controlled indoor environment and successfully integrated activity monitoring, data transmission, activity duration recording, and continuous sedentary behavior reminders. Future studies should recruit a larger number of participants, including older adults, and evaluate the system under diverse activities of daily living to further assess its feasibility for home-based health promotion and elderly care applications.

Keywords: Wearable Sensor, Three-Axis Accelerometer, Activity Recognition, Sedentary Behavior Reminder, Smart Healthcare

跨越青年創生限制：中介組織協作熟齡者參與地方創生之機制初探

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摘要

臺灣地方創生政策偏重青年移居或返鄉，然而在長壽社會的宏觀設計下，如何打破年齡限制，賦能健康中高齡族群成為偏鄉永續發展的生力軍，並豐富其「第三人生」，乃為本研究之核心。本研究採取個案研究法，透過深度訪談與參與觀察，探討雙和醫院與中介組織跨界合作之「平溪森林療癒社會處方計畫」，期能翻轉以青年為中心的地方創生框架，建構熟齡者社會參與與在地連結的新路徑。

該計畫引進預防醫學的社會處方概念，以「在地賦能」為核心，預計培訓 2 至 5 位熟齡居民取得森林療癒師資格；同時，由「臺北醫學大學」、「台灣森林療癒協會」與「台灣觀光地方創生協會」跨界合作，共同擔任「連結者」(Link Workers) 角色。這群中介組織扮演資源對接的橋樑，陪伴返鄉創生的熟齡者，將平溪的森林生態、文史、小農餐飲及民宿進行系統性串聯。計畫預計以三年時間，培育熟齡者執行森林療癒綠色處方，並進一步輔導其轉化為兼顧都會區親子與上班族身心紓壓需求的綠色全人健康體驗遊程。

本方案雖處起步階段，但透過首年實踐歷程之觀察，中介組織的陪伴、策略擬定與資源對接，已展現出為熟齡者開創多元第三人生、提升社會參與度的潛力。本研究期能以此跨界合作之實踐歷程，為偏鄉熟齡者的社會參與及社會連結設計，提供具備參考價值的多元觀點與實踐架構。

關鍵字：第三人生、地方創生、森林療癒、社會處方、高齡者社會參與、連結者

Beyond Youth-Centric Revitalization: A Preliminary Study on Intermediary Organizations Collaborating with Older Adults in Rural Local Revitalization

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Abstract

Taiwan's local revitalization policies heavily favor youth migration or return. However, within the macro-design of a longevity society, breaking age constraints to empower healthy older adults as vital forces for rural sustainable development and enriching their "Third Age" serve as the core focus of this study. Adopting a case study method, this research utilizes in-depth interviews and participant observation to examine the "Pingxi Forest Therapy Social Prescribing Project"—a cross-sector collaboration between Shuang Ho Hospital and multiple intermediary organizations. This study aims to transcend the youth-centric framework of local revitalization and construct a new pathway for older adults' social participation and local connectedness.

The project introduces the concept of social prescribing from preventive medicine, prioritizing local empowerment by training two to five older residents to become certified forest therapy guides. Concurrently, Taipei Medical University, the Taiwan Forest Therapy Association, and the Taiwan Sightseeing and Local Revitalization Association cross-sectorally collaborate as "Link Workers." Operating as bridges for resource matching, these intermediaries accompany returned older revitalizers to systematically integrate Pingxi's forest ecology, history, smallholder catering, and homestays. Over a three-year span, the project aims to cultivate older adults to execute green prescriptions and further guide them to transform these into holistic wellness tourism itineraries catering to urban families and office workers.

Observations from the first year demonstrate that intermediary accompaniment, strategic formulation, and resource alignment effectively unlock diverse Third Age plans and enhance engagement. This cross-sector practice provides a multifaceted perspective and an implementation framework for social connection and social participation of older adults in rural areas.

Keywords: Local Revitalization, Forest Therapy, Social Prescribing, Link Workers, Third Age, Senior Social Connection

家長共學社群社會資本與中學生終身學習意識之個案研究

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摘要

中學生面對多元變動的世代，教育更強調自主學習能力以達成終身學習素養。近年來，家長參與亦逐漸成為連結學校與家庭的重要系統，並參與學生學習。現行教育多偏重升學學群之生涯探索，較少從家長參與及其社會資本歷程探討其如何透過支持網絡與資源連結，影響中學生終身學習意識之形成與發展，為本研究關注焦點。

本研究採個案研究法，以半結構式訪談蒐集資料。研究對象為參與家長共學社群之中學生家長與學生，共計 12 組家庭，並以持續比較分析進行資料整理與分析，歸納家長共學社群社會資本運作樣貌，以及其對中學生終身學習意識發展歷程之影響。

研究結果發現：一、家長參與共學社群初期以子女學習為主，而後成為跨家庭之學習支持與資源共享網絡。二、家長共學社群之連結有助於促進中學生之資訊資本、關係資本與支持系統，提升其學習動機、學習效能感等終身學習意識。三、社會資本之累積受到家長參與程度、互動頻率與社群信任關係等影響，形塑中學生持續學習之態度與價值觀。四、社群連結幫助學生學習主動探索與自主學習，培養自我成長及終身學習之意識。最後歸納家長共學社群社會資本運作對中學生終身學習意識發展之歷程，並提出學校推動親職與終身學習教育之實務建議。

關鍵詞：家長共學社群、社會資本、中學生、終身學習

A Case Study on the Influence of Social Capital in Parent Learning Communities on Middle School Students' Awareness of Lifelong Learning

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Abstract

In an increasingly diverse and rapidly changing society, education emphasizes self-directed learning and lifelong learning competencies among middle school students. Parental involvement has also become an important bridge between schools and families. This study explores how social capital within parent learning communities influences students' lifelong learning awareness through support networks and resource connections.

A case study approach was adopted, with semi-structured interviews conducted with 12 families participating in parent learning communities. Data were analyzed using constant comparative analysis.

The findings indicate that parent learning communities gradually develop from supporting children's learning into cross-family networks for resource sharing and learning support. These networks enhance students' informational and relational capital, strengthen learning motivation and self-efficacy, and foster positive attitudes toward continuous learning. Community trust, parental participation, and interaction also contribute to students' self-directed learning, self-development, and lifelong learning awareness. The study concludes with practical recommendations for schools to promote parenting education and lifelong learning.

Keywords: Parent Co-learning Community; Social Capital; Middle School Students ; Lifelong Learning

論文發表 C Paper Session C

長壽社會的照顧支持：健康識能、安寧療護與成人教育 Care and Support in a Longevity Society: Health Literacy, Hospice and Palliative Care, and Adult Education

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機構安寧療護中的三方決策：中國內地、香港與台灣的機構住民、家屬及醫療專業人員 觀點之質性統合分析

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摘要

法規與社會文化脈絡深刻地形塑了中國大陸、香港及台灣的生命終期與安寧療護發展。儘管中國內地的臨終照護基礎設施仍處於探索階段，台灣已開創性地針對預立醫療照護計畫進行立法，而香港則持續推廣非立法形式的預設醫療指示。在文化價值的驅動下，不同權益關係者之間的安寧緩和醫療決策展現出錯綜複雜的互動動態。本研究旨在整合這三個地區中，機構住民、家屬與醫護人員此三方於生命終期照護中的互動動態。

本研究於 2026 年 5 月對 Scopus、PubMed、Web of Science、CINAHL Ultimate 及 ProQuest 資料庫進行系統性文獻回顧，共檢索出 659 篇文獻。納入標準為：近十年內發表、於中國內地、香港及台灣進行之質性研究，且探討醫護人員、家屬與機構住民於安寧緩和醫療決策過程中的態度、觀點、張力與互動關係。經摘要篩選與全文審查後，最終納入 14 篇符合所有標準的研究進行深度分析。本研究採用 Thomas 與 Harden（2008）提出的主題統合分析法，歸納出三大核心主題：「儒家家庭主義與道德義務」、「保護性隱瞞」以及「多層次脫節」。

基於上述主題，本研究建構了一個反映華人社會安寧緩和醫療決策過程中，三方權益關係者相互影響之動態關係的「三元概念模型」。此質性統合分析為醫護人員在因應複雜的生命終期決策過程時提供寶貴見解，並有助於反思其在特定文化脈絡下的系統性盲點。此外，研究結果可作為政策制定者與機構設計公眾死亡教育之指引，以降低安寧療護決策過程中的衝突與情緒困擾。

關鍵字：安寧療護、決策制定、質性統合分析、生命終期照護、預立醫療照護計畫

Triadic Decision-Making in Institutional Palliative Care: A Meta-Synthesis of Resident, Family, and Professional Perspectives in the Chinese Mainland, Hong Kong, and Taiwan

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Abstract

Legislative and socio-cultural landscapes fundamentally shape end-of-life (EOL) and palliative care in the Chinese Mainland, Hong Kong, and Taiwan. While the EOL infrastructure on the Chinese Mainland remains exploratory, Taiwan has pioneering legislation in Advance Care Planning (ACP), and Hong Kong is promoting non-legislative advance directives. Driven by cultural values, the palliative care decision-making among different stakeholders manifests with intricate dynamics. This research aims to synthesise the EOL care dynamics in the triad of residents in institutionalised care settings, families, and healthcare providers conducted in these three regions.

A systematic review yielded 659 records from Scopus, PubMed, Web of Science, CINAHL Ultimate and ProQuest in May 2026. The inclusion criteria were: qualitative studies, conducted in the Chinese Mainland, Hong Kong, and Taiwan, published within the recent decade, that explored the tensions and interactions between healthcare providers, families, and residents in institutional care settings on their attitudes and perspectives on the palliative care decision-making process. After abstract screening and full-text review, 14 studies that met all criteria were identified and reviewed in depth. A thematic synthesis, proposed by Thomas and Harden (2008), was performed, resulting in three primary themes: Confucian familialism and moral obligations, protective concealment, and a multi-layered disconnect.

Based on these themes, a triadic conceptual model of the interrelated dynamics between the three stakeholders in the palliative care decision-making process within Chinese societies was developed. This meta-synthesis offers valuable insights to healthcare providers in navigating the complexity of the end-of-life decision-making process and reflecting on their own systemic blind spots within the cultural context. Moreover, the findings can further guide policymakers and institutions in designing public death education to minimise conflict and emotional distress within the palliative care decision-making process.

Keywords: Palliative care; Decision Making; Quantitative Meta-synthesis; End-of-life Care; Advance-care planning

**成人教育對高齡家庭照顧者心理韌性提升之研究：
以照顧負荷緩解為視角**

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摘要

研究背景與目的

隨著臺灣邁入超高齡社會，少子化與家庭照顧人力不足使高齡家庭照顧者面臨沉重照顧負荷與身心壓力。然而，現行支持服務多著重照顧技巧訓練，較少從成人教育與終身學習觀點探討其學習需求及心理支持。本研究旨在建構家庭照顧支持服務創新課程模組，探討成人教育介入對高齡家庭照顧者照顧負荷、健康識能及心理韌性之影響。

研究方法或資料來源

研究採以質性為主、量化為輔的混合方法設計，以立意取樣招募完整參與課程之 7 位 65 至 74 歲高齡家庭照顧者（男性 2 位、女性 5 位）；7 位皆完成半結構式訪談及前、後測。介入內容包括 12 堂照顧知能課程，涵蓋中醫健康照護、健康識能衛教及照顧技巧各 4 堂，以及 6 次封閉式情緒支持團體。質性資料經錄音謄寫、編碼與類屬分析，以歸納照顧經驗與學習需求；量化部分以 22 題照顧者負荷量表及 6 題中文版簡版復原力量表（Brief Resilience Scale, BRS）進行前、後測平均數比較，並與訪談結果進行整合詮釋。

研究發現

結果顯示，受訪者的照顧壓力主要來自生理健康退化、心理負擔、經濟壓力、社交限縮及長照資源資訊不足。前、後測描述性結果顯示，5 位參與者的照顧負荷下降，整體平均由 31.29 降至 29.14；5 位參與者的 BRS 分數提升，整體平均由 2.98 升至 3.17。訪談亦呈現課程與支持性團體有助於參與者理解照顧技巧與資源運用，並透過經驗分享與情緒支持增加社會連結；惟部分個案因照顧情境變動或既有支持條件不同，無明顯差異。

結論

綜合質、量資料，本方案顯示為高齡家庭照顧者提供實務學習與心理支持的初步可行性；惟受限於樣本數少、未設對照組且量化分析僅為描述性比較，尚不能推論介入效果。未來宜擴大樣本、納入健康識能與照顧自我效能等對應測量，並以推論統計與長期追蹤進一步驗證成效。研究成果可作為長照政策及家庭照顧支持服務設計之參考，回應長壽社會下高齡照顧者多元需求，並提供高齡福祉與服務創新之實證基礎。

關鍵詞：高齡家庭照顧者、成人教育、終身學習、心理韌性、家庭照顧支持服務

A Study of Adult Education for Enhancing Psychological Resilience among Older Family Caregivers: A Caregiving-Burden Alleviation Perspective

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Abstract

Background and Objectives

Taiwan's entry into a super-aged society, together with low fertility and limited family caregiving capacity, places older family caregivers under substantial burden and distress. Existing services emphasize caregiving skills, with less attention to learning needs and psychological support from adult-education and lifelong-learning perspectives. This study developed an innovative curriculum module for family caregiver support services and explored its association with caregiver burden and psychological resilience while documenting health-literacy-related learning.

Methods

A qualitative-dominant mixed-methods design was used. Purposive sampling recruited seven family caregivers aged 65–74 years who completed the program (two men and five women); all completed semi-structured interviews and pre- and post-intervention assessments. The program comprised 12 sessions—four each on traditional Chinese medicine-based health care, health literacy education, and caregiving skills—and six closed-format emotional support group sessions. Interviews were transcribed, coded, and analyzed categorically. Pre- and post-intervention mean scores on a 22-item Caregiver Burden Scale and the six-item Chinese Brief Resilience Scale (BRS) were descriptively compared and integrated with interview findings.

Findings

Principal sources of stress were deteriorating physical health, psychological strain, financial stress, social restriction, and inadequate information on long-term care resources. Caregiving-burden scores decreased for five participants, with the mean declining from 31.29 to 29.14; BRS scores increased for five, with the mean rising from 2.98 to 3.17. Interviews suggested that the program enhanced understanding of caregiving skills and resource use, while experience sharing and emotional support fostered social connections. Changes were not uniform across cases, potentially owing to caregiving circumstances or pre-existing support.

Conclusion

The integrated findings suggest the preliminary feasibility of a program combining practical learning and psychological support for older family caregivers. However, the small sample, absence of a control group, and descriptive analyses preclude causal inference. Future studies should recruit larger samples, incorporate health-literacy and caregiving-self-efficacy measures, and use inferential statistics and longitudinal follow-up. The findings offer preliminary input for long-term care policy and family caregiver support-service design in a longevity society.

Keywords: older family caregivers; adult education; lifelong learning; psychological resilience; family caregiver support services

終身學習社會的推手：非正規成人教育教學者靈性資源與永續勞動福祉

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摘要

研究目的：本研究旨在探討臺灣非正規成人教育場域中，處於非典型勞動體制下的自由講師，如何實踐多向度靈性資源以抵抗職業困境、轉化情緒耗損，進而重構專業主體性與永續勞動福祉。

研究方法：本研究採質性研究取向，透過半結構式訪談六位具備豐富經驗的自由講師，利用主題分析職涯敘事與教學經驗文本。

主要發現：研究發現包含三個核心面向：(1) 個人認同重構：講師透過向內反思與角色「去權威化」，突破體制桎梏，將生存勞動轉譯為平等的生命陪伴志業；(2) 群體與空間共振：順應成人學習特性，講師打破冰冷的契約關係，締結具溫度的雙向互動社群連結，並藉由大自然經驗與場域的空間共振轉化勞動流動的破碎感；(3) 超越宗教的教學使命：講師展現高度文化混融彈性，結合本土民間信仰與超越宗之信念，將世俗教學昇華為「天職」召喚。

結論：靈性資源並非消極的心理調適，而是教學者在不穩定夾縫中，由內而外發起的「主體覺醒歷程」。本研究建議，政策端應將靈性資源教育之涵育納入非正規師資培力體系，為設計終身學習與長壽社會留住具備教學韌性的優質推手。

關鍵詞： 非正規成人教育、自由講師、靈性資源、終身學習社會。

The Promoters of a Lifelong Learning Society: Spiritual Resources and Sustainable Labor Well-being of Non-formal Adult Educators

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Abstract

This study aims to explore how non-formal adult educators(freelance lecturers)under the atypical labor system in Taiwan's non-formal adult education sector practice multidimensional spiritual resources to resist occupational challenges, transform emotional exhaustion, and thereby reconstruct their professional subjectivity and sustainable labor well-being. Adopting a qualitative research approach, this study conducted semi-structured interviews with six experienced freelance lecturers and utilized thematic analysis to examine their career narratives and teaching experiences.

The findings reveal three core dimensions: (1) Reconstruction of personal identity: Through inner reflection and role "de-authoritization," lecturers break through institutional constraints, translating survival labor into an egalitarian vocation of life companionship. (2) Community and spatial resonance: Aligning with adult learning characteristics, lecturers dismantle cold contractual relationships to build warm, two-way interactive community connections. They also transform the fragmented feeling of labor mobility through nature experiences and the spatial resonance of the field. (3) Teaching mission beyond religion: Educators demonstrate high cultural hybridization flexibility, integrating local folk beliefs and transcendent faith to elevate secular teaching into a sacred "calling."

The conclusion indicates that spiritual resources are not passive psychological adjustments, but rather a "subjective awakening process" initiated from within by educators caught in the cracks of instability. This study suggests that policymakers should integrate the cultivation of spiritual resource education into the non-formal teacher training system, in order to retain high-quality promoters with teaching resilience for designing a lifelong learning and longevity society.

Keywords: Non-formal adult education, Freelance lecturers, Spiritual resources, Lifelong learning society

Toward a Capability-Oriented Lifelong Learning Policy for Middle-Aged and Older Adults: Rethinking Lifelong Capability Development in a Super-Aged Society

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Abstract

Taiwan officially became a super-aged society in 2025, with adults aged 65 and older accounting for more than 20 percent of the total population. In response, the government has rapidly expanded its range of adult learning initiatives, from the University of the Third Life Program (2025) to the 30+ University Pilot Program (2026). These programs now encompass dozens of universities and tens of thousands of learners. Yet current policy evaluation continues to rely mainly on program-level provision and performance indicators, including course offerings, participation rates, and labor-market reintegration outcomes. Official policy rationales have also explicitly cited the enrollment pressures confronting private universities amid sustained fertility decline. This paper interprets the associated lowering of the eligibility threshold from fifty-five to thirty not simply as an adjustment to the target population, but as suggesting a policy orientation that places greater emphasis on broadening eligibility and responding to universities' enrollment pressures than on expanding substantive learning opportunities for middle-aged and older adults and recognizing them as autonomous learning subjects. Such indicators and rationales shaped by institutional needs may be insufficient for addressing the multidimensional learning needs of middle-aged and older adults and may risk skewing policy priorities.

Building on the two competing paradigms of lifelong learning policy identified by Wang (2025), namely, a humanistic model oriented toward democratic citizenship, social justice, and whole-person development, and a human-capital model oriented toward employability, competitiveness, and economic growth, this paper further develops capability enhancement, the third and least elaborated normative commitment of the humanistic framework, and uses it to construct a comprehensive policy-evaluation framework informed by the capability approach of Sen and Nussbaum. The paper further argues that, although the humanistic model is normatively stronger, it has historically lacked an evaluative standard that can be operationalized to offer a viable alternative to human-capital reasoning in policy discourse. The capability approach provides a more explicit analytical and normative basis for such evaluation.

Three evaluative dimensions are proposed. The first, expansion of substantive freedoms, examines whether learning genuinely expands the freedom of middle-aged and older adults to pursue ways of living they have reason to value, and whether structural barriers, particularly financial exclusion and geographic inequality, limit the conversion of formal access into substantively available learning opportunities. The second, recognition of middle-aged and older adults as autonomous learning subjects, examines whether policy design respects their right to make learning choices in accordance with their own values and needs, rather than treating them as instruments of institutional survival or labor-market replenishment. The third, support for social participation, examines whether learning spaces cultivate civic engagement, intergenerational exchange, and a genuine sense of community belonging, rather than reproducing age-segregated forms of learning provision.

