



MMIRA2026

GLOBAL CONFERENCE

PROCEEDINGS

Navigating the Polycrisis:
Mixed Methods for a Changing World



24-27
AUGUST 2026

MMIRA Mixed Methods
International Research Association



**TORRENS
UNIVERSITY
AUSTRALIA**



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MMIRA2026

GLOBAL CONFERENCE



WELCOME

TO THE MMIRA 2026 GLOBAL CONFERENCE PROCEEDINGS

Welcome to the Proceedings of the Mixed Methods International Research Association (MMIRA) 2026 Global Conference, held at Torrens University Australia in Brisbane from 24–27 August 2026.

This volume brings together the research, ideas and discussions presented throughout the conference, providing a lasting record of the diverse scholarship shared by our international community. It reflects the breadth of contemporary mixed methods research and the collaborative spirit that continues to drive innovation across disciplines.

Guided by the conference theme,

Navigating the Polycrisis: Mixed Methods for a Changing World,

these proceedings showcase research that responded to many of today's complex global challenges. From environmental sustainability and health to education, social justice and public policy, the contributions within this volume demonstrate the value of mixed methods research in generating meaningful, evidence-informed solutions.

We hope these proceedings serve as a valuable academic resource and continue to inspire future research, collaboration and discovery.



A MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the Organising and Program Committees, we are delighted to present the **Proceedings of the MMIRA 2026 Global Conference**, held in Brisbane, Australia.

MMIRA 2026 brought together researchers, educators, practitioners and students from around the world to exchange ideas, foster collaboration and celebrate the diversity and impact of mixed methods research. The enthusiasm, generosity and scholarly excellence demonstrated throughout the conference reflected the strength of our international research community.

We extend our sincere thanks to our keynote speakers, authors, reviewers, sponsors, volunteers and delegates whose dedication and contributions made MMIRA 2026 such a memorable and successful event. The quality of these proceedings is a testament to your commitment to advancing mixed methods research.

As you revisit the work presented during the conference, we hope these proceedings provide a lasting resource that continues to inform, inspire and encourage new collaborations for years to come.

Professor Ros Cameron
Conference Chair
MMIRA 2026 Global Conference



MESSAGE FROM THE MMIRA PRESIDENT

Mixed Methods International Research Association

Colleagues, distinguished members, partners, and friends,

It is an honor to introduce the Proceedings of the Mixed Methods International Research Association (MMIRA) 2026 Global Conference and to reflect on another successful gathering of our international community. Whether you joined us from across town or across the world, your participation reflected the strength, reach, and shared purpose of our Association.

I want to begin by acknowledging the remarkable leadership that has guided us to this moment. To our outgoing President, Peggy Shannon-Baker, our Board members, committee chairs, and the many volunteers who sustain this organization—thank you! Your dedication has expanded our impact, strengthened our governance, and deepened our commitment to methodological excellence. We stand on the foundation you have built.

I am deeply grateful for the trust you have placed in me as incoming President. This community has shaped my own scholarly journey, and it is a privilege to serve in this role. I step into it with humility, enthusiasm, and a profound respect for the collective wisdom in this forum.

Over the past year, our association has continued to grow in membership networking, visibility, and influence. We have seen new collaborations emerge across continents, innovative mixed methods methodological contributions by members published in various scholarly books and journals including our own, the Journal of Mixed Methods Research (JMMR), and expanded opportunities for learning, training and mentorship through our high-quality research Webinars, Massive Online Open Campus (MOOC) and other events and offerings. These achievements reflect not only the work of our leadership but the creativity and commitment of our members—students, early career scholars, practitioners, and senior researchers alike.



Dr Ingrid Hunt-Anderson
President
Mixed Methods International
Research Association



Mixed methods research thrives when it is informed by diverse epistemologies, languages, and cultural contexts.



MESSAGE FROM THE MMIRA PRESIDENT

As we mark another successful bi-annual Mixed Methods Global Conference, a gathering that celebrated the diversity of our global community and the richness of our methodological traditions, this year's conference theme, **Navigating the Polycrisis: Mixed Methods for a Changing World**, invited us to think boldly about the future of mixed methods research—its role in addressing complex global challenges and AI technology advancements, its capacity to bridge disciplines, and its potential to amplify voices and contexts that are too often overlooked in a rapidly changing world.

I want to extend heartfelt thanks to the Australian conference committee, led by Professor Ros Cameron, the supporting MMIRA executive team, the keynote speakers - Professors Pat Bazeley, Burke Johnson, Tony Onwuegbuzie and Cheryl Poht, the scientific reviewers, the presenters, workshop facilitators, and the many volunteers who have shaped this event and brought it to life! You have curated a conference that reflects both rigor and imagination, and we are grateful.

As I look ahead to the coming year, I am guided by several priorities that I believe will strengthen our organization and deepen our global impact.

First, we will continue expanding our international engagement. Mixed methods research thrives when it is informed by diverse epistemologies, languages, and cultural contexts. We will work to strengthen regional chapters, build new partnerships, and increase multilingual and culturally responsive resources.

Second, we will advance methodological innovation. Our field is evolving