Applied to Taiwan's policy context, this framework identifies three institutional issues that may constrain substantive capabilities: the absence of means-tested financial aid in the 30+ Program; a curricular emphasis on career transition and labor-market reintegration, which may narrow the perceived value of learning to employment and economic outcomes; and the relatively marginal administrative position of adult learning within university governance structures. This paper calls for a shift from conditional inclusion, in which adult learners are admitted primarily in response to institutional needs, toward recognition of their equal standing as a matter of principle. In a super-aged society, how universities treat middle-aged and older learners ultimately reflects the kind of society we choose to become.

Keywords: capability approach; lifelong learning policy; middle-aged and older adult learning; super-aged society; age justice

超高齡社會需要什麼樣的終身學習政策-從中高齡者的能力發展談起

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摘要

臺灣於 2025 年正式進入超高齡社會，65 歲以上人口已逾總人口 20%。面對人口結構快速轉變，政府近年積極擴展成人學習，先後推出「第三人生大學試辦計畫」(2025) 與「30+大學試辦計畫」(2026)，參與學校與學習人數均快速增加。這些政策擴大了成人進入大學學習的機會，值得肯定；然而，目前政策評估仍大致著眼於課程數量、參與人次及重返勞動市場等供給與績效指標，而官方政策論述亦明確將少子化下大學招生壓力列為政策背景之一。從「第三人生大學」到「30+大學」，入學年齡由 55 歲降至 30 歲，不只是政策對象的擴大，也顯示政策仍相當重視擴充生源及回應大學機構需求。相較之下，成人學習者究竟獲得了什麼樣的實質學習機會，以及其作為學習主體的地位是否獲得充分承認，尚未成為政策設計的核心。

本文以 Wang (2025) 所區辨的人文主義與人力資本兩種終身學習政策模型為出發點。前者重視民主公民、社會正義及全人發展，後者則將就業能力、競爭力與經濟成長置於優先位置。本文認為，人文主義模型雖在規範上較能避免將終身學習窄化為經濟工具，但其政策評估標準仍不夠明確。為補足此一不足，本文進一步提出「實質能力的擴展」(capability enhancement) 作為人文主義終身學習的重要規範承諾，並以 Sen 與 Nussbaum 的能力取向為基礎，建構政策評估架構。

此一架構包含三個面向：第一，實質自由的擴展，檢視學習機會是否真正增加成人選擇其有理由珍視之生活方式的可能，並關注經濟、地理等條件是否使形式上的開放無法轉化為實際可行的參與機會；第二，學習主體地位的承認，檢視政策是否尊重成人依其價值、興趣與人生安排自主選擇學習，而非將其視為維繫大學招生或補充勞動力的工具；第三，社會參與的支持，檢視學習是否有助於公民參與、代間交流及社區歸屬，而非形成另一套按年齡區隔的教育供給。

以此架構檢視臺灣現行政策，至少有三項問題值得注意：其一，「30+大學試辦計畫」尚未納入依經濟需要提供的助學支持；其二，課程內容較側重職涯轉型與重返勞動市場，容易使終身學習的價值再度集中於就業與經濟產出；其三，成人學習在大學治理與行政體系中的定位仍相對邊緣。本文據此主張，未來政策應逐步擺脫以大學機構需求為主要考量的「有條件納入」，轉而承認成人學習者在大學教育中的平等地位，並使其學習機會不再主要取決於學校的招生與生存需求。如此看來，超高齡社會中的終身學習，並不只是方案設計或招生政策的問題，更涉及我們如何理解成人與高齡者作為學習者的地位。大學如何對待這群學習者，最終反映的是一個社會對人的持續發展抱持何種態度，也反映了我們希望建構一個什麼樣的社會。

關鍵詞：能力取向、終身學習政策、中高齡與高齡學習、超高齡社會、高齡正義

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長壽社會的權益保障與學習增能：制度、政策與實踐 Rights Protection and Learning Empowerment in a Longevity Society: Institutions, Policy, and Practice

主持人：孫若馨副教授（國立臺北護理健康大學 智慧健康照護跨領域學院）

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大語言模型輔助社會處方文獻分析：證據結構、作用機制與政策意涵

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摘要

社會處方透過醫療、社福或社區端辨識個人非醫療需求，並由連結工作者、導航者或相關專業人員協助服務使用者連結至適切社區資源。近年相關研究快速增加，但其定義、服務模式、介入內容、研究設計與評估指標高度異質。本研究旨在建立結構化社會處方文獻資料庫，運用大語言模型輔助資料萃取與初步分類，分析 2015 至 2025 年間英文文獻之證據結構、主要研究主題、作用機制、執行條件及政策意涵。研究檢索 PubMed、EMBASE、PsycINFO 及 Cochrane Library，依預先設定之納入與排除原則進行文獻辨識與篩選，並參考 PRISMA 原則整理篩選程序，最終納入 217 篇文獻。大語言模型依固定欄位協助初步擷取研究設計、研究對象與樣本、服務場域、社會處方模式、轉介來源、link worker 或導航者、介入內容、追蹤期間、評估指標、主要結果及研究限制，再由研究者進行人工覆核與主題歸納。分析架構包括社會處方模式、介入類型、成效結果、執行條件及研究限制五大面向，共 45 項代碼；另依文獻主要證據功能區分為較強證據、中等／較直接證據、機制／執行證據、理論／政策／間接證據及研究計畫書／無結果文獻。結果顯示，較強證據 7 篇（3.2%）、中等／較直接證據 50 篇（23.0%）、機制／執行證據 91 篇（41.9%）、理論／政策／間接證據 50 篇（23.0%），另有 19 篇（8.8%）為研究計畫書或尚無結果文獻。直接證據 70 篇（32.3%），部分直接證據 33 篇（15.2%），合計 103 篇（47.5%）。主題分析以志願、社區與社會企業部門（VCSE）／社區承接 150 篇（69.1%）及 link worker／轉介 138 篇（63.6%）最為突出。整體文獻在心理福祉、生活品質、孤獨與社會孤立、社會連結、自評健康及參與者經驗等面向呈現較一致的正向訊號，但具較強因果推論能力之研究仍有限，醫療服務使用及成本效益結果亦未完全一致。機制與執行研究較一致指出，個人化需求評估、可信任的連結工作者、共同決策、適切資源媒合、首次參與支持、持續追蹤、社會歸屬與社區承接能力，是影響社會處方運作的重要條件。社會處方宜被理解為包含需求辨識、個人化評估、共同決策、資源媒合、參與支持、持續追蹤及資訊回饋的完整服務路徑，而非單純活動轉介。大語言模型在本研究中定位為初步萃取、結構化整理與分類之輔助工具；由於尚未設置純人工分析對照、人工修正比例或人機一致率比較，故不據此推論其能提升分析效率或準確性。

關鍵詞：社會處方、大語言模型、連結工作者、文獻分析、作用機制、成效評估、健康社會決定因素

Large Language Model-Assisted Literature Analysis of Social Prescribing: Evidence Structure, Mechanisms, and Policy Implications

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Abstract

Social prescribing connects individuals with non-medical community resources through referrals from healthcare, social care, or community settings, often supported by link workers, navigators, or related professionals. As the literature has expanded, substantial heterogeneity has emerged in definitions, service models, intervention components, study designs, and outcome measures. This study aimed to construct a structured social prescribing literature database and use a large language model (LLM) to assist preliminary data extraction and classification, with a focus on evidence structure, major research themes, mechanisms, implementation conditions, and policy implications in English-language studies published between 2015 and 2025. PubMed, EMBASE, PsycINFO, and the Cochrane Library were searched. Studies were identified and screened according to predefined inclusion and exclusion criteria, with the screening process organised with reference to PRISMA principles. A total of 217 publications were included. The LLM assisted extraction of study design, population and sample, setting, social prescribing model, referral pathway, link worker or navigator role, intervention, follow-up, outcome measures, key findings, and study limitations, followed by researcher review and thematic synthesis. A 45-code framework covering five domains was developed: social prescribing models, intervention types, outcomes, implementation conditions, and research limitations. Publications were also grouped by primary evidence function. Of the 217 publications, 7 (3.2%) were classified as relatively stronger evidence, 50 (23.0%) as moderate or more direct evidence, 91 (41.9%) as mechanism or implementation evidence, 50 (23.0%) as theoretical, policy, or indirect evidence, and 19 (8.8%) as protocols or studies without outcome data. Seventy publications (32.3%) provided direct evidence and 33 (15.2%) partially direct evidence, for a combined 103 publications (47.5%). The most prominent themes were voluntary, community and social enterprise (VCSE) capacity/community provision (150; 69.1%) and link workers/referral pathways (138; 63.6%). Across the literature, relatively consistent positive signals were observed for psychological well-being, quality of life, loneliness and social isolation, social connectedness, self-rated health, and participant experience. However, studies capable of stronger causal inference remained limited, and findings on healthcare utilisation and cost-effectiveness were inconsistent. Recurrent mechanisms included personalised needs assessment, trusted link-worker relationships, shared decision-making, appropriate resource matching, support for initial participation, continued follow-up, social belonging, and community-sector capacity. Social prescribing should therefore be understood as a service pathway encompassing needs identification, personalised assessment, shared decision-making, resource matching, participation support, follow-up, and feedback rather than as simple referral to an activity. In this study, the LLM was used as an auxiliary tool for preliminary extraction, structuring, and classification. Because no fully manual comparator, correction-rate analysis, or human-machine agreement assessment was conducted, the study does not claim that the LLM improved analytical efficiency or accuracy.

Keywords: social prescribing; large language model; link worker; literature analysis; mechanisms; outcome evaluation; social determinants of health

生成式 AI 介入高齡長者求助路徑之機會、風險與治理課題

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摘要

近年來生成式人工智慧正以不同於過去數位科技的速度與方式進入高齡長者的日常生活，並可能成為新型求助入口。其以自然語言對話即時提供陪伴、解釋與建議，降低操作、表達與資訊理解門檻。以美國為例，50 歲以上成年人使用生成式 AI 的比例自 2023 至 2025 年兩年間增加 21 個百分點；相近增幅在高齡族群的網際網路與智慧型手機普及歷程中，分別約需 7 年及 3 年。2025 年浙江開放大學與阿里研究院研究亦顯示，高齡者整體 AI 使用率雖較低，但已使用者呈現較高使用頻率與黏性。生成式 AI 因而可能成為長者的初步求助對象，本文據此以「求助路徑」為核心，分析生成式 AI 介入問題辨識、資訊取得、正式專業協助與後續轉介所產生的機會、風險與治理問題。

本文指出，生成式 AI 介入高齡者求助路徑，同時具有降低求助門檻與放大錯誤信任風險的雙重效果。其可提高資訊可近用性、協助整理問題與理解複雜資訊，並於部分情境提供情緒支持；但便利、流暢且近似專業諮詢的回應，也可能使錯誤或不完整資訊獲得過高信任，進而影響後續判斷與求助。當 AI 成為健康、財務、法律或生活問題的初步求助對象，原由家屬、社區與專業人員承擔的查核、守門與轉介功能亦可能弱化。高齡者原有之求助行為即受症狀自我評估、獨立性、非正式支持與服務可近性等因素影響，生成式 AI 若介入問題辨識與資訊取得等前端節點，其回應即可能影響長者是否進入後續正式協助。

對此，現行人工智慧治理雖已逐步重視透明、人為監督與風險管理，卻尚未完整回應一般生成式 AI 介入求助路徑後的真人接手問題。我國《人工智慧基本法》雖納入人類監督與高風險警示，並特別考量兒少最佳利益，卻未形成相應的高齡者保護與個案接手機制，相關義務仍有待目的事業主管機關以部門法規填補；歐盟《人工智慧法》則對特定高風險用途要求人為監督，但一般消費型生成式 AI 即使承接重要醫療、財務或法律求助，也未必因此進入高風險規範。現行制度較能回答「使用者是否知道正在與 AI 互動」，卻較少回答「AI 不適合繼續處理時，如何確保真人及時接手」。

本文因此主張，應將「守門與轉介」納入高齡者生成式 AI 治理的核心機制。對可能造成生命身體、醫療用藥、重大財產、重要權益或緊急服務風險的求助情境，應建立風險辨識、限制揭示、轉介啟動及可實際到達的真人接手管道，使生成式 AI 成為連結適當協助的入口，而非阻斷後續真人求助的終點。

關鍵詞：生成式人工智慧、高齡者、求助行為、人為監督、人工智慧治理

Generative AI in Older Adults' Help-Seeking Pathways: Opportunities, Risks, and Governance Challenges

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Abstract

Generative AI is entering older adults' everyday lives at a pace unlike earlier digital technologies and may become a new entry point for help-seeking. Through natural-language dialogue it lowers barriers to use, expression, and comprehension. In the United States, the share of adults aged 50 and over using generative AI rose by 21 percentage points between 2023 and 2025; comparable gains took roughly seven years for internet use and three years for smartphones. A 2025 study by Zhejiang Open University and the AliResearch Institute reports that although overall use among older adults is lower, users show higher frequency and more sustained engagement. This paper therefore examines the opportunities, risks, and governance questions arising when generative AI enters problem recognition, information seeking, formal professional assistance, and referral.

Generative AI both lowers barriers to seeking help and amplifies the risk of misplaced trust. It can improve access to information, help organize problems, and provide some emotional support; yet its fluent, seemingly professional responses may lend excessive credibility to erroneous information and affect subsequent judgment and help-seeking. As it becomes a first point of contact for health, financial, legal, or everyday problems, the checking, gatekeeping, and referral functions carried by family, community, and professionals may weaken. Older adults' help-seeking is already shaped by symptom self-appraisal, independence, informal support, and service accessibility, so responses at these early nodes may bear on whether they reach formal assistance.

Current AI governance addresses transparency, human oversight, and risk management, but not how a human takes over once AI enters the pathway. Taiwan's Artificial Intelligence Basic Act incorporates human oversight and high-risk warnings and expressly considers the best interests of children, yet offers no counterpart for older adults, leaving such duties to sectoral regulation. The EU AI Act imposes human oversight on certain high-risk uses, yet consumer generative AI handling significant medical, financial, or legal requests does not necessarily fall within them. Existing rules answer whether users know they are interacting with AI, but not how a human can be reached in time.

This paper argues that human gatekeeping and referral should be a core governance mechanism here. Where a situation may involve life or physical safety, medication, major financial interests, significant rights, or emergency services, mechanisms should provide for risk identification, disclosure of limitations, activation of referral, and a reachable handover to a person or institution with professional authority and responsibility, so that generative AI becomes an entry point to help rather than an endpoint.

Keywords: Generative AI; older adults; help-seeking; human oversight; AI governance

尊嚴與資格之間：身障資格、長照評估與被照顧者權益

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摘要

隨著臺灣高齡化與長期照顧制度的發展，失能評估已成為取得長照服務的重要門檻。然而，現行福利體系中，身心障礙鑑定與長照失能評估分屬不同制度，其資格認定標準與評估邏輯並不相同。實務上，部分已持有永久性重度身心障礙證明者，在申請長照服務時仍需再次接受失能評估，甚至重新證明自身功能受限與照顧需求。此種重複評估現象不僅涉及制度銜接問題，也可能影響被照顧者的尊嚴、權益與服務可近性。

本文旨在探討身障資格與長照資格之間的制度落差，以及被照顧者在資格認定過程中的經驗與處境。研究採反思性個案研究取徑，以研究者陪同持有永久性重度身心障礙證明之家人接受長照評估的經驗作為關鍵案例，並結合身心障礙鑑定制度、長照失能評估機制及相關政策文件分析，同時參酌共同作者作為一名醫務社工其於身障評估實務中的觀察與經驗進行討論。

研究發現，長照評估不僅是照顧需求的確認程序，更是一種福利資格的認定與生產機制。即使個案已透過身心障礙鑑定取得永久性重度障礙資格，當其進入長照制度後，原有的障礙身分並未必然轉化為照顧資格，而必須重新透過功能評估證明其失能程度與照顧需求。換言之，同一個身體在不同福利制度中可能受到不同分類邏輯的辨識與判定，並在制度轉換之間反覆成為需要被驗證的對象。當資格證明進一步涉及身體檢視或功能展示時，被照顧者亦可能面臨維護身體自主與尊嚴、以及取得照顧資源之間的張力。

本文認為，身障資格與長照資格之間的落差，不宜僅被理解為行政制度銜接不足的技術性問題，而應進一步考察不同福利制度如何透過各自的分類、評估與專業判斷，界定何種身體狀態得以被承認為具有照顧需求。當已獲國家制度認定的障礙者仍須在另一福利體系中反覆證明自身失能時，福利資格的取得便同時涉及行政分類、專業權威與身體經驗。本文藉由分析此一「反覆證明失能」的過程，重新思考福利資格認定如何形塑被照顧者的權利位置，以及尊嚴照顧理念在福利行政實作中的可能與限制。

關鍵字：長期照顧、福利資格、制度設計

**Between Dignity and Eligibility: Disability Certification, Long-Term Care Assessment,
and the Rights of Care Recipients**

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Abstract

As Taiwan's population continues to age and its long-term care (LTC) system expands, disability assessment has become a crucial gateway to accessing LTC services. However, within the current welfare system, disability certification and LTC eligibility assessment are governed by different institutional frameworks and guided by distinct assessment criteria. In practice, individuals who already hold permanent severe disability certification are often required to undergo additional LTC assessments and repeatedly demonstrate their functional limitations and care needs when applying for LTC services. Such repeated assessments not only reveal a lack of coordination between welfare systems but may also affect care recipients' dignity, rights, and access to care.

The findings suggest that LTC assessment is not merely a procedure for identifying care needs but also a mechanism through which welfare eligibility is determined and produced. Even when an individual has already been officially recognized as having a permanent severe disability through the disability certification system, this status does not automatically translate into LTC eligibility. Instead, upon entering the LTC system, the individual must once again demonstrate the extent of their functional limitations and care needs through assessment. In other words, the same body may be recognized and classified according to different institutional logics across welfare systems and may repeatedly become an object of verification as it moves between institutional settings. When such verification further involves bodily examination or the demonstration of bodily functions, care recipients may face tensions between maintaining bodily autonomy and dignity and securing access to necessary care resources.

This study argues that the gap between disability status and LTC eligibility should not be understood merely as a technical problem of insufficient administrative coordination. Rather, it calls for closer examination of how different welfare systems employ their own classifications, assessments, and forms of professional judgment to determine which bodily conditions are recognized as constituting legitimate care needs. When individuals whose disabilities have already been officially recognized by the state are nevertheless required to repeatedly prove their disability within another welfare system, the acquisition of welfare eligibility becomes intertwined with administrative classification, professional authority, and embodied experience. By examining this process of "repeatedly proving disability," this study reconsiders how welfare eligibility mechanisms shape the rights and positions of care recipients, as well as the possibilities and limitations of realizing dignity in care within welfare administration.

Keywords: Long-Term Care, Welfare Eligibility, Institutional Design

論文發表 E Paper Session E

長壽社會的服務創新：跨世代共學、AI 賦能與智慧照顧 Service Innovation in a Longevity Society: Intergenerational Co-Learning, AI Empowerment, and Smart Care

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以幼兒園老幼共學構築跨世代共好

葉桂娥 新竹縣私立佳佳幼兒園負責人

摘要

面對高齡化與少子化並行的社會變遷，如何在日常生活與教育場域中創造不同世代之間有意義、可持續且具互惠性的互動機會，已成為高齡福祉、幼兒教育與社區創新的重要議題。既有跨世代研究多著重方案介入後的成效與參與者改變，較少從幼兒園作為持續性教育與社區連結場域的角度，進一步探討老幼共學如何被規劃、推動、調整並逐步形成可延續的實務模式。因此，本研究以幼兒園推動老幼共學之實務經驗為基礎，採質性取向之實務研究，結合行動研究與模式建構觀點，探討跨世代共學在真實教育情境中的推動歷程、互動樣貌、實踐困難與支持需求。

本研究透過活動紀錄、文字資料、影音紀錄與問卷回饋等多元資料來源，整理並分析老幼共學從活動規劃、互動引導、角色參與到經驗擴展的實踐過程，並關注幼兒、高齡者、教師、家長及社區資源在其中所扮演的角色及彼此之間的連結。研究發現，老幼共學並非單次活動或單向陪伴，而是一個需要持續設計、引導與調整的互動歷程。活動內容本身固然重要，但能否形成穩定而有意義的跨世代互動，也與參與角色的投入、教師的引導、家庭的支持，以及社區資源的連結密切相關。透過反覆的共同參與與互動，幼兒與高齡者得以在共享經驗中建立熟悉感與情感連結，教師、家長與社區亦共同構成支持老幼共學持續運作的重要條件。

從實務運作觀點來看，老幼共學的持續性並非僅由單一活動決定，而是建立在多項實踐要素的連續累積之上。活動設計提供跨世代共同參與的基礎，互動引導促進參與關係的形成，角色參與使幼兒、高齡者、教師、家長與社區資源得以在同一實踐歷程中建立連結，而經驗擴展則使既有的互動與關係能延伸至後續活動。這些要素彼此並非相互獨立，而是在反覆實踐與調整的過程中相互影響，共同支持老幼共學由單次活動逐步發展為具有延續性的跨世代實踐。

綜合實務歷程與資料分析結果，本研究進一步提出以幼兒園為平台之跨世代共好實務模式，將活動設計、互動引導、角色參與、經驗擴展與支持資源視為相互連動的實踐要素。此模式不僅呈現老幼共學從單次活動走向持續性實踐的可能路徑，也凸顯幼兒園作為連結兒童、高齡者、家庭與社區之跨世代平台的潛力。相較於將跨世代互動視為個別方案，本研究更強調幼兒園作為長期教育場域所具有的連結與累積作用，並藉由多方角色持續參與，使跨世代互動逐步融入教育與社區實踐。因此，本研究所提出之模式可作為未來教育場域規劃跨世代學習、社區組織推動世代交流，以及高齡服務創新之實務參考。

關鍵詞：老幼共學、跨世代共好、高齡社會、幼兒園、實務模式建構

Constructing Intergenerational Mutual Well-being through Kindergarten-Based Intergenerational Learning

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Abstract

Population ageing and declining birth rates are reshaping the social and educational environments in which different generations live and interact. Creating meaningful, sustainable, and mutually beneficial opportunities for intergenerational interaction has therefore become an important issue in ageing welfare, early childhood education, and community innovation. Existing studies on intergenerational programs have often emphasized intervention outcomes and changes among participants, while less attention has been paid to how intergenerational practices are planned, implemented, adjusted, and sustained within kindergarten settings. As kindergartens are not only educational spaces for young children but also potential platforms for connecting families and community resources, examining the practical process of kindergarten-based intergenerational learning may provide useful insights into the development of more sustainable forms of intergenerational engagement.

Based on practical experience in promoting intergenerational learning in a kindergarten, this study adopts a qualitative, practice-oriented approach and integrates perspectives of action research and model building. Multiple sources of data, including activity records, textual materials, video documentation, and questionnaire feedback, were used to examine the implementation process, interaction patterns, practical challenges, and support needs of intergenerational learning. The analysis focused on how activities were designed and guided, how different participants became involved, and how shared experiences were gradually extended through repeated practice. Particular attention was also paid to the roles of children, older adults, teachers, parents, and community resources, as well as to the relationships formed among these participants.

The findings suggest that intergenerational learning should not be understood as a one-time event or a form of one-way companionship. Rather, it is a gradual and continuously adjusted process shaped by activity design, interaction guidance, role participation, experience expansion, and supporting resources. Meaningful intergenerational interaction emerges not only from the content of individual activities, but also from sustained participation and the connections established among children, older adults, educators, families, and the wider community. Through repeated shared experiences, participants can develop familiarity, emotional connection, and mutual support, while teachers, parents, and community resources provide important conditions for sustaining the practice.

Building on these findings, this study proposes a kindergarten-based practical model of intergenerational mutual well-being. The model conceptualizes activity design, interaction guidance, role participation, experience expansion, and supporting resources as interconnected elements of practice. It illustrates a possible pathway for moving from isolated intergenerational activities toward sustained intergenerational learning and highlights the potential of kindergartens to serve as platforms linking children, older adults, families, and communities. The proposed model may provide practical implications for educational settings, community organizations, and innovations in ageing services that seek to promote meaningful and sustainable intergenerational collaboration.

Keywords: Intergenerational Learning; Intergenerational Mutual Well-being; Ageing Society; Kindergarten; Practical Model Building

**超高齡社會的系統性創新：
以「不老高手」為核心的服務設計與 AI 賦能人才再造模式研究**

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摘要

隨著台灣進入超高齡社會，高齡者的社會參與已從單純的「延命」轉向「優化生命」的價值再造。本研究旨在透過服務設計建構「第三人生永續生活大學」系統，將高齡者從被動接收者轉化為具生產力的「社會資產」。本研究採方案開發研究法，結合「七階段人生重啟路徑」（含覺察、培力、實踐等階段）與「五大學院」之課程，並導入 AI 學習指引與數位教練。本方案於 2018 年至 2019 年陸續實施兩屆培訓，共以 9 位高齡學員（培訓時年齡介於 65 至 81 歲）為研究對象。研究採用深度訪談與行動觀察進行資料蒐集，並透過質性主題分析，歸納學員由素人蛻變為「不老高手」的觀點轉化歷程與社會參與效益。

研究發現，學員在歷經「由自我轉向需求中心」的實踐後，實現了顯著的觀點轉化。質性分析顯示，透過 AI 學習指引與數位教練的輔助，學員能有效克服數位焦慮並提升自我效能感。研究建立之「不老高手」認證機制與五大新職能領域（如健康促進指導員、數位生活教練等），成功輔導兩屆學員於社區展現持續性的社會參與。長期追蹤結果亦顯示，此模式能有效縮短退休後的社會真空期，並透過在地化知識轉譯強化社區互助韌性。

關鍵字：第三人生、服務設計、AI 賦能、觀點轉化、不老高手

Systemic Innovation in a Super-Aging Society: A Study on Service Design and AI-Empowered Talent Reconstruction Centered on "Ageless Masters"

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Abstract

As Taiwan enters a super-aging society, older adults' social participation has shifted from mere life extension to value reconstruction through life optimization. This study aims to construct a "Third-Life Sustainable Living University" system through service design, transforming older individuals from passive service recipients into productive "social assets."

Employing a program development research method, this study integrates a service framework based on the "Seven-Stage Life Reboot Path" (comprising stages such as awareness, empowerment, and practice) and the "Five Major Academies," supplemented by AI learning guide maps and digital coaches. The program was implemented across two cohorts between 2018 and 2019, involving 9 senior participants aged 65 to 81 at the time of training. Data were collected using in-depth interviews and participant observation, and analyzed through qualitative thematic analysis to track the participants' perspective transformation and social engagement outcomes as they evolved from ordinary elders into "Ageless Masters."

The findings indicate that participants experienced significant perspective transformation after undergoing a practical process of shifting from "self-centeredness to need-centeredness." Qualitative analysis shows that with the support of AI learning guides and digital coaches, participants effectively overcame digital anxiety and enhanced their self-efficacy. The established "Ageless Master" certification mechanism and five new occupational domains (such as health promotion instructors and digital life coaches) successfully guided both cohorts to maintain continuous community involvement. Furthermore, long-term tracking results reveal that this model effectively shortens post-retirement social vacuums and strengthens community resilience through localized knowledge translation.

Keywords: Third Life, Service Design, AI Empowerment, Transformative Learning, Ageless Masters

照服員作業支持之投影介面設計研究：以日照中心團體活動情境為例

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摘要

台灣已邁入超高齡社會，日照中心團體活動仰賴照服員協調。活動中須兼顧團體引導、安全監測與個別協助，易出現視線資源衝突、雙手被設備佔用與情境判斷中斷。前期需求探索已歸納痛點與設計需求，並建議發展投影式介面，惟尚未轉譯為可檢視的介面設計。為使資訊融入活動場景且抬頭可見，本研究採投影為候選媒介，展開設計轉譯。設計過程參照平靜科技、環境型顯示與免手持互動文獻建立原則，並將投影可視性與環境光線作為概念設計限制，經資訊架構、視覺層級與互動流程規劃，提出三項介面概念：製作介面稿作為實務者檢視刺激物。設計包括：「周邊狀態提示」透過投影畫面邊緣的顏色，顯示全場的參與與安全狀況，目標為讓照服員一眼掌握情況，減少視線移開；「非接觸手勢控制」採空中手勢、確認手勢與游標回饋，降低操作設備造成照護中斷的可能；「分級警示」以位置、色彩與升級行為區分日常提示與安全警告，避免訊息皆以高強度警報呈現。非接觸手勢控制無需持握平板或遙控器。本研究將上述抽象需求轉化為可討論、修正與評估的介面設計物，並由具日照團體活動經驗之實務者進行形成性概念檢視，蒐集其理解方式、使用條件、潛在風險與修正需求，作為後續原型開發與智慧照護服務設計參考。

關鍵詞：照顧服務員、日間照顧中心、投影介面、互動設計、智慧照護

Projection Interface Design for Supporting Care Workers: Group Activity Contexts in Adult Day Care Centers

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Abstract

Taiwan has become a super-aged society, and group activities in adult day care centers rely heavily on care workers' on-site coordination. During activities, care workers must balance group guidance, safety monitoring, and individual assistance, creating three work-related challenges: conflicting visual attention, hands occupied by devices, and interrupted situational judgment. A prior needs exploration identified these challenges and corresponding design requirements and recommended developing a projection-based interface, yet the requirements remained untranslated into reviewable interface designs. To integrate information into the activity scene and make it visible at a glance, this study adopts projection as a candidate medium for design translation. Literature on calm technology, ambient displays, and touch-free interaction informed the design principles. Projection visibility and ambient lighting served as conceptual design constraints. Information architecture, visual hierarchy, and interaction-flow planning produce three interface concepts; interface mockups serve as stimuli for practitioner review. Three interface designs are proposed. The Peripheral Status Display uses colors along the edge of the projected image to show overall participation and safety conditions in the activity area. It is designed to help care workers grasp the situation at a glance and reduce gaze shifts. The Touch-Free Gesture Control adopts mid-air gestures with gesture-based confirmation and cursor feedback, designed to reduce possible care interruptions caused by device handling. The Graded Alert distinguishes routine cues from safety warnings through position, color, and escalation behavior, avoiding uniformly high-intensity alarms. The touch-free gesture mechanism allows control without holding a tablet or remote control. This study transforms abstract field needs into interface artifacts that can be discussed, revised, and evaluated. Practitioners with group-activity experience in adult day care centers will conduct a formative review of the concepts, and their interpretations, usage conditions, potential risks, and suggested revisions will inform subsequent prototype development and smart-care service design.

Keywords: care workers; adult day care centers; projection interface; interaction design; smart care

論文發表 F Paper Session F

長壽社會的數位與學習創新：健康增能與智慧照顧 Digital and Learning Innovation in a Longevity Society: Health Empowerment and Smart Care

主持人：陳冠良助理研究員（國立中正大學高齡教育研究中心）

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不同出生世代的長壽設計需求：
以台灣中老年長期追蹤調查為基礎的世代序列研究

黃芳誼 東吳大學社會學系副教授

摘要

台灣於 2025 年正式邁入超高齡社會，長壽已不只是醫療與照顧議題，而涉及工作延續、福利配置、居住安排與家庭支持的整體設計。既有成功老化與長期照顧研究多以「年齡」或「老人」作為主要分類，較少分析不同出生世代在生命歷程中所累積的教育擴張、勞動市場轉型與福利制度變遷，如何形塑其晚年需求。本文提出「世代敏感的長壽設計」論點，主張高齡政策不應僅以 65 歲或失能等級作為分流依據，而應結合出生世代、生命歷程資源與晚年功能變化，辨識不同世代對工作、福利、居住與健康照護的差異化需求。研究使用「台灣中老年身心社會生活狀況長期追蹤調查」(TLISA) 三個世代之基線資料：B 世代（1989 年，約 1928 年以前出生， $n=4,049$ ）、A 世代（1996 年，約 1929 至 1946 年出生， $n=2,462$ ）與 C 世代（2003 年，約 1946 至 1953 年出生， $n=1,599$ ），以各波抽樣權重進行加權描述統計，並以加權最小平方法與加權邏輯斯迴歸估計世代之獨立效果，模型控制年齡、性別、教育年數與族群。描述統計顯示明顯的教育擴張（B 4.2 年、A 5.5 年、C 8.6 年）與勞動參與上升（31.9%、55.0%、67.0%），但經濟滿意度反向下降（3.33、3.18、3.00）。控制年齡與教育後，A、C 世代之自評健康分別較 B 世代低 0.22 與 0.20 單位（ $p<.001$ ），經濟滿意度落差更大（-0.16 與 -0.48， $p<.001$ ）；勞動參與之世代效果則不再顯著，顯示基線的工作差異主要由年齡與教育所驅動。ADL 指標因跨波題項不一致，僅作為測量差異之提示；年齡、時期與世代效果尚未完全分離，為本研究之主要限制。本文主張長壽設計應由「年齡分流」轉向「世代敏感的生命歷程分流」，並依世代差異調整長期照顧十年計畫 3.0、中高齡及高齡者就業促進、勞動基準法第 54 條延後強制退休年齡修正與高齡友善住宅政策的服務內容。

關鍵字：出生世代、長壽設計、中高齡就業、長期照顧、台灣中老年長期追蹤調查

**Cohort-Specific Needs for Designing Longevity:
A Cohort-Sequential Study Design Using the Taiwan Longitudinal Study on Aging**

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Abstract

Taiwan formally entered a super-aged society in 2025. Longevity is no longer only a question of medical care; it is a design issue spanning work, welfare, housing, and family support. Research on successful aging and long-term care still classifies older adults mainly by chronological age, paying less attention to how successive birth cohorts accumulated different educational opportunities, labor market experiences, and welfare entitlements over the life course. This paper develops the argument of cohort-sensitive longevity design, proposing that aging policy should combine birth cohort, life-course resources, and later-life functional change rather than rely on age thresholds or disability grades alone. The analysis uses baseline data from three cohorts of the Taiwan Longitudinal Study on Aging (TLSA): cohort B (1989, born on or before 1928, $n=4,049$), cohort A (1996, born 1929 to 1946, $n=2,462$), and cohort C (2003, born 1946 to 1953, $n=1,599$). Weighted descriptive statistics use wave-specific sampling weights, and weighted least squares and weighted logistic regression estimate independent cohort effects adjusting for age, sex, years of education, and ethnicity. Education rose markedly across cohorts (4.2, 5.5, and 8.6 years) and labor force participation increased (31.9%, 55.0%, and 67.0%), yet economic satisfaction declined (3.33, 3.18, and 3.00). After adjustment, cohorts A and C reported lower self-rated health than cohort B ($b=-0.22$ and -0.20 , $p<.001$) and substantially lower economic satisfaction ($b=-0.16$ and -0.48 , $p<.001$), while the cohort effect on current work became non-significant, indicating that age and education drive most of the descriptive gap. Because ADL items were not harmonized across waves, those estimates are read as a measurement signal rather than a cohort difference, and age, period, and cohort effects remain partially confounded. The findings support a shift from age-based targeting to cohort-sensitive life-course targeting, with implications for Long-Term Care 3.0, employment promotion for middle-aged and older workers, the 2024 amendment of Article 54 of the Labor Standards Act on deferred mandatory retirement, and age-friendly housing policy.

Keywords: birth cohort, longevity design, older workers, long-term care, Taiwan Longitudinal Study on Aging

翻轉超高齡不平等：高齡運動者健康識能對健康老化影響之實證研究

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摘要

全球邁入超高齡社會，促進高齡者健康老化至為關鍵。本研究旨在探討雲林縣銀髮健身俱樂部高齡運動者之健康識能與健康老化現況、人口背景差異，並評估健康識能對健康老化之預測效果，進而審視活躍高齡族群中殘存之健康不平等現象。本研究以雲林縣 19 處銀髮健身俱樂部高齡運動者為對象，採便利取樣，有效樣本 292 份。研究工具包含「個人基本資料」、「健康識能量表」及「健康老化量表」，問卷資料經 SPSS 統計軟體進行描述性統計、獨立樣本 t 檢定、ANOVA、Pearson 積差相關及分層多元迴歸分析後，獲得以下六項主要結果：

- 一、高齡運動者之健康識能程度總指標平均偏低 ($M = 26.69, SD = 9.67$)，達 74.9% 處於「不足」或「有限」等級。五大層面中以「理解健康資訊」($M = 34.11$) 表現最佳，「獲取健康資訊」($M = 21.96$) 最弱。
- 二、高齡運動者之健康識能受性別 ($t = 2.16, p = .032$)、年齡 ($t = 8.29, p < .001$)、教育程度 ($F = 34.18, p < .001$) 及健康狀況 ($F = 4.53, p = .001$) 均呈顯著差異，其中 75 歲以上超高齡之健康識能顯著低於 65~74 歲者。
- 三、高齡運動者之健康老化程度整體達高水準 ($M = 4.48, SD = 0.45$)，各構面中「生活品質」($M = 4.55$) 最佳。
- 四、高齡運動者之健康老化受性別 ($t = 2.84, p = .005$ ，女性顯著高於男性) 與健康狀況 ($F = 5.67, p < .001$) 不同而有顯著差異。
- 五、高齡運動者之健康識能總指標與健康老化呈顯著正相關 ($r = .131, p = .026$)，尤以對「生理健康」構面之相關性最高 ($r = .180, p = .002$)。
- 六、控制人口背景變項後 ($R^2 = .170, p < .001$)，納入健康識能五個構面能顯著提升對健康老化之解釋力 ($\Delta R^2 = .038, F = 4.21, p < .001$ ；總 $R^2 = .208$)，其中「獲取健康資訊」($\beta = .230, p = .021$) 與「溝通與互動」($\beta = .166, p = .037$) 為健康老化之顯著正向預測因子。

依據上述研究結論，實證數據揭示即使在已參與俱樂部之活躍高齡族群中，高齡與資訊獲取弱勢者仍面臨結構性健康識能落差。本研究提出以下建議：

- 一、對高齡運動者之建議：(一) 提升「資訊獲取」主動性，善用多元管道與數位工具突破資訊接軌障礙。(二) 強化「雙向溝通」識能，建立主動與衛教人員及專業教練互動之習慣。
- 二、對銀髮健身俱樂部之建議：(一) 推行去文字化與圖像化資訊轉譯，建構無障礙之健康資訊獲取環境。(二) 實施背景分眾管理，針對超高齡 (≥ 75 歲) 及低教育程度者提供精準輔導，弭平場域內之健康識能落差。
- 三、對高齡教育機構與政府部門之建議：(一) 推動精準化健康識能提升計畫，公平配置資源以扶助高齡與資訊雙重弱勢族群。(二) 建構縱貫性追蹤評估機制，實踐以科學實證導向之健康不平等翻轉政策。

關鍵字：高齡運動者、健康識能、健康老化、銀髮健身俱樂部、健康不平等

Reversing Super-Aged Inequality: An Empirical Study on the Impact of Health Literacy on Healthy Aging Among Older

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Abstract

In the wave of a global super-aged society, promoting healthy aging among older adults is of paramount importance. This study aimed to examine the current status of health literacy and healthy aging, explore demographic differences, evaluate the predictive effect of HL on HA among older exercisers in Senior Fitness Clubs in Yunlin County, and scrutinize remaining health inequalities within active older populations. Targeting older exercisers from 19 Senior Fitness Clubs in Yunlin County, this study adopted convenience sampling and retrieved 292 valid questionnaires. Research instruments included demographic background data, a Health Literacy Scale, and a Healthy Aging Scale. Data were analyzed using SPSS for descriptive statistics, independent-samples t-tests, ANOVA, Pearson product-moment correlation, and hierarchical multiple regression analysis. Six major findings were derived:

1. The overall health literacy index of older exercisers was relatively low ($M = 26.69$, $SD = 9.67$), with 74.9% of participants categorized at the "inadequate" or "limited" level. Among the five dimensions, "understanding health information" scored the highest ($M = 34.11$), whereas "accessing health information" was the lowest ($M = 21.96$).
2. Significant differences in health literacy were found across gender ($t = 2.16$, $p = .032$), age ($t = 8.29$, $p < .001$), educational level ($F = 34.18$, $p < .001$), and self-rated health status ($F = 4.53$, $p = .001$). Specifically, oldest-old adults (aged ≥ 75) scored significantly lower in health literacy than younger-old adults (aged 65–74).
3. The overall healthy aging level of older exercisers reached a high standard ($M = 4.48$, $SD = 0.45$), with the "quality of life" dimension performing the best ($M = 4.55$).
4. Healthy aging varied significantly by gender ($t = 2.84$, $p = .005$, with females scoring significantly higher than males) and self-rated health status ($F = 5.67$, $p < .001$).
5. The overall health literacy index showed a significant positive correlation with healthy aging ($r = .131$, $p = .026$), exhibiting the strongest correlation with the "physical health" dimension ($r = .180$, $p = .002$).
6. After controlling for demographic background variables ($R^2 = .170$, $p < .001$), adding the five dimensions of health literacy significantly improved the explanatory power for healthy aging ($\Delta R^2 = .038$, $F = 4.21$, $p < .001$; total $R^2 = .208$). Among these, "accessing health information" ($\beta = .230$, $p = .021$) and "communication and interaction" ($\beta = .166$, $p = .037$) served as significant positive predictors of healthy aging.

Based on these findings, empirical data reveal that even within active older populations participating in fitness clubs, individuals who are older and disadvantaged in information access still face structural health literacy gaps. This study proposes the following recommendations:

1. Recommendations for Older Exercisers: (1) Enhance initiative in "accessing information" by utilizing diverse channels and digital tools to overcome information access barriers. (2) Strengthen "two-way communication" literacy by establishing the habit of actively interacting with health educators and professional trainers.
2. Recommendations for Senior Fitness Clubs: (1) Implement non-textual and visual information translation to construct an accessible health information environment. (2) Practice demographic audience segmentation to provide targeted guidance for oldest-old adults (≥ 75 years) and those with lower educational attainment, thereby narrowing health literacy disparities within the venues.
3. Recommendations for Senior Education Institutions and Government Agencies: (1) Promote targeted health literacy enhancement initiatives and allocate resources equitably to support doubly disadvantaged populations (in age and information access). (2) Establish longitudinal tracking and evaluation mechanisms to implement evidence-based policies aimed at reversing health inequalities.

Keywords: Older exercisers, Health literacy, Healthy aging, Senior fitness clubs, Health inequality

看見數位教學的另一道門檻：中高齡教師面臨的教學困境

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摘要

高齡社會已經是不可逆轉的趨勢，而數位裝置持續朝向小巧精緻發展，使中高齡者學習新科技時，需先克服視覺老化所帶來的近距離閱讀與操作挑戰。研究指出電腦視覺症候群常與長時間螢幕使用、近距離用眼及環境光線等因素有關，其症狀包含眼睛乾澀、視覺模糊及頭部緊繃或脹痛。數位課程備課高度依賴近距離視覺與長時間螢幕操作，如簡報製作、截圖辨識及手機操作示範等，對於出現視覺老化狀況之數位課程教師而言，可能增加備課及教材設計的視覺負荷，而其對教學現場的實際影響仍有待進一步探討。

本研究旨在探討中高齡教師在數位課程的準備及教學歷程中所面臨的困境、工作調適、心理感受和其因應策略，以 9 位 45 至 65 歲具有成人數位課程教學經驗之教師為對象，進行半結構式訪談。

研究結果顯示，中高齡教師的視覺困擾主要集中於備課階段，而非教學現場。長時間製作與修訂教材及辨識手機截圖，容易造成眼睛疲勞，因此多數教師會透過增加休息、放大字體、使用大尺寸螢幕及 AI 工具等方式降低近距離用眼負荷。相較之下，教學現場及與學員互動受影響有限，主要歸因於教師熟悉授課內容、課前充分準備及累積的教學經驗。多數教師亦未因視覺老化產生明顯心理壓力，而是透過配鏡、就醫及工作調適加以因應，但仍會擔憂未來視覺功能持續退化，因此調整備課方式，以減少長時間近距離用眼的時長和頻率。

本研究可為高齡數位素養課程之師資培訓與教學支持提供實務建議，亦有助於支持更多中高齡者或退休教師投入數位課程教學，進而促進高齡族群之數位參與，並有助於縮小數位落差。

關鍵詞：數位素養、視覺老化、師資培訓、電腦視覺症候群、教學準備

Seeing Another Threshold in Digital Teaching: Teaching Challenges Faced by Middle-Aged Teachers

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Abstract

Population aging has become an irreversible global trend, while digital devices continue to become increasingly compact. Consequently, middle-aged and older adults face growing challenges in near-vision reading and operating digital devices when learning new technologies. Computer Vision Syndrome (CVS) is associated with prolonged screen use, sustained near work, and environmental lighting conditions, with common symptoms including dry eyes, blurred vision, and headaches. Preparing digital literacy courses requires intensive near-work activities, such as creating presentation slides, reviewing smartphone screenshots, and demonstrating smartphone operations. For middle-aged teachers experiencing age-related visual changes, these demands may increase the visual workload during lesson preparation, while their impact on classroom teaching remains unclear.

This study explored the difficulties encountered by middle-aged teachers during digital course preparation and teaching, as well as their work adaptations, psychological experiences, and coping strategies. Semi-structured interviews were conducted with nine teachers aged 45–65 who had experience teaching digital literacy courses for adults.

The findings showed that teaching-related difficulties were primarily concentrated during lesson preparation rather than classroom teaching. Prolonged preparation and revision of instructional materials, together with reviewing smartphone screenshots, frequently caused eye fatigue. Most participants reduced near-work demands by taking regular breaks, enlarging text, using larger monitors, and adopting AI tools. In contrast, classroom teaching and interactions with learners were minimally affected because instructors were familiar with the course content, prepared thoroughly, and drew on their teaching experience. Most participants reported little psychological distress related to age-related visual changes, as they believed these issues could be managed through appropriate eyewear, medical consultation, and work adaptations. However, concerns about future visual decline prompted them to modify their lesson preparation habits by reducing the duration and frequency of prolonged near-work activities.

The findings provide practical implications for teacher training and instructional support in digital literacy education for older adults. They may also encourage more middle-aged and retired teachers to engage in digital literacy instruction, thereby promoting digital participation among older adults and helping narrow the digital divide.

Keywords: Digital Literacy; Visual Aging; Teacher Training; Computer Vision Syndrome; Teaching Preparation

應用需求幅度理論探討台灣高齡者之生活負擔與樂齡學習增能之研究

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摘要

推行樂齡學習是世界各國因應預防老化的策略之一，本研究聚焦在教育部所推出的樂齡學習政策，期望瞭解高齡者在參與樂齡學習後，其生活負擔有無因為學習增能後而有所減輕或改變。本研究以 McClusky 需求幅度理論（margin theory of needs）為基礎，調查臺灣高齡者在應付需求、表現需求、貢獻需求及影響需求等層面有哪些負擔與需求；並且在參與樂齡學習後，有何增能以及增能程度；最後根據研究結果，提供樂齡學習中心未來課程與教學的改革方向。本研究採單次回溯調查學習前後的差異，並透過發放線上問卷，邀請全國各地區樂齡學習中心學員參與填答，共回收有效樣本 800 份。

本研究以 Cronbach's α 值及因素負荷量檢測信效度，以多元迴歸進行學習增能程度分析。研究結果顯示，高齡者參與學習前對表現需求有較高的負擔，其次依序為影響需求、貢獻需求，最後為應付需求；對應課程需求較高者為體驗活動的學習、老年相關法律知識、居家安全、投資理財、對週遭親友的影響力。參與樂齡學習後，則以表現需求增能程度最高，其次依序為貢獻需求、影響需求，最後為應付需求；對應課程學習增能程度較高者為體驗活動的學習、健康促進、志工服務、社會貢獻。

研究結論表明，樂齡學習有助於高齡者提升生活能量、降低生活負擔，並促進社會參與。但仍有改善空間，建議未來課程應優先強化有高度需求但未被滿足的課程，包含老年相關法律知識、投資理財、參與公共事務等，並採分級化、數位化及體驗式教學設計，以提升高齡教育之學習成效與社會效益。

關鍵詞：需求幅度理論、樂齡學習、負擔、能量

**Life Loads and Learning Empowerment Among Older Adults in Taiwan: An
Application of McClusky's Margin Theory of Needs**

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Abstract

Promoting senior learning is one of the strategies adopted by countries worldwide to address population aging. This study focuses on the senior learning policy implemented by the Ministry of Education Republic of China (Taiwan), aiming to examine whether older adults' life burdens have been alleviated or altered as a result of empowerment gained through participation in senior learning programs. Grounded in McClusky's Margin Theory of Needs, this study investigates the burdens and needs experienced by older adults in Taiwan across four dimensions—coping needs, expressive needs, contributive needs, and influence needs—as well as the extent of empowerment gained after participating in senior learning. Based on the findings, the study offers recommendations for future curriculum and instructional reform at senior learning centers. A single retrospective survey design was employed to assess differences before and after learning, using an online questionnaire distributed to learners at senior learning centers across Taiwan. A total of 800 valid responses were collected.

Reliability and validity were assessed using Cronbach's α and factor loadings, and multiple regression analysis was conducted to examine the degree of learning empowerment. The results indicate that, prior to participation, older adults experienced the greatest burden in expressive needs, followed by influence needs, contributive needs, and coping needs, respectively. The courses corresponding to higher demand included experiential learning activities, legal knowledge related to aging, home safety, investment and financial management, and influence on family and friends. After participating in senior learning programs, the greatest degree of empowerment was observed in expressive needs, followed by contributive needs, influence needs, and coping needs, respectively. The courses corresponding to the highest degree of learning empowerment included experiential learning activities, health promotion, volunteer service, and social contribution.

The findings suggest that senior learning helps enhance older adults' vitality, reduce life burdens, and promote social participation. It is recommended that future curricula prioritize strengthening courses with high but unmet demand, such as legal knowledge related to aging, investment and financial management, and participation in public affairs, and adopt tiered, digitalized, and experiential instructional designs to enhance the learning outcomes and social benefits of senior learning.

Keyword: margin theory of needs, senior learning, load and power

論文發表 G Paper Session G

數位敘事與成人持續學習 Digital Storytelling and Continuing Adult Learning

主持人：陳冠良助理研究員（國立中正大學高齡教育研究中心）

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G2	五天能改變什麼？短期音樂營隊促進成人持續學習的機制-以爵士基因音樂營為例 What Can Five Days Change? Mechanisms of a Short-Term Music Camp in Fostering Adults' Sustained Learning: A Case Study of the Jazz Gene Music Camp	江翊甄 國立臺灣師範大學研究生

AI 賦能的代間數位敘事課程：促進高齡者數位素養與心理社會福祉之探索性研

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摘要

面對台灣超高齡社會的數位落差，本研究發展整合生成式人工智慧（GenAI）的代間數位敘事課程，探討其對高齡學習者數位素養及心理社會福祉之影響。

研究採單組前後測設計，招募台北地區兩所大學 32 位 60 歲以上高齡學習者，參與為期 8 週、每週 2.5 小時之代間數位敘事課程。課程由大學青年志工以一對多方式協助，教導高齡者使用 Suno、Gemini 及 NotebookLM 等 GenAI 工具完成數位故事創作。教學策略採教師示範後學員自主操作模式，志工僅提供口頭引導協助。課程前後施測數位素養、自我效能、社會支持、主觀活力及自主功能等量表，並以配對樣本 t 檢定及 MANOVA 分析。

根據分析結果，課程介入後，群內 MANOVA 檢定達顯著（Hotelling's $T^2 = 19.92$, $F(6,26) = 2.78$, $p = .032$, $\eta^2 = .391$ ），顯示介入後整體成效改善。單變量分析顯示數位素養顯著提升（前測 $M = 49.88$ ，後測 $M = 56.88$, $t = -3.19$, $p = .003$, Cohen's $d = 0.56$ ）。進一步以基線自我效能中位數分組進行群間比較，發現低自我效能組在主觀活力（ $d = 1.23$, $p = .002$ ）、社會支持（ $d = 0.85$, $p = .023$ ）及自我效能（ $d = 0.94$, $p = .013$ ）之提升均顯著優於高自我效能組。

整體而言，本研究初步顯示 GenAI 融入代間數位敘事課程與 60 歲以上學習者數位素養及部分心理社會指標的正向改變相關。然而，鑑於未設控制組，尚無法排除重複測量、課程參與或青年志工支持等因素的影響。後續研究宜採對照組或隨機分派設計，並使用保留連續變項資訊的分析方法，進一步檢驗課程效果、作用機制及代間互動歷程。

關鍵詞： 代間數位敘事、生成式人工智慧、高齡學習、數位素養、全齡能力發展

AI-Empowered Intergenerational Digital Storytelling: An Exploratory Study on Enhancing Digital Literacy and Psychosocial Well-being Among Older Adults

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Abstract

Against the backdrop of the digital divide in Taiwan's super-aged society, this study developed an intergenerational digital storytelling program integrating generative artificial intelligence (GenAI) and examined its effects on digital literacy and psychosocial well-being among older learners.

A one-group pretest–posttest design was adopted. Thirty-two learners aged 60 years and above were recruited from two universities in Taipei to participate in an eight-week intergenerational digital storytelling program, delivered in weekly 2.5-hour sessions. University student volunteers provided one-to-many assistance, supporting older participants in using GenAI tools—including Suno, Gemini, and NotebookLM—to create digital stories. The instructional approach combined teacher demonstration with participants' independent practice, while volunteers offered verbal guidance only. Digital literacy, self-efficacy, social support, subjective vitality, and autonomous functioning were assessed before and after the program. Paired-sample *t* tests and multivariate analysis of variance (MANOVA) were conducted.

The within-subjects MANOVA revealed a significant multivariate effect following the intervention (Hotelling's $T^2 = 19.92$, $F(6,26) = 2.78$, $p = .032$, $\eta^2 = .391$), indicating overall changes in the outcome measures. Univariate analysis showed a significant improvement in digital literacy (pretest $M = 49.88$, posttest $M = 56.88$, $t = -3.19$, $p = .003$, Cohen's $d = 0.56$). Exploratory comparisons based on a median split of baseline self-efficacy further indicated that the low-self-efficacy group demonstrated significantly greater gains than the high-self-efficacy group in subjective vitality ($d = 1.23$, $p = .002$), social support ($d = 0.85$, $p = .023$), and self-efficacy ($d = 0.94$, $p = .013$).

Overall, the findings provide preliminary evidence that integrating GenAI into intergenerational digital storytelling may be associated with positive changes in digital literacy and selected psychosocial outcomes among learners aged 60 years and above. However, because the study did not include a control group, the observed changes cannot be disentangled from potential effects of repeated measurement, program participation, or support from student volunteers. Future research should employ comparison groups or randomized designs and analytical approaches that retain continuous-variable information to further examine program effects, underlying mechanisms, and intergenerational interaction processes.

Keywords: Intergenerational Digital Storytelling, Generative Artificial Intelligence, Later-life Learning, Digital Literacy, Lifelong Capability Development

五天能改變什麼？短期音樂營隊促進成人持續學習的機制—以爵士基因音樂營為例

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摘要

成年人投入職場後，常因時間與角色責任中斷音樂學習，一放常達十餘年。然而，仍有人願意撥出五天，參與需與陌生人合作演奏、具挑戰的營隊，甚至連續多年重複參加。本研究以自我決定理論為核心，探討此類短期音樂營隊如何支持成人重返音樂學習，並探討其參與歷程中之轉變。本研究採個案研究法，以辦理十一年的爵士樂營隊為場域，研究者兼具參與觀察者身分，針對一位營隊負責人、六位參與 2026 年營隊且重複參加二至七次之四十歲以上學員，進行半結構式深度訪談。

研究發現，營隊並非藉由降低難度吸引成人，而是透過適性分組、彈性選擇學習內容、教師分享挫折真實經驗以及密集練習與演出等設計，同時支持自主、勝任與關係三項心理需求，使不同程度學員能在適切挑戰中累積成功經驗，重建音樂能力感。更關鍵的是，重複參與者呈現明顯轉變：從初期專注個人表現與焦慮不安，逐漸轉向主動規劃學習目標、協助新學員、認識不同樂手，甚至將營隊中建立的關係延伸至場域之外，形成跨地域的自發組團與自主學習。此一由能力重建、自主投入至社群參與的深化歷程，顯示短期密集營隊亦能成為支持成人長期學習的重要場域，其價值有別於常態性課程與樂團。

關鍵詞：自我決定理論、成人音樂學習、持續參與、非正規學習、爵士樂營隊

What Can Five Days Change? Mechanisms of a Short-Term Music Camp in Fostering Adults' Sustained Learning: A Case Study of the Jazz Gene Music Camp

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Abstract

After entering the workforce, adults often discontinue musical learning due to time constraints and role responsibilities, with this hiatus typically lasting for decades. Yet, some are willing to set aside five days to participate in a challenging camp that requires collaborating and performing with strangers, returning year after year. Drawing on Self-Determination Theory, this study investigates how such short-term music camps support adults re-entering music learning and examines the transformations that occur throughout their participation. This study adopts a case study approach, focusing on a jazz camp that has been running for 11 years. Leveraging the researcher's insider perspective as a participant-observer, semi-structured, in-depth interviews were conducted with the camp director and 6 adult learners aged over 40 who participated in the 2026 camp and had repeatedly attended 2 to 7 times.

Findings reveal that the camp attracts adults not by lowering difficulty, but through intentional structural designs such as adaptive grouping, flexible learning content, instructors sharing authentic struggles, and intensive rehearsals and performances. These designs simultaneously support the three basic psychological needs of autonomy, competence, and relatedness, enabling learners of varying levels to accumulate successful experiences within optimal challenges and to rebuild their sense of musical competence. More crucially, repeat participants demonstrate a marked transformation: shifting from an initial focus on personal performance and anxiety toward proactively setting learning goals, assisting newcomers, networking with different musicians, and ultimately extending camp-forged relationships beyond the site itself. This results in members forming cross-regional, self-organized bands and sustaining autonomous learning. Ultimately, this journey from competence to community shows that short-term intensive camps can sustain long-term learning, offering a value distinct from that of regular courses and established community ensembles.

Keywords: Self-Determination Theory, Adult Music Learning, Sustained Participation, Non-formal Learning, Jazz Camp

論文發表 H Paper Session H

地方創生與社區參與 Regional Revitalization and Community Participation

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發表：

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H1	地方創生婦女之幸福感、自我效能與創業意圖研究 A Study on Women's Well-Being, Self-Efficacy and Entrepreneurial Intention in Regional Revitalization	高停雅（通訊作者） 國立雲林科技大學數位媒體設計系地方創生智能設計碩士在職專班 楊晰勛 國立雲林科技大學數位媒體設計系教授
H2	雲嘉地區中年人參與社區服務之實踐歷程研究 A Study on the Practical Process of Community Participation through Volunteer Service among Middle-Aged Adults in Yunlin County and Chiayi County	余金娥（通訊作者） 國立中正大學成人及繼續教育學系碩士研究生 張菀珍 國立中正大學成人及繼續教育學系教授

地方創生婦女之幸福感、自我效能與創業意圖研究

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摘要

本研究旨在探討地方創生政策下，參與培力基地課程婦女之「幸福感」、「自我效能」與「創業意圖」現況關係及其預測情形。本研究採普查法，以中部某縣市婦女培力基地之學員為研究母體，共獲得有效問卷 69 份。

鑑於資料分配顯著偏離常態，本研究採用無母數 Spearman 等級相關分析，並結合自動線性模型與多元線性迴歸進行分析。研究結果顯示學員之幸福感與自我效能普遍維持中高水準，但創業意圖具備高度群體內異質性。相關分析結果證實，幸福感與自我效能皆與創業意圖呈顯著正相關；然而投入使用多元迴歸模型分析後，受兩個自變項（幸福感及自我效能）高度內在共變的稀釋效應影響，個別變項之獨立淨預測力皆未達顯著水準，但模型整體展現出顯著預測力。此一統計結果反映出內在心理資產間的高重疊性，亦暗示單靠心理資本對創業意圖之解釋力有限。據此，本研究建議未來政策與創生基地在穩定心理賦權的同時，可進一步結合外部微型創業試銷通路與減輕婦女家庭照顧之支持機制，以多元管道催化其創業動能。

關鍵字：地方創生、婦女、幸福感、自我效能、創業意圖

A Study on Women's Well-Being, Self-Efficacy and Entrepreneurial Intention in Regional Revitalization

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Abstract

This study examines the relationships among women's well-being, self-efficacy, and entrepreneurial intention, as well as their predictive patterns, within regional revitalization. A census approach yielded 69 valid questionnaires from a women's empowerment base in central Taiwan.

The results indicate that participants generally maintained medium-to-high well-being and self-efficacy, whereas entrepreneurial intention exhibited high intra-group heterogeneity. Non-parametric correlation analysis confirmed that both well-being and self-efficacy significantly correlated with entrepreneurial intention. However, in multivariate regression models, the independent net predictive effects of each variable were non-significant due to high internal covariation, despite the overall model remaining significant. This reflects the high overlap among psychological assets and implies the limited predictive power of psychological capital alone on entrepreneurial intention. Consequently, future policies should sustain psychological empowerment while integrating external trial-marketing channels and care support to catalyze women's entrepreneurial momentum.

Key Words: Regional Revitalization, Women, Well-Being, Self-efficacy, Entrepreneurial Intention

雲嘉地區中年人參與社區服務之實踐歷程研究

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摘要

臺灣於 2025 年正式邁入超高齡社會，人口結構快速變遷已成為國家發展的重要課題，鄉村地區除面臨人口老化加劇外，亦長期受到青壯年人口外流、實際居住人口低於戶籍人口等現象影響，在此發展趨勢下，中高齡者已逐漸成為維繫鄉村社區功能的重要人力基礎，其中尤以中年人累積的專業知能及社會經驗，具備推動社區發展之潛力，同時，隨著健康老化與平均餘命的延長，多數中高齡者仍具有社會參與之能力，而中年階段則為退休前的重要準備期，若能在此階段累積社區參與經驗，可望培養參與公共事務之習慣，並作為未來高齡階段持續投入社會參與之基礎。

基於上述背景，本研究旨在探討雲嘉鄉村地區中年志願工作者社區參與概況、投入動機及因應挑戰的實踐歷程，採用質性研究取向，透過文獻回顧及半結構式訪談蒐集資料，以立意取樣方式選取 11 位於雲林縣及嘉義縣鄉村地區服務時間超過 3 年，年齡介於 39 至 55 歲之中年志願工作者為研究對象，並以主題分析法進行資料編碼分析。

研究結論：（一）受訪者服務場域多非其原生家鄉，顯示社區參與的場域不再侷限於傳統鄰里空間，轉向由共同理念及行動目標的組織網絡所驅動；（二）多數受訪者為首次投入社區型志願服務，投入契機主要來自工作接觸、親友引薦或服務對象邀約，以及個人內在信念的支持；（三）參與動機兼具利他、利己、社會性及情境因素，涵蓋自我實現、學習成長及傳承創新等中年階段常見的發展需求；（四）面對志願服務、家庭及工作之間的衝突時，多透過釐清角色定位、彈性調配時間或工作、安排優先順序等方式因應；（五）親友支持及服務對象的正面回饋為持續投入的重要支持力量，受訪者多認為外界質疑對其影響有限。

綜上所述，本研究發現受訪者社區參與的歷程係由外在契機啟動，透過內在驅力維持，並在自我調適、心理連結與社會互動之交互作用下逐步深化，此外，本研究受訪者之參與場域呈現由地緣性社區逐漸延伸至事緣性社群的趨勢，研究結果可作為地方政府推動超高齡社會中高齡人力資源運用和社區參與政策，以及鄉村社區招募、培育與留任中年志願工作者之參考。

關鍵詞：社區參與、志願服務、成年中期、實踐歷程

A Study on the Practical Process of Community Participation through Volunteer Service among Middle-Aged Adults in Yunlin County and Chiayi County

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Abstract

Taiwan officially entered a super-aged society in 2025, and the rapid transformation of its demographic structure has become a critical issue for national development. In addition to accelerating population aging, rural areas have been affected by the outflow of young and working-age populations, resulting in actual resident populations falling below registered populations. Within this developmental trend, middle-aged and older adults have gradually become a critical human resource foundation for supporting rural community functions. Especially, middle-aged individuals, having accumulated professional ability and social experience over the years, are especially well-positioned as potential drivers of community development. Meanwhile, with healthy aging and prolonged life expectancy, most middle-aged and older adults keep the capacity for social participation. Middle adulthood, as a preparatory stage before retirement, offers a critical opportunity to cultivate habits of civic engagement through community participation, thereby laying the foundation for sustained participation in later life.

Against this backdrop, this study aims to explore the status, initial motivations, and the practical process of overcoming challenges on community participation among middle-aged volunteer workers in rural areas of Yunlin County and Chiayi County. Adopting a qualitative research approach, data were collected through literature review and semi-structured interviews. There are 11 middle-aged volunteer workers, aged between 39 to 55 had served for over three years in rural areas and were selected as research participants of Yunlin County and Chiayi County. Thematic analysis was employed for data coding and interpretation.

The findings reveal: (1)The service sites of most interviewees were not their places of origin or hometown communities indicating that the spaces for community participation are no longer confined to traditional neighborhoods but are instead driven by organizational networks with shared philosophies and action goals; (2)Most interviewees participated in community-based volunteer service for the first time, with their initial engagement primarily triggered by triggered by external opportunities such as work-related contact, referrals from relatives and friends, or invitations from service recipients, as well as supported by personal intrinsic beliefs ; (3)Participation motivations encompassed altruistic, egoistic, social, and situational factors, covering common developmental needs in middle adulthood, such as self-actualization, self-improvement, as well as generativity and innovation; (4)When facing conflicts between volunteer service, family, and work, interviewees mostly coped by clarifying role positioning, flexibly allocating time or work, and prioritizing tasks; (5)Support from family and friends, along with positive feedback from service recipients, served as vital sustaining forces for continuous involvement; most interviewees perceived external skepticism as having limited impact on them.

In summary, this study finds that the practical process of community participation is started by external opportunities, sustained by intrinsic drives, and progressively deepened through the interaction of self-adjustment, psychological connection, and social interaction. Furthermore, participants' involvement patterns reveal a gradual shift from geographic community toward community of interest. These insights provide valuable implications for local governments in using middle-aged human resources within super-aged societies, as well as for rural communities looking to recruit, cultivate, and keep middle-aged volunteer workers.

Keywords: Community Participation; Volunteer Service; Middle Age; Practical Processes

論文發表 I Paper Session I

再就業、照顧勞動與職涯轉銜 Reemployment, Care Work, and Career Transition

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I1	從照顧中斷到友善再就業：中高齡婦女重返勞動市場之障礙與支持策略 From Care-Related Career Interruptions to Age-Friendly Re-employment: Barriers and Support Strategies for Midlife and Older Women	黃冠豪 國立臺北大學公共行政暨政策學系研究生
I2	中高齡者轉入非典型就業推拉機制與心理調適之質性研究 A Qualitative Study on the Push-Pull Mechanism and Psychological Adjustment of Middle-aged and Elderly Workers Transitioning into Atypical Employment	陳志羿 國立臺灣師範大學工業教育學系技職教育數位碩士在職專班研究生
I3	愛／礙的勞動？青年照顧障礙家人的自願邏輯與照顧價值 A Labor of Love? Logic of Voluntariness and Values of Care among Young Adult Caregivers of Disabled Family Members	陳香婷 清華大學社會學研究所碩士

從照顧中斷到友善再就業：中高齡婦女重返勞動市場之障礙與支持策略

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摘要

面對人口高齡化、少子女化與勞動力短缺，中高齡婦女已成為不可忽視的潛在勞動力。然而，許多婦女因婚育、家務及家庭照顧責任中斷職涯，重返勞動市場時又同時面臨年齡、性別、職涯中斷與持續照顧責任所形成的複合型障礙。此一現象顯示，中高齡婦女再就業並非單純的個人就業能力或工作意願問題，而涉及家庭照顧分工、勞動制度及公共支持體系之交互作用。

本研究旨在分析中高齡婦女重返勞動市場之主要障礙，並探討現行就業與照顧支持制度間可能存在的落差。研究採文獻分析法與政策文件分析法，以二度就業婦女、中高齡再就業、家庭照顧、社會支持網絡、彈性工作安排及年齡友善職場等相關文獻與政策資料為分析素材，建構「個人、家庭、職場、制度」四層分析架構，透過主題式歸納與跨層比較，檢視不同因素如何共同影響中高齡婦女之再就業歷程。

綜合分析呈現三項主要發現：第一，再就業障礙具有累積性與交織性，年齡、技能落差、性別角色期待、職涯中斷與照顧責任彼此強化；第二，問題核心並非婦女缺乏工作意願，而是既有工作制度與照顧安排之間存在不相容性，使其難以同時維持勞動者與家庭照顧者角色；第三，親友網絡雖能提供情緒、資訊與臨時照顧支持，卻具有不穩定與不均等性，而就業服務、職業訓練、托育及長期照顧等正式制度又多分屬不同體系，形成支持落差。

據此，本研究提出「照顧支持、能力更新、友善職場」三層策略：強化就業服務與托育、長期照顧及喘息服務的跨體系連結；使職業訓練更貼近實際職缺、數位能力與職涯銜接需求；並由企業推動無年齡歧視招募、彈性工時、分階段復職與職務再設計。本文主張，政策應由「要求個人適應勞動市場」轉向「調整勞動與照顧制度以支持個人」，並由政府、企業、家庭與社會共同分擔照顧責任，以提升中高齡婦女穩定就業及持續參與勞動市場的可能性。

關鍵詞：中高齡婦女、再就業、照顧責任、照顧支持、年齡友善職場

From Care-Related Career Interruptions to Age-Friendly Re-employment: Barriers and Support Strategies for Midlife and Older Women

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Abstract

Population ageing, declining fertility, and labor shortages have made midlife and older women an increasingly important potential source of labor. Yet many women interrupt their careers because of marriage, childrearing, housework, and family caregiving. When returning to the labor market, they may encounter intersecting disadvantages associated with age, gender, career interruption, and continuing care responsibilities. Re-employment therefore cannot be understood simply as a matter of employability or willingness to work, but must be examined in relation to the gendered division of care, employment institutions, and public support systems.

This study examines major barriers to re-employment and the gaps between employment and care-support systems. It employs literature review and policy document analysis, drawing on research and policy materials concerning women's re-employment, employment among middle-aged and older workers, family caregiving, social support networks, flexible work arrangements, and age-friendly workplaces. The materials are organized into four analytical levels—individual, family, workplace, and institution—and examined through thematic categorization and cross-level comparison.

Three findings emerge. First, re-employment barriers are cumulative and intersectional: age, skill gaps, gender-role expectations, career interruption, and caregiving responsibilities reinforce one another. Second, the central issue is not necessarily a lack of willingness to work, but an institutional mismatch between employment arrangements and caregiving demands, making it difficult to sustain the roles of both worker and family caregiver. Third, family and social networks can provide emotional, informational, and temporary care support, but such assistance is unstable and unequally distributed; meanwhile, employment services, vocational training, childcare, and long-term care are often delivered through separate systems, creating a support gap.

Accordingly, this study proposes a three-layer strategy of care support, skills renewal, and age-friendly workplaces. Policy should strengthen coordination among employment services, childcare, long-term care, and respite services; connect training more closely with actual vacancies, digital competencies, and career re-entry needs; and encourage age-neutral recruitment, flexible schedules, phased return-to-work arrangements, and job redesign. The study argues for a shift from requiring individuals to adapt to the labor market toward reshaping employment and care institutions to support workers through shared responsibility among government, employers, families, and society.

Keywords: midlife and older women; re-employment; caregiving responsibilities; care support; age-friendly workplace

中高齡者轉入非典型就業推拉機制與心理調適之質性研究

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摘要

在高齡化與數位平台擴張的雙重趨勢下，中高齡者轉入非典型就業已成為臺灣勞動市場的重要現象。本文以四位 45 至 65 歲中高齡工作者為訪談對象，透過半結構式深度訪談，探討其由全時正職轉向外送、鐘點教學與清潔派案等非典型工作的動機與心理調適歷程。研究發現如下：第一，轉職並非單一「經濟被迫」邏輯，而是結構推力（高壓工時、職場摩擦、疫情衝擊）與生活拉力（時間自主、家庭照顧需求）共同作用；第二，受訪者普遍經歷社會比較壓力與身分落差，但多透過「勞動尊嚴」與「務實收入評估」重建自我價值；第三，體力負荷與保障不足構成中高齡非典型工作者的核心風險，彈性雖帶來短期可調適性，卻難以替代長期制度安全；第四，數位工具適應並非絕對障礙，關鍵在於是否有可近性的學習支持與操作友善環境。本文據此提出政策建議：建置跨平台勞動保障機制、擴充中高齡友善職務再設計至非典型場域、建立分眾化數位培力與轉職支持方案，以回應超高齡社會下中高齡勞動參與的多元需求。

關鍵詞：中高齡者、非典型就業、平台勞動、心理調適、勞動政策

A Qualitative Study on the Push-Pull Mechanism and Psychological Adjustment of Middle-aged and Elderly Workers Transitioning into Atypical Employment

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Abstract

Driven by the dual trends of an aging population and the expansion of digital platforms, the transition of middle-aged and elderly adults into atypical employment has become a significant phenomenon in Taiwan's labor market. Utilizing semi-structured in-depth interviews with four workers aged 45 to 65, this study explores their motivations and psychological adjustment processes as they transition from full-time regular jobs to atypical work, such as food delivery, hourly tutoring, and on-demand cleaning services.

The findings are as follows:

First, career transitions are not driven solely by a logic of "economic coercion" but by a combination of structural push factors (high-pressure working hours, workplace friction, and the impact of the pandemic) and lifestyle pull factors (time autonomy and family care needs).

Second, while interviewees commonly experienced social comparison pressure and identity gaps, most reconstructed their self-worth through "labor dignity" and a "pragmatic assessment of income."

Third, physical toll and inadequate protections constitute the core risks for middle-aged and older atypical workers; although flexibility offers short-term adaptability, it cannot replace long-term institutional security.

Fourth, adaptation to digital tools is not an absolute barrier; the key lies in the availability of accessible learning support and user-friendly environments.

Based on these findings, this paper proposes policy recommendations: establishing cross-platform labor protection mechanisms, expanding middle-aged and elderly-friendly job redesigns to atypical sectors, and building targeted digital empowerment and career transition support programs to address the diverse needs of middle-aged and elderly labor participation in a super-aged society.

Keywords: Middle-aged and Elderly Adults, Atypical Employment, Platform Labor, Psychological Adjustment, Labor Policy

愛／礙的勞動？青年照顧障礙家人的自願邏輯與照顧價值

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摘要

當代台灣面臨超高齡與少子化的人口變遷，身心障礙家庭難以在長照市場取得合適服務，青年亦深陷經濟與照顧安排的雙重不穩定。本研究透過半結構式深度訪談九位報導人，探討青年在此困境中，為何仍以「自願」解讀照顧障礙家人的選擇？青年又如何評價照顧勞動的「價值」？

研究指出，青年照顧障礙家人的勞動涵蓋多層次的情感與情緒，包含肉身共存的身體勞動、壓抑感受的情緒勞動，以及決策治療、媒介資源的認知勞動。在照顧實作中，「情感規則」鞏固了青年的自願邏輯：照顧關係腳本與照顧時間感讓青年在勞動過程中管理自身情緒，進而生成照顧意願，從而陷入主動承按照顧責任的自願邏輯。此外，青年與障礙家人的情感，更是其得以開展出重新理解照顧價值的關鍵原因。

本研究主張，青年的照顧價值是在情感規則、身心勞動與照顧關係中協商實踐而成。本研究的學術貢獻在於確立青年與障礙照顧的研究特徵，並指出此照顧決定並非單純承擔責任或維持承諾的個人選擇，而是在自律市場、責任分配與照顧勞動中權衡利弊後的結果；青年詮釋的照顧價值無法以愛／礙、壓迫／賦權等二元論述概括，而是受到職涯發展、家庭分工與家人情感等複雜因素建構而成，其往往超越了照顧勞動本身帶來的價值。

關鍵字：青年照顧、障礙照顧、情感規則、照顧價值、自願邏輯

A Labor of Love? Logic of Voluntariness and Values of Care among Young Adult Caregivers of Disabled Family Members

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Abstract

As contemporary Taiwan faces a super-aged, low-fertility society, families with disabilities struggle to find appropriate services, leaving young adult caregivers in a double precarity of economic and care instability. Based on in-depth interviews with nine informants, this study examines why young adults frame their caregiving as "voluntary" and how they evaluate the "value" of this labor.

The study reveals that young adult care-giving encompasses physical labor of corporeal co-presence, emotional labor of suppressing feelings, and cognitive labor of decision-making. In practice, "feeling rules" which are shaped by relationship scripts and temporal perceptions, solidify their "logic of voluntariness" by helping them manage emotions, which fosters a willingness to care. Crucially, the emotional bond with disabled family members allows young adults to reconstruct and reinterpret "values of care".

Ultimately, this study argues that values of care are negotiated through feeling rules, physical-emotional labor, and care relationships. It contributes by showing that caregiving is not a simple personal commitment, but a decision made by weighing pros and cons within the context of self-regulated markets, responsibility allocation, and care labor. Furthermore, the values of care interpreted by young adults cannot be simply summarized by binary discourses of love/burden, oppression/empowerment. Rather, it is constructed by complex factors such as career development, family division of labor, and family relationships, often transcending the intrinsic value brought by care labor itself.

Keywords: young adult caregiving, disability care, feeling rules, values of care, logic of voluntariness

論文發表 J Paper Session J

失智參與、健康促進與智慧照顧設計 Dementia Participation, Health Promotion, and Smart Care Design

主持人：施宇澤助理研究員（國立中正大學高齡社會勞動與福祉研究中心）

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理解失智長者的參與：團體活動中的行為與互動特徵

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摘要

隨著高齡社會發展，共創 (co-creation) 已成為高齡議題之重要方法，並廣泛應用於失智症相關產品與服務設計，然既有研究多預設失智者參與能力有限，常以家屬或照護者代理參與，或以評估設計方式間接理解需求。此方法未建立在對失智者實際參與活動特徵的理解之上，因而限制其在共創過程中的真實聲音。

為使失智者於共創中更具表達空間，本研究回到日常照護現場，藉由觀察失智長者自然參與的互動，理解其於實際團體活動中如何表達與同儕互動。進行為期四個月之日間照護中心場域觀察，蒐集失智長者於團體活動反覆出現的行為與三方互動，再以主題式分析辨識、編碼、歸納後，結合治療師、照護人員及失智長者訪談比對和詮釋形成五項主要參與特徵，並討論其對共創參與的意義。

結果顯示部分過往被歸因於認知限制的行為實則深受文化與社會規範影響，並塑造失智長者的表達與參與方式。本研究歸納五項影響參與特徵，包括：依賴情境的被動參與模式、維持關係和諧的互動策略、自我壓抑與代理互動關係、實用與外部評價驅動的參與動機，以及受文化與社會經驗影響的參與傾向。分別展現長者傾向跟隨他人回應、避免公開表達感受和衝突、因顧慮他人而壓抑需求表達、重視活動是否有具體成果可向家人交代以及不喜直接批判等行為模式。

本研究自日常活動揭露失智長者的參與特徵，指出失智者的共創參與不應僅以語言表達或主動發言衡量，而需考量其所處的情境、社會關係與文化脈絡。研究結果可提供未來發展文化敏感與包容性之高齡共創方法與照護科技設計之參考。

關鍵字：失智症、高齡共創、高齡福祉、參與特徵、社會參與

Understanding Participation of People with Dementia: Interaction Patterns in Group Activities

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Abstract

As populations age, co-design has become an important approach for understanding aging-related issues and developing gerontechnologies. However, many studies assume that people with dementia have limited capacity to participate, relying instead on caregivers or assessment-based methods to represent their needs. Such approaches often overlook how people with dementia participate in everyday life, limiting their authentic voice in co-design.

To better understand their participation, this study conducted four months of field observations at a long-term day care center, observing how people with dementia naturally express themselves and interact during group activities. Through thematic analysis supplemented by interviews with therapists, caregivers, and people with dementia, we identified five participation patterns rooted in everyday contexts and examined their implications for co-design.

The findings suggest that behaviors commonly attributed to cognitive decline are also shaped by cultural and social norms. We identified five characteristics influencing co-creation participation, including participation guided by situational cues, a preference for relational harmony, reliance on others to speak on one's behalf, practical motivations, and participation patterns shaped by prior social and cultural experiences. These characteristics were reflected in behaviors such as following others' responses, avoiding direct emotional expression, exercising self-restraint, and reluctance to offer criticism. By revealing how people with dementia participate in everyday settings, this study argues that participation in co-design should not be measured solely by verbal expression or active speaking, but must account for context, social relationships, and cultural background.

These findings offer a foundation for developing more culturally sensitive and inclusive co-design practices, with implications for future dementia-related design methods and care technology development.

Keywords: Dementia; Aging Co-design; Wellbeing in Old Age; Participation Patterns; Social Participation

健康促進服務方案師資體能、身體重心與平衡力之探究

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摘要

隨著高齡健康促進課程普及，專業師資不僅是教學者，更是社區活動品質與安全的示範者。本研究旨在探討方案師資之健康體能、身體重心分布與靜態平衡力之關聯，並結合相位角（Phase Angle, PhA）作為細胞健康指標進行分析。研究對象為 32 位資深指導員（平均年齡 59.66 ± 7.9 歲），採用動態足壓量測儀與多頻生物電阻抗分析儀，評估身體重心分布、重心移動軌跡、體內年齡及 PhA 值等數據。

本研究發現，男性師資在肌肉量與右半身 PhA 值顯著高於女性；體內年齡與 PhA 值呈現顯著負相關，其對細胞健康衰退的指標敏感度高於實際年齡。身體重心分布顯示，輕度重心偏移時 PhA 值最佳，絕對平衡與重度左偏時則呈現顯著下降。此外，左右腳肌肉量差異較大者，其全身 PhA 值較高，推測可能與長期示範教學形成的職業性身體調適機制有關。

本初探研究有三個主要貢獻：1. 體內年齡是比實際年齡更敏銳的細胞健康預警指標；2. 左側偏重具有其雙重意義；3. 局部肌肉不對稱可能與特定活動型態相關。根據上述發現，建議培訓機構將 PhA 值納入師資健康量測項目，設計姿勢覺察和重心調整訓練課程，並建構縱向方案師資資料庫。以提升動勞力的永續性，並強化專業師資在推動高齡社會健康促進中的角色。

關鍵詞：方案師資、相位角、靜態平衡力、重心偏移、高齡健康促進

Health Fitness, Center of Gravity, and Static Balance Among Ageing-Health Promotion Program Instructors

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Abstract

As health promotion courses for older adults expand, professional instructors serve not only as educators but also as demonstrators ensuring community activity quality and safety. This study aimed to investigate the relationships between health-related fitness, body center of gravity (COG) distribution, and static balance among health promotion program instructors, integrating Phase Angle (PhA) as a cellular health indicator. The participants comprised 32 senior instructors (mean age: 59.66 ± 7.9 years). Dynamic foot pressure measurement systems and multi-frequency bioelectrical impedance analyzers were utilized to assess COG trajectory, biological age, and PhA values.

The results demonstrated that male instructors had significantly higher muscle mass and right-sided PhA values than female instructors. Biological age was significantly negatively correlated with PhA, showing greater sensitivity to cellular health decline than chronological age. The distribution of the center of gravity indicates that PhA values are optimal during a mild shift, whereas a significant decrease is observed during absolute balance and severe leftward shift. Furthermore, individuals with a greater muscle mass discrepancy between the left and right legs exhibited higher whole-body PhA values, which may be attributed to occupational physical adaptations resulting from long-term instructional demonstrations.

This preliminary investigation yields three key contributions: (1) biological age may serve as a more sensitive early indicator of cellular health than chronological age; (2) left-sided weight bias carries dual implications for balance and cellular integrity; and (3) localized muscle asymmetry may be linked to specific occupational activity patterns. Based on these findings, training institutions are advised to integrate PhA into instructor health assessments, implement posture awareness and center of gravity training courses, and establish longitudinal instructor health databases. Such measures may enhance workforce sustainability and strengthen the role of instructors in advancing health promotion within aging societies.

Keywords: Program Instructors, Phase Angle, Static Balance, Center-of-Gravity Asymmetry, Ageing Health Promotion(PhA)

**高齡日照中心 AI 體感遊戲服務創新模式：
探討健康老化、失能預防與社會參與之實踐**

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摘要

研究背景

超高齡社會面臨長照需求激增與照顧人力不足之挑戰，日間照顧中心極需導入創新服務。傳統高齡運動受限於趣味性不足與數據追蹤困難，而新興的 AI 科技體感遊戲具備即時回饋、遊戲化互動與健康管理優勢，為日照中心提供「失能預防」與「復能」創新路徑。

研究目的

本研究旨在探討 AI 科技體感遊戲導入日照中心之創新服務模式，評估對高齡者健康老化、失能預防（認知功能與功能性體適能）及促進社會參與、緩解孤獨感之成效，為高齡福祉與科技照護創新提供實證。

研究方法

採準實驗設計，招募日照中心 22 位高齡者，進行三個月 AI 體感遊戲與團體運動介入。以認知功能、功能性體適能與孤獨感量表為評估工具，運用無母數統計分析前後測組內與組間變化。

研究發現

歷經三個月介入，高齡者在認知功能與功能性體適能數據皆呈現顯著進步，證實 AI 體感遊戲能減緩失能。此外，體感遊戲降低高齡者孤獨感，並提升在日照中心的社交互動與參與感。

研究結論

將 AI 體感遊戲融入日照中心課程，是一項具健康支持與預防失能的創新服務，能透過科技互動重塑高齡者社會連結，體現「活躍老化」精神，作為智慧長照與福祉政策推動之範例。

關鍵詞：AI 科技體感遊戲、日照中心、服務創新、失能預防、社會參與

Innovative AI Exergame Service Models in Senior Daycare Centers: A Study on Healthy Aging, Disability Prevention, and Social Participation

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Abstract

Background

As super-aged societies face the dual challenges of surging long-term care demands and caregiver shortages, senior daycare centers urgently need to introduce innovative services. Traditional senior exercise programs are often limited by a lack of engagement and difficulties in data tracking. In contrast, emerging AI-powered exergames offer advantages such as real-time feedback, gamified interaction, and health management, providing an innovative path for disability prevention and rehabilitation in daycare centers.

Purpose

This study aims to explore the innovative service model of integrating AI exergames into senior daycare centers. It evaluates their effectiveness on healthy aging, disability prevention (specifically cognitive function and functional fitness), social participation enhancement, and loneliness alleviation among older adults, thereby providing empirical evidence for innovations in elderly welfare and tech-driven care.

Methods

Employing a quasi-experimental design, this study recruited 22 older adults from a daycare center to participate in a three-month intervention combining AI exergames and group exercises. Cognitive function, functional fitness tests, and loneliness scales were used as evaluation tools. Non-parametric statistical analyses were applied to evaluate intra-group and inter-group variations between pre- and post-tests.

Findings

Following the three-month intervention, the older adults demonstrated significant improvements in both cognitive function and functional fitness metrics, confirming that AI exergames can effectively mitigate disability. Furthermore, the exergames reduced loneliness and enhanced social interactions and a sense of participation within the daycare center.

Conclusion

Integrating AI exergames into daycare center curricula constitutes an innovative service that delivers health support and disability prevention. By reshaping the social connections of older adults through technological interaction, this model embodies the core spirit of active aging and serves as an innovative exemplar for the advancement of smart long-term care and elderly welfare policies.

Keywords: AI Exergames, Senior Daycare Centers, Service Innovation, Disability Prevention, Social Participation

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8	針對老年人肌少症，結合物理儀器治療和運動治療的最佳方案： 一項隨機對照試驗的網絡薈萃分析 The optimal regimen combining physical modality and exercise therapy for sarcopenia in elder adults: a network meta-analysis of randomized controlled trials	廖峻德（通訊作者） 臺北醫學大學護理學院國際高齡健康暨長期照護博士學位學程 副教授/臺北醫學大學雙和醫院復健醫學部物理治療師 林哲立 臺北醫學大學雙和醫院骨科醫學部主治醫師 黃士瑋 臺北醫學大學萬芳醫院復健醫學部主治醫師
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11	從男性氣質觀點探討老年男性參與社區中心活動的障礙：一項質性研究 Exploring Barriers to Older Men’s Engagement in Community Centres Through a Masculinity Lens: A Qualitative Study	鄒文睿 香港都會大學四年級生
12	以 LINE 為載體之高齡者 AI 輔助防詐工具設計 Designing a LINE-Based AI-Assisted Anti-Fraud Tool for Older Adults	張紋綺（通訊作者） 屏東大學研究生 楊吉豐 屏東大學研究生 陳怡穆 屏東大學行銷與流通管理學系副教授

海報發表 Poster Session

編號	題目	發表人
13	考量老人與小孩身體需求之飲料軟體介面設計 Design the Elder-Child-Aware User-Interface for Beverage	黃信雄 龍華科技大學電子工程系副教授兼系主任 呂紀臻（通訊作者） 龍華科技大學電子工程系學生
14	實作一個考量老人運動習慣之提醒軟體介面設計 Design Software User-Interface for Office Workers with their Regular Schedule	黃信雄 龍華科技大學電子工程系副教授兼系主任 倪郡嶸（通訊作者） 龍華科技大學電子工程系學生
15	高齡者遊戲化多感官視聽之定向運動訓練輔具設計 Design of a Gamified Multisensory Audiovisual Assistive Training Device for Directional Movement in Older Adults	李育璋（通訊作者） 大同大學機械與材料工程學系研究生 賴躍仁 大同大學機械與材料工程學系助理教授
16	生成式 AI 輔助之中高齡數位視覺實踐：以地方文化貼圖設計為個案研究 Generative AI-Assisted Digital Visual Practices among Older Adults: A Case Study of Local Cultural Sticker Design	林孟儀 國立彰化師範大學教育研究所博士生

從 SECI 知識螺旋轉換理論談：成人學習者的學習促進策略

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摘要

高齡社會下終身學習與中高齡人才培力日益重要，但成人學習者(尤其是高齡學習者)普遍面臨工作繁忙、學習時間有限的困境，如何在有限時間內建立有效率的知識管理與學習策略，是成人教育場域亟待解決的課題。SECI 知識螺旋轉換理論說明內隱知識與外顯知識間的動態轉換過程，過去多用於企業知識管理及一般教育場域，較少從中高齡學習者的角度探討其應用可能性。本文旨在整合 SECI 理論與成人教育相關文獻，提出適合成人(含中高齡)學習者之學習促進策略。

本文採文獻回顧與理論建構取向，整合 SECI 知識螺旋理論相關實證研究(企業知識管理及教育應用案例)、諾爾斯成人教育學六個假設，以及成人學習型模相關文獻，進行概念整合。

研究者提出「4-do」學習策略——參與(do participate)、記錄(do record)、整合(do integrate)、實踐(do practice),分別對應 SECI 社會化、外顯化、合併化、內隱化四階段，協助學習者在有限時間內完成知識的螺旋式累積與內化，並與六種成人學習型模(自導、經驗、生涯、合作、高峰、轉化學習)相互呼應。

「4-do」策略提供一套簡明、可操作的知識管理架構，有助於提升成人(含中高齡)學習者之學習效率與學習遷移能力，可作為未來高齡學習方案設計與實證研究之參考基礎。

關鍵詞：SECI 知識螺旋理論、成人學習、學習策略、中高齡學習

A SECI Knowledge Spiral Perspective on Learning Strategies for Adult and Older Learners

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Abstract

As lifelong learning and mid-to-older-age talent development grow increasingly important in an aging society, adult learners—particularly older learners—commonly face limited time for learning due to work demands. Building an efficient knowledge-management and learning strategy within this constraint remains an unresolved challenge in adult education. The SECI knowledge spiral theory describes the dynamic conversion between tacit and explicit knowledge; it has mainly been applied in corporate and general educational settings, with limited discussion of its application to older learners. This paper integrates SECI theory with adult education literature to propose a learning-facilitation strategy for adult learners, including older adults.

This is a literature-based conceptual paper. It integrates empirical research on the SECI knowledge spiral (in corporate knowledge management and educational applications), Knowles' six assumptions of andragogy, and literature on adult learning modes to construct an integrated conceptual framework.

The paper proposes a "4-do" learning strategy—do participate, do record, do integrate, and do practice—corresponding to SECI's four stages of socialization, externalization, combination, and internalization. This strategy helps learners achieve spiral accumulation and internalization of knowledge within limited time, and aligns with six adult learning modes (self-directed, experiential, career, collaborative, peak, and transformative learning).

The "4-do" strategy offers a concise, actionable knowledge-management framework that may improve learning efficiency and transfer for adult learners, including older learners, and can serve as a reference for future program design and empirical research on older-adult learning.

Keywords: SECI Knowledge Spiral Theory, Adult Learning, Learning Strategy, Older Learners

**年齡友善職場與偏鄉醫療機構中高齡員工職涯延續經驗之探討：
以臺東地區為例**

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摘要

隨著高齡化趨勢加劇與醫療服務需求持續增加，偏鄉醫療機構面臨人力短缺、人才留任及中高齡人力運用等多重挑戰。相較於都市地區，偏鄉醫療機構在人力資源、工作條件與組織支持等方面具有較為特殊的情境，中高齡員工是否能持續留任，不僅受到薪資與工作負荷等正式制度因素影響，亦與主管支持、同儕互動、家庭關係及地方社會網絡等非正式支持密切相關。因此，如何透過年齡友善職場措施，協助中高齡員工延續職涯，並回應偏鄉醫療人力穩定與永續發展需求，值得進一步探討。

本研究採質性研究取向，以臺東地區偏鄉醫療機構之中高齡員工為研究對象，針對 8 位 45 歲以上之中高齡員工進行半結構式深度訪談，蒐集其工作經驗、職場支持及職涯延續相關經驗，並透過主題分析法進行資料整理與歸納。研究主要從正式年齡友善措施、非正式職場支持、中高齡員工工作經驗，以及個人與地方情境等面向進行分析，以理解影響中高齡員工職涯延續之相關因素。

研究結果發現：一、正式年齡友善職場措施是影響中高齡員工工作經驗的重要基礎，其中彈性排班、工作負荷調整、工作內容安排及工作環境等措施，有助於降低中高齡員工因體力與工作需求變化所產生的壓力，提升其工作適應性。二、非正式支持在職涯延續過程中具有重要作用，主管支持、同儕互動、家庭支持及人際關係等，能形成日常工作的情感與心理支持，使中高齡員工感受到組織與人際網絡的接納，進而增強工作穩定性。三、中高齡員工的個人工作經驗會影響其職涯延續選擇，包含工作經驗、工作認同、自我效能及工作滿意度等，長期累積的專業能力與工作價值感，有助於形成持續工作的意願。四、地方情境與社會網絡亦是偏鄉醫療機構中高齡員工職涯延續的重要因素，地方人際關係、社區互動及對在地生活的認同，使工作不僅是個人就業選擇，也與地方生活、社會連結及歸屬感相互交織。

關鍵詞：年齡友善職場、中高齡員工、職涯延續、偏鄉醫療機構

Workplaces and Career Continuity Experiences among Middle-Aged and Older Employees in Rural Healthcare Institutions: A Case of Taitung

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Abstract

With population aging and increasing healthcare demands, rural healthcare institutions face challenges related to workforce shortages, employee retention, and the utilization of middle-aged and older workers. Career continuity among these employees is influenced not only by formal workplace factors, such as workload and work arrangements, but also by supervisory support, coworker relationships, family support, and local social networks.

This qualitative study examined eight employees aged 45 and above working in rural healthcare institutions in Taitung, Taiwan. Semi-structured in-depth interviews were conducted, and the data were analyzed using thematic analysis. The study focused on four dimensions: formal age-friendly workplace practices, informal workplace support, work experiences, and individual and local contextual factors.

The findings indicate that flexible scheduling, workload adjustments, and supportive work environments enhance work adaptability among middle-aged and older employees. Supervisory, coworker, and family support further strengthen their sense of acceptance and work stability. In addition, work experience, job identification, self-efficacy, job satisfaction, local social networks, and attachment to local life influence their willingness to continue working. Overall, career continuity among middle-aged and older employees results from the interaction of workplace practices, interpersonal support, individual experiences, and local contexts. Age-friendly workplace strategies should therefore integrate organizational support with local connections to promote workforce stability and sustainable rural healthcare development.

Keywords: Age-Friendly Workplace; Middle-Aged and Older Employees; Career Continuation; Rural Healthcare Institutions.

建構年齡友善職場以促進中高齡醫院員工穩定就業之實務分析

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摘要

研究或方案背景與目的

隨著高齡化社會發展與勞動人口結構改變，醫院中高齡員工比例逐漸增加。中高齡員工具備豐富經驗與專業熟練度，為醫院穩定運作之重要人力資產，惟亦面臨體能負荷、工作壓力、健康維持及職場適應等挑戰。為提升留任意願與工作穩定性，醫療機構有必要透過年齡友善職場措施加以支持。本研究旨在探討本院推動年齡友善職場措施之內容，並分析其對中高齡員工穩定就業、組織支持及人力運用之實務成效。

方法或資料來源

本研究採文件分析與實務盤點方式，彙整本院近三年（112-114 年）相關措施與制度，包括健康促進活動、員工關懷機制、友善職場措施、彈性工作安排、工作調整及教育訓練等，並依執行紀錄、參與情形、行政成果及相關管理資料進行分析。

結論

結果顯示，本院透過年齡友善職場措施，逐步強化中高齡員工之工作支持與留任穩定性。在健康支持方面，可提升健康意識與自我照護能力；在工作支持方面，可降低職場不適應與負荷感；在人力發展方面，可維持專業參與度與組織連結。整體而言，相關措施有助於提升工作滿意度、組織支持感與穩定就業意願，並支持醫院人力資源之穩定運作。

關鍵詞：高齡社會的勞動

A Practical Analysis of Building an Age-Friendly Workplace to Promote Stable Employment of Middle-Aged and Older Hospital Employees

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Abstract

Background and Purpose

With the development of an aging society and changes in the structure of the labor force, the proportion of middle-aged and older employees in hospitals has gradually increased. Middle-aged and older employees possess extensive experience and professional proficiency, making them important human resources for the stable operation of hospitals. However, they also face challenges related to physical workload, job stress, health maintenance, and workplace adaptation. To enhance retention intention and job stability, it is necessary for medical institutions to provide support through age-friendly workplace measures. This study aimed to examine the content of the age-friendly workplace measures implemented in our hospital and to analyze their practical effectiveness in supporting stable employment, organizational support, and workforce utilization among middle-aged and older employees.

Methods / Data Sources

This study adopted document analysis and practical inventory methods to review the relevant measures and systems implemented by our hospital over the past three years (2023–2025). These included health promotion activities, employee care mechanisms, age-friendly workplace measures, flexible work arrangements, job adjustment, and education and training. The analysis was conducted based on implementation records, participation status, administrative outcomes, and related management data.

Conclusion

The results showed that, through age-friendly workplace measures, our hospital has gradually strengthened work support and employment stability for middle-aged and older employees. In terms of health support, these measures enhanced health awareness and self-care ability. In terms of work support, they reduced workplace maladaptation and perceived workload. In terms of workforce development, they helped sustain professional engagement and organizational connectedness. Overall, these measures contributed to improving job satisfaction, perceived organizational support, and willingness to remain employed, while also supporting the stable operation of the hospital's human resources.

Keywords: aging workforce; age-friendly workplace; middle-aged and older worker

醫院中高齡員工退休準備與職涯轉銜支持措施之成效分析

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摘要

研究或方案背景與目的

隨著醫院資深員工逐步邁入退休階段，如何協助中高齡員工進行退休準備、職涯轉銜與經驗延續，已成為人力資源管理的重要課題。本研究旨在探討本院推動中高齡員工退休準備與職涯轉銜支持措施之內容，並分析其對員工轉銜準備、組織支持及經驗傳承之實務成效。

方法或資料來源

本研究採文件分析與實務盤點方式，整理本院近三年（112-114 年）推動之相關措施，包括退休準備課程、生涯規劃講座、心理與生活調適支持、第二職涯資訊提供、退休後再運用機制及經驗傳承安排等，並依執行紀錄、參與情形、回饋意見及行政成果進行分析。

結論

結果顯示，透過退休準備與職涯轉銜支持措施，本院逐步建立中高齡員工由在職走向退休之支持架構。在個人層面，可增進員工對退休生活及第二職涯之認識與準備；在組織層面，可提升員工對制度之理解與參與度；在經驗延續層面，則有助於知識交接與降低關鍵經驗流失風險。

退休準備與職涯轉銜支持措施可作為醫院因應高齡勞動趨勢與熟齡人才管理之重要策略，有助於促進員工順利轉換職涯角色，並支持醫院人力銜接與永續發展。

關鍵詞：退休準備與職涯轉銜

Effectiveness of Retirement Preparation and Career Transition Support Measures for Middle-Aged and Older Hospital Employees

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Abstract

Background and Purpose

As senior hospital employees gradually enter the retirement stage, how to support middle-aged and older employees in retirement preparation, career transition, and the continuation of professional experience has become an important issue in human resource management. This study aimed to examine the content of the retirement preparation and career transition support measures implemented in our hospital and to analyze their practical effectiveness in enhancing employees' transition readiness, perceived organizational support, and experience transfer.

Methods / Data Sources

This study adopted document analysis and practical inventory methods to review the relevant measures implemented by our hospital over the past three years (2023-2025). These measures included retirement preparation courses, career planning seminars, psychological and life adjustment support, provision of second-career information, post-retirement reemployment mechanisms, and arrangements for experience transfer. The analysis was based on implementation records, participation status, feedback, and administrative outcomes.

Conclusion

The results showed that, through retirement preparation and career transition support measures, our hospital has gradually established a support framework to assist middle-aged and older employees in transitioning from employment to retirement. At the individual level, these measures enhanced employees' understanding of and preparedness for retirement life and second careers. At the organizational level, they improved employees' understanding of and engagement with institutional systems. In terms of experience continuity, they helped facilitate knowledge transfer and reduce the risk of losing critical experience. Retirement preparation and career transition support measures may serve as an important strategy for hospitals in responding to workforce aging trends and managing mature talent. These measures help employees smoothly transition into new career roles while also supporting workforce continuity and the hospital's sustainable development.

Keywords: retirement preparation; career transition

基於 RFID 與智慧穿戴裝置之弱勢族群外出安全輔助系統設計

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摘要

本研究針對視障者、聽障者、高齡者、行動不便者、認知障礙者及學童等族群，於外出過程中所面臨之定位困難、路口通行風險、資訊取得不足及走失等問題，建構整合式智慧輔助機制，以提升其外出安全性與自主性。

本系統整合智慧穿戴裝置、RFID 導盲磚、路口中控系統及遠端監測平台。使用者配戴具備 RFID、Wi-Fi、語音播報、震動提示與按鈕控制功能之穿戴裝置，當經過導盲磚時，系統可即時辨識所在位置並建立連線，主動提供地標、店家及路況等環境資訊。當使用者接近路口時，可透過按鈕發送過馬路請求，系統於固定等待時間後切換行人號誌，並同步以語音與震動提示使用者開始通行。

與傳統固定秒數號誌不同，本研究利用 RFID 節點持續監測使用者通行狀態，若於預設綠燈時間內尚未抵達對向人行道，系統將自動啟動一次綠燈延長機制，以降低高齡者及行動不便者滯留車道之風險。此外，本系統設計多模態回饋機制，可依不同使用者需求提供語音或震動提示；並透過移動路徑記錄、安全範圍監測及異常事件判斷，於偏離活動範圍、長時間停留或疑似無法完成通行時，即時通知家屬並提供位置資訊。

本研究透過整合定位辨識、智慧路口控制、多模態回饋及遠端安全監測等功能，使交通環境能主動回應不同弱勢族群需求。預期可有效降低路口事故與走失風險，提升弱勢族群獨立外出能力與安全感，同時減輕家屬照護負擔，進一步提升公共空間之友善性與整體交通安全品質。

關鍵詞：RFID、智慧路口、弱勢族群、智慧穿戴裝置、物聯網

Design of an RFID- and Smart Wearable Device-Based Safety Assistance System for Vulnerable Populations During Outings

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Abstract

With the advent of an aging society and the increasing mobility needs of vulnerable populations, enhancing travel safety and independence in public spaces has become a critical issue in smart city development. Vulnerable groups, including visually impaired individuals, hearing-impaired individuals, older adults, people with mobility limitations, individuals with cognitive impairments, and schoolchildren, often face higher risks in traffic environments due to limited perception, slower reaction times, or reduced decision-making abilities. Existing assistive facilities are typically designed for single purposes and lack integration and real-time interaction capabilities.

This study proposes the "Design of an Outdoor Safety Assistance System for Vulnerable Populations Based on RFID and Wearable Devices," which integrates wearable devices, RFID-enabled tactile paving, Wi-Fi communication, and intelligent intersection control mechanisms to establish a comprehensive assistive system. The proposed system provides location identification, smart pedestrian crossing assistance, multimodal feedback, and safety monitoring functions. RFID nodes are used to determine users' positions, while real-time communication between wearable devices and intersection control units enables pedestrian crossing requests, adaptive green-light extensions, voice and vibration feedback, route recording, and geofencing-based monitoring.

The core concept of this study is to transform conventional fixed-time traffic infrastructures into responsive systems through bidirectional integration between public facilities and personal wearable devices. The modular architecture aims to improve travel safety, enhance environmental awareness, reduce the risks of getting lost and traffic accidents, and increase caregiving efficiency for family members and caregivers.

In conclusion, the proposed system demonstrates practical feasibility using existing technologies and exhibits considerable potential for future applications in intelligent transportation, accessible environments, and smart caregiving services, contributing to the development of more inclusive and user-friendly public spaces.

Keywords: RFID, Intelligent Intersection, Vulnerable Populations, Wearable Devices, Internet of Things

多位訪員關懷社區老人之路徑規劃

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蘇聖煌 龍華科技大學助理教授

摘要

因為我們社會的社區老人越來越多，需要福利單位有配置家訪員拜訪和了解老人的情況。傳統方法是一位家訪員拜訪全部社區的老人，但這樣往往有很多時間的消耗和老人剛好外出無法拜訪的缺點。傳統的路徑規劃大多針對一位旅行者進行拜訪全部節點，最小化總長度的研究[1]。

本論文研究如何有效率地拜訪社區老人，每位家訪員到社區老師每一戶拜訪時間假設是固定，論文也假設所有社區老人都在家中等待拜訪；且研究有多位家訪員如何配置可以最有效率縮短家訪時間。針對一個路徑規劃題目：有多位家訪員、需要關懷的社區老人所在的受訪家庭，探討拜訪每個社區老人在兩位訪員人力分配之合適規劃。本計畫特點：第一個規劃單個拜訪員的拜訪全部待訪員之路徑規劃、第二個探討規劃多個拜訪員的拜訪全部社區老人之路徑規劃。最佳化目標是最小化拜訪全部受訪家庭總時間，包含路徑長度時間和每個社區老人家訪的時間，透過不同權重比例，發現我們多位訪員，可以減少拜訪的總時間。實驗結果顯示：本論文所提方法可以很快速規劃出訪員拜訪的路徑，再針對兩位訪員情況並且不會重複拜訪受訪家庭，可以有效的完成拜訪家庭參訪。本論文未來可以擴充為探討處理三位以上訪員之情況，並持續關注考量社區老人不在家裡的處理情況。

關鍵詞：路徑規劃、長壽社會、社區老人、多位家訪員

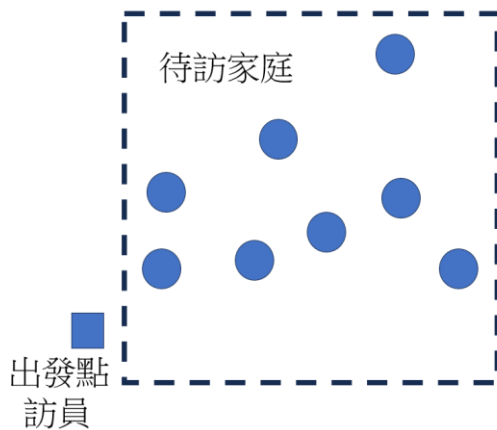


圖 1 動機和說明問題的定義

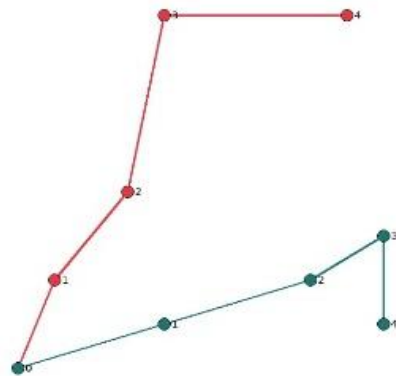


圖 2 兩訪員到社區老人的路徑規劃

Path-Finding Algorithm for two Home Visitor to all Community Elders

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Abstract

There are more and more elder people in our society and government home visitors need to visit the community elder. The traditional method usually assigns the one visitor to visit all community elder. Therefore, the home visitors usually can not find the home elders because they may go out to do something. Some approach explores the research for one visitor to all people and minimize the total length or other objective goals.

In this paper, we explore the problem which one or more home visitors to visitor all community elder to minimize the total time. We assume that the timing for each community elder by one home visitor is fixed. Each community elder is always at home until the visitor comes to visit. The algorithm uses the concept to guide the first home visitor to the unvisited community elders. Then the second home visitor is also to visit the unvisited community elders. For each community elder, the home visitor usually spends about half an hour to discuss with the community elders. The objective of this work is to minimize the total time, including the timing from the source point to target point and the visiting timing of the home visitors discussing with the community elders. The contributions are as follows. First, we implement the algorithm, which community elders are visited by one home visitor. Second, we furthermore design the algorithm, which community elders are visited by two home visitors. Experimental results show that our approach can minimize the total visitor timing, such as the length time and the home discussion time, by two visitors to all community elders. The algorithm is efficient to find the routing paths for two visitors to their corresponding routing path from the starting point to the targets (i.e. community elders). Future work of the paper is to handle the number of visitor over two visitors.

Keywords: Path finding algorithm, Longevity society, Community elder, Home visitors

**從孤立到連結：
以系統動力學建構高齡長者介入恐怖情人關係之機制**

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摘要

「恐怖情人」現象已成為台灣社會不容忽視之親密關係暴力問題。2015 年《家庭暴力防治法》增訂第 63-1 條，將未同居親密伴侶納入保護範圍（全國法規資料庫，2015）。然而，現有防治策略多聚焦於法律制裁與被害人保護，對於關係系統中「第三方介入者」之角色與功能，仍缺乏系統性理論建構。本研究以系統動力學（System Dynamics）為方法論基礎，將恐怖情人關係視為「控制—孤立—依附」三重增強迴路相互強化之動態系統，並提出高齡長者作為感情第三方關係連結者之分析架構。高齡長者具文化資本（輩分權威）、時間資本（退休餘裕）與情感資本（跨代際無條件接納）之三重優勢，可分別透過橫向連結（重建社會網絡）、縱向連結（提供替代性依附）、內向連結（恢復自主判斷）三項功能模組，瓦解恐怖情人關係之自我強化機制，促成系統從「控制—依附」平衡態轉移至「自主—安全」新平衡態。

關鍵詞：恐怖情人、高齡長者、第三方關係連結者、社會支持網絡、親密關係暴力

From Isolation to Connection: System Dynamics Modeling of Elderly Intervention in “Abusive Lover” Relationships

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Abstract

The phenomenon of coercively controlling intimate partners—colloquially referred to as "abusive lovers" in Taiwan—has emerged as a critical issue of intimate partner violence (IPV) that warrants significant societal attention. Although the 2015 amendment to Article 63-1 of the Domestic Violence Prevention Act extended legal protections to non-cohabiting intimate partners (National Regulations Database, 2015), current prevention and intervention strategies predominantly emphasize legal sanctions and victim protection. Consequently, there remains a distinct lack of systematic theoretical constructs regarding the role and function of "third-party interveners" within the relational system. Grounded in System Dynamics methodology, the current study conceptualizes the coercively controlling IPV dynamic as a complex system perpetuated by the triple reinforcing loops of "control, isolation, and attachment." Furthermore, we propose an analytical framework positioning older adults as third-party relational connectors. Possessing the tri-fold advantages of cultural capital (generational authority), time capital (retirement availability), and emotional capital (unconditional intergenerational acceptance), older adults are uniquely positioned to dismantle the self-reinforcing mechanisms of coercive relationships. This disruption is operationalized through three functional modules: horizontal connection (rebuilding social networks), vertical connection (providing alternative attachment), and inward connection (restoring autonomous judgment). Ultimately, this intervention catalyzes a systemic shift, transitioning the relational dynamics from a maladaptive "control-attachment" equilibrium to a novel "autonomy-safety" equilibrium.

Keywords: Intimate Partner Violence, "Abusive Lover", Elderly Individuals, Third-Party Relationship Connectors, Social Support Networks

**針對老年人肌少症，結合物理儀器治療和運動治療的最佳方案：
一項隨機對照試驗的網絡薈萃分析**

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林哲立 臺北醫學大學雙和醫院骨科醫學部 主治醫師
黃士瑋 臺北醫學大學萬芳醫院復健醫學部 主治醫師

摘要

研究背景與動機

老年人面臨較高的肌少症風險，肌少症會對老年人的肌肉量、肌力和活動能力造成不利影響。多種物理儀器療法，例如全身振動和神經肌肉電刺激，已被證實能夠強化運動訓練對肌少症指標的療效。然而，在不同類型物理儀器治療和運動模式（例如阻力訓練、有氧訓練、複合運動）的結合方案中，尚未確定最佳治療方案用以增加肌肉量、增強力量和恢復功能。

研究目的

本研究旨在：1.比較結合各種物理治療和運動療法的複合方案之效果；2.確定肌少症指標的最佳治療方案；3.確定調節治療效果的潛在因子。

研究方法

我們有系統地檢索了電子資料庫，檢索範圍從建庫至 2024 年 7 月。納入的研究包括觀察物理治療合併運動訓練對肌少症療效之隨機對照試驗。採用 frequentist 網絡薈萃分析對納入的試驗進行分析。我們估算了肌肉量、腿部力量和簡易體能評估量表 (SPPB) 的標準均數差 (standard mean difference, SMD) 及其 95% 信賴區間 (confidence interval, CI)。此外，我們也進行了統合迴歸分析，以探討治療效果的潛在調節因子，結果以 β 值及其 95% 可信區間 (credible interval, CrI) 表示。

研究結果

最終納入了 23 篇隨機對照試驗（共 421 位患者）進行分析，並且確定 12 種治療方案，其中，神經肌肉電刺激聯合阻力訓練在增加肌肉量 (SMD=0.84; 95% CI: 0.42, 1.26)、抬腿力量 (SMD=1.21; 95% CI: 0.74, 1.68) 和 SPPB 量表 (SMD=0.92; 95% CI: 0.63, 1.21) 方面效果最佳。此外，參與者的年齡和訓練量分別是影響肌肉量 ($\beta=-1.76$; 95% CrI: -2.48, -0.91) 和抬腿力量 ($\beta=0.76$; 95% CrI: 0.24, 1.75) 治療效果的顯著調節因子。

研究結論

本研究結果表明，神經肌肉電刺激能夠為進行阻力訓練的老年人提供最佳的身體活動能力，以對抗肌少症。然而，其治療效果可能會受到患者年齡和訓練量的影響。

關鍵詞：肌少症、身體活動能力、運動訓練、肌肉量

The optimal regimen combining physical modality and exercise therapy for sarcopenia in elder adults: a network meta-analysis of randomized controlled trials

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Abstract

Background

Elder people face high risks of sarcopenia which exerts harmful impacts on muscle mass, strength, and physical mobility in elderly. Numerous physical modalities, such as whole body vibration and neuromuscular electrical stimulation (NMES), have been demonstrated to augment efficacy of exercise training on sarcopenic indices. The optimal treatments for muscle mass gain, strength gain, and function recovery have not yet been identified among the regimens combining different type of physical agent and exercise mode (such as resistance training, aerobic training, multicomponent exercise).

Objective

This study aimed to (1) compare the effects among different regimens combining variety of physical modalities and exercise therapies; (2) identify the optimal treatment option for sarcopenic indices; and (3) identify potential factors moderating the treatment effects.

Methods

The electronic databases were systematically searched from inception until July 2024. Randomized controlled trials that reported the effects of physical modality plus exercise for older people were identified. The included trials were analyzed through a frequentist network meta-analysis. Standard mean difference (SMD) with 95% confidence interval (CI) was estimated for muscle mass, leg strength, and short physical performance battery (SPPB). Meta-regression analyses were performed to explore any potential moderators of the treatment efficacy and results were expressed as β with 95% credible interval (CrI).

Results

We included 23 trials (421 patients) for analyses. Among the 12 identified treatment options, NMES plus resistance exercise yielded the highest probability in increasing muscle mass (SMD = 0.84; 95% CI: 0.42, 1.26), leg strength (SMD = 1.21; 95% CI: 0.74, 1.68), and SPPB function score (SMD = 0.92; 95% CI: 0.63, 1.21). In addition, Participant's age and training volume were significant factors moderating the treatment efficacy on muscle mass ($\beta = -1.76$; 95% CrI: $-2.48, -0.91$) and leg strength ($\beta = 0.76$; 95% CrI: 0.24, 1.75), respectively.

Conclusions

Our findings suggest NMES yields the optimal physical mobility to counter sarcopenia in older individuals undergoing resistance training. However, the treatment efficacy appears to be moderated by patient's age and training volume.

Keywords: sarcopenia, physical modality, exercise, muscle mass

從正念的觀點提升高齡者生活品質之探討

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摘要

台灣正邁入超高齡社會，高齡者生活品質隨年齡增長而下降的現象值得重視。正念(mindfulness)近年來被大量實證研究證實對紓緩壓力、改善情緒與提升身心健康具正向效果，但多數研究聚焦一般成人族群，較少針對高齡者提出具體可行的正念練習策略。本文旨在探討正念的意涵、測量方法與相關實證研究，並依高齡者身心特質提出適合的正念練習模式。

本文採文獻回顧與理論建構取向，整合正念相關實證研究(涵蓋生理、神經科學與心理層面)及高齡者生活品質相關文獻(如 Van Leeuwen 等學者所提出之九大面向架構)，進行概念整合與策略建構。

研究者提出「face-now(接受當下)」正念練習策略，分為感受、覺察、轉換、進化四階段，強調每次練習不超過3分鐘，以降低高齡者練習門檻，並對應高齡者生活品質九面向，初步推論此策略可能有助於改善健康感知、角色活動、關係、態度與適應、情緒安慰及靈性等面向。

正念作為低成本、易融入日常生活的介入方式，對提升高齡者生活品質具潛在應用價值。「face-now」策略可作為未來實證研究與方案設計之理論參考，其實際成效仍待後續實證資料驗證。

關鍵詞：正念、高齡者、生活品質、因應策略

Improving Quality of Life in Older Adults from the Perspective of Mindfulness

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Abstract

As Taiwan moves toward becoming a super-aged society, the decline in older adults' quality of life with age is an urgent concern. Mindfulness has been shown through extensive empirical research to relieve stress and improve emotional and physical well-being, yet most studies focus on general adult populations, with few offering concrete mindfulness strategies tailored to older adults. This paper examines the meaning of mindfulness, its measurement methods, and related empirical research, and proposes a mindfulness practice model suited to the physical and psychological characteristics of older adults.

This is a literature-based conceptual paper. It integrates empirical mindfulness research across physiological, neuroscientific, and psychological dimensions with literature on older adults' quality of life, including the nine-domain framework proposed by Van Leeuwen and colleagues, to construct an integrated conceptual strategy.

The paper proposes a “face-now” mindfulness practice strategy comprising four stages—feel, awareness, convert, and evolve—with each session limited to three minutes to lower the barrier to practice for older adults. Mapped against the nine quality-of-life domains, the strategy is proposed to potentially improve health perception, meaningful activity, relationships, attitude and adaptation, emotional comfort, and spirituality.

Mindfulness represents a low-cost, easily integrated intervention with potential value for improving older adults' quality of life. The “face-now” strategy is offered as a theoretical reference for future empirical research and program design, pending further validation.

Keywords: Mindfulness, Older Adults, Quality of Life, Coping Strategy

超高齡社會下高齡家庭照顧者支持系統之分析與建構——以社會生態模式觀點

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中文摘要

背景與目的

本研究旨在以社會生態模型觀點，探討臺灣高齡家庭照顧者在超高齡社會下所面臨的多重挑戰，並分析其需求，進而建構針對高齡家庭照顧者的社會生態支持策略模式。

研究方法

本研究採用 PRISMA 篩選指南，蒐集 2017 年至 2024 年間國內學術期刊中，針對高齡家庭照顧者支持策略之相關文獻，進行綜合分析與比較。同時，以本研究所調整的高齡家庭照顧者社會生態模式，來歸納關鍵支持因子。

研究結果

國內針對此族群的實證研究數量極少，最終僅納入三篇高度相關之研究。文獻分析發現，高齡照顧者面臨極高的照顧負荷，其特徵為：每日平均照顧時數長、照顧年數久，且自覺健康狀況較差。為因應此多重困境，本研究建議支持策略應聚焦於鄰近資源的社會生態層次，包含：高齡家庭照顧群體單位(Caring Unit)、照顧群體支援層面(Partner Connect)與鄰近資源地圖(Resource Map)。

結論與建議

高齡家庭照顧者因資源尋求不易加上自身能力衰退，屬於高風險族群。建議可利用 Older Carer Caring Unit-Partner Connect-Resource Map (OCCPR) 模式，提供貼近家戶單位的實質支持。未來可持續應用 OCCPR 社會生態模式，深入探究超高齡社會下的高齡家庭照顧者困境，以強化學界與實務界對高齡家庭照顧議題之重視。

關鍵字：社會生態模型觀點、高齡家庭照顧者、超高齡社會、支持策略

Analysis and Construction of Support Systems for Older Family Caregivers in a Super-Aged Society: A Social-Ecological Model Perspective

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Abstract

Background and Purpose

This study aims to explore the multiple challenges faced by older family caregivers in Taiwan's super-aged society from a social-ecological perspective. It analyzes their specific needs to construct a targeted support strategy model for older family caregivers based on the social-ecological framework.

Methods

Utilizing the PRISMA guidelines, this study systematically collected and reviewed literature published in domestic academic journals between 2017 and 2024 concerning support strategies for older family caregivers. A comprehensive literature analysis and comparison were conducted. Subsequently, an adapted social-ecological model for older family caregivers was applied to synthesize and categorize key support factors.

Results

Empirical studies focusing on this specific demographic in Taiwan are remarkably scarce, with only three relevant articles meeting the inclusion criteria. The literature analysis reveals that older caregivers experience severe burdens, characterized by prolonged daily caregiving hours, extended years of caregiving, and poor self-perceived health. To address these complex dilemmas, this study recommends focusing on proximal resources within the social-ecological levels: the older caregiver caring unit (Caring Unit), the caregiving support network (Partner Connect), and the proximal resource map (Resource Map).

Conclusion and Suggestions

Older family caregivers constitute a high-risk group due to difficulties in accessing resources and age-related functional decline. This study recommends implementing the Older Carer Caring Unit-Partner Connect-Resource Map (OCCPR) model to provide substantial, household-centered support. Future research should further utilize the OCCPR social-ecological model to deepen the investigation into older family caregivers in super-aged societies, thereby enhancing academic and practical attention to this critical issue.

Keywords: Social-ecological model, older family caregivers, super-aged society, support strategies

從男性氣質觀點探討老年男性參與社區中心活動的障礙：一項質性研究

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摘要

本研究旨在探討香港高齡男士在參與社區中心各項活動的潛在障礙。文獻指出，參與社區中心舉辦的活動能顯著改善高齡長者的生活方式如（飲食習慣）以及緩解孤獨感。然而高齡男性的活動參與率卻長期低於女性。相關文獻傾向解釋此現象為個人因素所導致如：年齡、性格或缺乏心理動機等，鮮少有研究從性別角度去理解此現象並作出建議。因此，透過性別角度來探索高齡男性參與活動的障礙並嘗試作出解釋，以豐富前線工作人員對此現象的理解。

有鑑於此，本研究採用質性研究方法，邀請了香港一社區中心內兩位活躍參與各項活動的高齡男性以及三位擁有多多年舉辦男士活動的從業人員進行了深度訪談。訪談文本跟據（Connell）的「霸權男性氣質」理論進行主題分析。研究結果發現，這五位受訪者皆不約而同地提及到五種男性氣質。分別為：（一）目標為本、（二）成就感、（三）挑戰感、（四）責任感，以及（五）面子。研究反映出香港高齡男性對於「男性角色」的性別實踐以及參加活動意義有其獨特理解，需要前線工作人員更多考慮到性別因素去設計活動。最後，本研究也嘗試總結這五種男性氣質如何應用在設計與推廣男士友善活動，從而提升活動對高齡男士的吸引度以及長期參與活動的意願，並就此提出初步建議，為前線工作的設計與評估提供可行的具體指引或評估準則，從而有效緩解高齡男性社區參與率低下的社會現象。

關鍵字： 霸權男性氣質、高齡男性、性別實踐、社區活動、香港

Exploring Barriers to Older Men's Engagement in Community Centres Through a Masculinity Lens: A Qualitative Study

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Abstract

This study explores the possible barriers to older men's relatively low participation in community programmes organised by community centres in Hong Kong. Participation in community programmes benefits older men significantly in terms of improving lifestyles and reducing loneliness (see, e.g., Foettinger et al., 2022). Despite these benefits for older men, their participation rate has persistently remained lower when compared to older women (see, e.g., Anderson et al., 2016). There has been little research exploring this phenomenon by adopting a gender perspective. While researchers and practitioners have explained this issue by focusing on individual factors such as demographics, personality, or inadequate psychological motivation, etc. Therefore, understanding the phenomenon through exploring older men's gender identification is valuable and enriches existing resources for practitioners.

In view of this, qualitative semi-structured interviews were conducted with two older men and three practitioners recruited from a community centre in a local community in Hong Kong to explore why older men tend not to participate in community programmes often. Interview narratives were thematically analysed through the lens of Connell's theory of hegemonic masculinity. What emerges from the analysis are five themes strongly emphasised by both the older men and practitioners; these themes reflect the normative ideals they hold about what it means to be a(n) (old) man in Hong Kong, namely (i) to be target-oriented, to have a sense of (ii) achievement, (iii) challenge, and (iv) responsibility, and (v) to maintain one's 'face' (i.e., 'miànzi', the ability to command social respect in Chinese contexts). Implications are provided for how gender-sensitive tools can be designed to help inform adjustments to and evaluation of frontline practice in a way that could address older men's relatively low rate of participation in community programmes.

Keyword: Community programme, Hegemonic Masculinity, Gender Sensitive Tool Hong Kong, Older Men

以 LINE 為載體之高齡者 AI 輔助防詐工具設計

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摘要

高齡者日益透過即時通訊軟體維繫關係、接收資訊與取得服務，也更容易接觸假冒親友、換號重加 LINE、惡意連結及假檢警等詐騙。國家發展委員會（2017）指出，LINE 等通訊軟體是 60 歲以上手機使用者行動上網的重要誘因；數位發展部（2023）亦發現，數位發展較弱勢地區約 65% 的資深公民遇到網路問題時會向子女或其配偶求助。

為回應上述問題，本研究旨在提出以 LINE 為載體之高齡者 AI 輔助防詐工具概念設計與功能需求。研究採探索性文件分析與設計轉譯，整理 2014 至 2026 年間相關公開資料 100 筆，包括政府數位調查、政策及 LINE 技術文件 10 份，2017 至 2026 年間警政機關與相關公部門公開之詐騙案件、攔阻紀錄及防詐宣導 60 則，以及同行評審研究 30 篇。依訊息判讀、身分驗證、風險警示、求助與家庭支持、介面可用性、自主與隱私六構面進行兩階段多重編碼，並逐筆回查原始網址或 DOI。結果顯示，高齡者受詐風險不僅涉及數位判讀能力，也與警示資訊是否易懂、查證程序是否明確及能否即時取得協助有關。

據此，本研究將需求轉化為 LINE AI 防詐聊天機器人概念：使用者可傳送可疑文字、圖片或網址，由系統提供分級警示、詐騙特徵及撥打 165、原號回撥或暫停匯款等建議；經本人同意，亦可將查證需求傳送至家庭群組。研究成果可作為後續共同設計、原型開發及高齡者可用性測試之基礎。

關鍵詞：高齡科技、LINE 聊天機器人、人工智慧、防詐設計、設計轉譯

Designing a LINE-Based AI-Assisted Anti-Fraud Tool for Older Adults

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Abstract

Older adults increasingly depend on instant messaging applications for social connections, information, and daily services. However, they are frequently exposed to scams, including impersonation of family members or friends, requests to add new LINE accounts, malicious links, and fraudulent law-enforcement messages. The National Development Council (2017) identified communication applications such as LINE as a primary driver of mobile internet use among adults aged 60 and above. The Ministry of Digital Affairs (2023) reported that approximately 65% of older internet users in digitally disadvantaged areas seek assistance from their children or children-in-law when facing online problems. These findings indicate that anti-fraud tools for older adults should not only detect suspicious content but also provide clear warnings, immediate assistance, and family-supported verification.

To address these challenges, this study proposes a conceptual design and functional requirements for a LINE-based, AI-assisted anti-fraud tool tailored to older adults. The study adopts exploratory document analysis and design translation, drawing on 100 publicly available sources published between 2014 and 2026. These sources include 10 government digital surveys, policy documents, and LINE technical documents; 60 fraud cases, intervention records, and anti-fraud advisories published by police agencies and other public-sector organizations between 2017 and 2026; and 30 peer-reviewed studies. The materials were coded across six dimensions: message interpretation, identity verification, risk warning, help-seeking and family support, interface usability, and autonomy and privacy. The findings demonstrate that older adults' vulnerability to fraud is influenced not only by digital literacy but also by the clarity of warnings, verification procedures, and timely support from family members or professional services.

Based on these findings, the identified requirements were translated into the conceptual design of a LINE AI anti-fraud chatbot. Users can submit suspicious text, images, or URLs to a LINE Official Account and receive risk assessments, scam explanations, and recommended actions. With user consent, the system can also initiate family-based verification through a LINE group. The proposed concept provides a foundation for future co-design, prototype development, and usability testing with older adults.

Keywords: Ageing Technology; LINE Chatbot; Artificial Intelligence; Anti-Fraud Design; Design Translation.

考量老人與小孩身體需求之飲料軟體介面設計

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摘要

飲料在我們日常生活越來越多人飲用。但是一般訂購飲料的軟體沒有考量到很多客戶訂購飲料的潛在問題，並且有些飲料不是很適合在下午傍晚後還訂購，造成孩童晚間睡不著。在本論文將實作一個軟體程式演算法，所提的演算法將考量老人健康和影響小孩睡眠的飲料訂購操作介面。因為一些老人考量身體-或疾病狀態而無法飲用特殊的飲料。例如乳糖不耐症要避免喝一些飲品。此外，有些小朋友不建議下午還喝咖啡，導致影響晚上睡眠。我們論文貢獻有：第一是所實作介面軟體程式可以選擇老人所考量的身體狀態或疾病，刪除掉一些相關身體負擔的飲料；第二個是軟體程式具有時間性考量特性，避免小孩在下午 4 點以後，購買咖啡因的飲品；第三個是軟體程式建立 IOT 資料庫，可以累計每天賣出的飲料種類，以供未來擴展飲料或是準備飲品原料的參考，並且有機會讓顧客下次消費，會顯示自己喜歡飲料的紀錄。實驗結果顯示：飲料介面可以避免老人選到跟疾病衝突的飲料，小孩在下午 4 點後就不能買到咖啡因相關的飲料。並且記錄我們每天可以賣出飲料的種類和數量。本論文採用先期一個初步的操作營養健康的過濾介面。這個飲料訂製介面具特性為：本論文方法可以過濾每個顧客比較不適合的飲料，例如一位顧客有乳糖不耐症、咖啡因，所以只建議點單一種飲料。進而考量小孩子喝咖啡的時間限制。

關鍵字：老人小孩考量、長壽社會，健康考量、使用者介面

Design the Elder-Child-Aware User-Interface for Beverage

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Abstract

The beverage is getting more and more important in our daily life. However, the general software programming does not consider the healthy issues for the elders or the timing event for children. These considerations may destroy the elders health and sleeping problem for children. In the paper, we design the beverage User-Interface (abbreviation as UI) for the elder and child. Because some elder can not drink due to their disease. Besides, some children or people are not suggested the coffee in the afternoon. The contributions of the paper are as follows. First, we select the defined button to avoid some beverage. Second, we do not sell the beverage to child according to the timing, such as 4:00pm in the afternoon. Third, we design the IOT database to record the types and numbers for each beverage. Some customer can find their favorite drinks. Experiment results show that the elder will not buy the beverage to destroy the health. The child will not order the beverage to make the sleep problems. Finally, we can show the information about the types and numbers for each beverage according to their diseases or children sleeping problem. Summary, we design the software programming with the beverage to avoid the disease problem and sleeping issue for the elders and children, respectively.

Keywords: Elder and child-Aware, Longevity Society, Health considerations, user-interface

實作一個考量老人運動習慣之提醒軟體介面設計

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摘要

本論文探討如何針對老人的生活習慣，如何有規律、有運動總時數的限制，引導老人在日常生活進行規律作息和規律運動的目標。本論文嘗試針對老人族群，實作一個考量老人運動習慣之提醒軟體介面設計。我們論文的貢獻有：第一是考量老人作息的習慣的紀錄，記錄一位老人所需要的運動總時數，以及目前有完成運動的時間，以小時為單位進行記錄。但因為考量每個老人作息有時候會變化，所以我們以一個月為單位，紀錄星期哪一天會有最多的運動時間，取前兩名的時段進行規律運動之建議；第二個是計算合適的總量運動時間，依照所缺乏的時間，提醒下一週運動是星期幾和哪個時段進行運動；第三個是建立 IOT 資料庫，持續調整運動建議時間和星期幾，讓本軟體程式可以依照個人習慣進行提醒建議。實驗結果顯示：本論文建議的提醒介面，可以分析老人運動習慣，在完成一周運動總時數的限制下，提出合適的建議給老人，因為這訊息是依照老人運動習慣為基礎，運動時間的安排是比較合適的運動時間。

關鍵字：年長者、規律運動，運動日期和長短、個人化使用者介面

Design Software User-Interface for Office Workers with their Regular Schedule

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Abstract

In this work, we analyze the daily habit for the elder for a month. We want to set the goal of exercise the total timing for the month. The objective is to give the suggestions, which the elders exercise timing according to their habits. The contributions are as follows. First, we consider the elder habit and record the exercise date and exercise timing. Because the daily life schedule may be different and we find the two date with the most frequent exercise. Second, the software will give the suggestions to the two dates with the most exercise timing. The programming will set the total exercise timing for a week. If we set the total timing for a week is 10 hours. So far we have exercised 6 hours a week. Then the programming will suggest the four hours for the rest days. Hence, the elder will be suggested to exercise 4 hours (=10 hours – 6 hours) in the next week. Third, we build the database, which containing the total timing, the exercise date and the suggestion for the next week. Experimental results show that our programming can give the suggestion for the elders. The suggestions are useful because the information is obtained according to the daily habits for the elders.

Keywords: Elder-Aware, exercise-habit, exercise date and timing, personal-driven user-interface

高齡者遊戲化多感官視聽之定向運動訓練輔具設計

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摘要

本研究旨在設計一套結合聲光實體物件操作、空間移動與互動回饋、可於寬廣環境使用的高齡者定向運動訓練輔具。高齡化社會中，多重障礙影響下有肌少症與高齡者跌倒、骨折、身體四肢功能受限導致生活品質下降，因此；遊戲化介入及認知動作訓練不僅提升高齡者運動參與，遊戲化運動介入讓年長者享受運動，訓練身體有助高齡者維持健康與獨立生活。研究設計一旨由 3 至 6 顆彩色互動球；其顏色分紅、黃、藍、綠等基礎色（直徑約 7.5 公分、單顆重量約 30 公克的防摔材質），內嵌 RFID 感應標籤；主機端搭配單晶片控制器、低功耗藍芽模組(BLE) 和內建 RFID 讀取器；及智慧型手機連線組成互動訓練裝置，多顆色球置於定向運動起始端，主機設於目標端，初始位置定為圓心時，定向兩端間距約 6 公尺為半徑，且直徑可達 12 公尺之長距離運動訓練，可依據時間任務的順練需求提供年高齡者運動。主機具備語音發出任務指令與燈光顯示，訓練者辨識目標色球並從初始位置之球池取球後，走或跑方式移動至主機端(目標端)承接球區；當置入色球後進行辨識核對，辨識過程正確與錯誤皆產生回饋互動，取回主機內的色球再返回起點進行下一回合。訓練過程由教練或指導者採循序漸進方式，從走到跑的難易強度選擇做訓練，逐步時間縮短增加難度，避免互動過程中受傷以提高安全性。本研究旨結合多感官提示、實體操作、空間移動與遊戲化機制的高齡者互動訓練輔具設計，概念設計整合之成果，功能性移動訓練有對身體活動與心肺增強實際效益，仍待持續設計研究、更多使用者驗證測試與初步成效評估。

關鍵詞：肌少症、遊戲化訓練、多感官回饋、高齡者互動輔具、定向運動訓練

Design of a Gamified Multisensory Audiovisual Assistive Training Device for Directional Movement in Older Adults

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Abstract

This study aims to design an assistive training device for directional movement in older adults that integrates audiovisual manipulation of physical objects, spatial movement, and interactive feedback for use in open, spacious environments. In an aging society, sarcopenia, falls and fractures, and limited function of the limbs arising under multiple barriers lead to a decline in quality of life; gamified intervention and cognitive-motor training therefore not only increase older adults' participation in exercise, but through gamified exercise intervention allow them to enjoy exercise, so that physical training helps them maintain health and independent living. The proposed design comprises three to six colored interactive balls in basic colors — red, yellow, blue, and green (approximately 7.5 cm in diameter and about 30 g each, made of drop-resistant material) — each embedded with an RFID tag; a control unit incorporating a microcontroller, a Bluetooth Low Energy (BLE) module, and a built-in RFID reader; and a smartphone, connected together to form an interactive training device. The balls are placed at the starting end of the course and the control unit at the target end; taking the starting position as the center, the two ends are approximately 6 m apart as the radius, giving long-distance movement training spanning up to 12 m, which can be arranged according to the time and task requirements of the training program to suit the exercise needs of older adults. The control unit issues task instructions by voice together with light indications; the trainee identifies the target ball, retrieves it from the ball pool at the starting position, and moves by walking or running to the ball-receiving area of the control unit at the target end. Once the ball is inserted, it is identified and verified, and both correct and incorrect identifications generate interactive feedback; the trainee then retrieves the ball from the control unit and returns to the starting point for the next round. The training process is conducted progressively under the guidance of a coach or instructor, with the level of difficulty selected along a continuum from walking to running and increased by gradually shortening the allotted time, so as to avoid injury during the interaction and improve safety. This study integrates multisensory cues, physical object manipulation, spatial movement, and gamification mechanisms into the design of an interactive training device for older adults. As an outcome of concept-design integration, the functional mobility training it provides is intended to yield practical benefits for physical activity and cardiopulmonary enhancement, which remain to be established through continued design research, further user validation testing, and preliminary effectiveness assessment.

Keywords: Sarcopenia; Gamified Training; Multisensory Feedback; Interactive Assistive Device for Older Adults; Directional Movement Training

生成式 AI 輔助之中高齡數位視覺實踐：以地方文化貼圖設計為個案研究

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摘要

在生成式 AI 迅速發展的當代，視覺創作正經歷從「技法操練」轉向「意念建構」與「語義轉譯」的典範轉移，這為受生理機能變化與技術門檻所限的中高齡族群，打開了跨越電繪門檻、拓展數位參與的新契機。本研究植根於杜威（John Dewey）經驗美學與維高斯基（Lev Vygotsky）社會文化及鷹架理論，主張數位創作的核心在於日常經驗的轉化與生命敘事延續；在此脈絡下，生成式 AI 不僅是工具，更是協助中高齡者具象化記憶、轉譯生活經驗並重啟社會對話的認知支撐與文化中介。

本研究採質性個案研究取向，以屏東縣東港鎮安定社區發展協會 20 位初次接觸 AI 的中高齡社區幹部（50-60 歲）為對象，開展為期六週的「人機共生地方文化轉譯」LINE 貼圖設計課程。教學歷程循序帶領學員走過貼圖概論、在地符號挖掘、色彩與圖文編排，直到實際運用 AI 進行圖像生成。研究資料涵蓋課堂學習歷程觀察、半結構化深度訪談與學員創作成果，並以三角檢證檢視分析，確保研究結果的嚴謹性與可信度。

研究發現，學員能靈活融合東港在地特產（如黑鮪魚）與鄉土俚語意象（如「大豐收」、「尚青」），在創作中展現出豐沛的文化詮釋力與主體性，同時顯著提升自我效能感。不過在人機互動與圖像生成過程中，學員也確實面臨視力負擔、精細操作不易，以及對生成介面邏輯理解等生理與認知層面的挑戰。據此，本研究梳理出包含「大尺寸硬體配置」、「即時協作鷹架」及「微步進展課程設計」的中高齡 AI 地方文化創作教學支持原則，期盼為樂齡數位創意教育的推廣、文化賦權與終身學習實踐，提供具溫度的實證參照。

關鍵字：生成式人工智慧、中高齡學習者、LINE 貼圖設計、杜威美學

Generative AI-Assisted Digital Visual Practices among Older Adults: A Case Study of Local Cultural Sticker Design

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Abstract

In the era of rapid advances in generative AI, visual creation is shifting from technical skill execution toward conceptual construction and semantic translation. This shift creates new opportunities for middle-aged and older adults to overcome technological barriers and expand digital participation. Grounded in John Dewey's aesthetic theory of experience and Lev Vygotsky's sociocultural and scaffolding theories, this study views generative AI as a cognitive scaffold and cultural mediator that supports the transformation of everyday experiences and life narratives into visual creations.

Adopting a qualitative case study approach, this study involved 20 community leaders aged 50–60 from the Anding Community Development Association in Donggang Township, Pingtung County, all of whom were first-time AI users. A six-week “Human–AI Symbiosis and Local Cultural Translation” course was implemented through LINE sticker design activities, covering local cultural symbols, color and typographic composition, and AI-assisted image generation. Data were collected through classroom observations, semi-structured interviews, and design artifacts, with triangulation used to enhance research credibility.

The findings indicate that participants successfully integrated local specialties, such as bluefin tuna, with vernacular expressions such as “bountiful harvest” and “fresh and high-quality,” demonstrating cultural agency and enhanced self-efficacy. However, participants also encountered visual fatigue, fine-motor difficulties, and challenges in understanding interface logic. Accordingly, three instructional support principles were identified: large-screen hardware configurations, just-in-time collaborative scaffolding, and micro-stepped instructional design. These findings provide practical, human-centered references for advancing digital creative education, cultural empowerment, and lifelong learning among older adults.

Keywords: Generative AI, Older Adults, Local Cultural Translation, Scaffolding Theory, Digital Empowerment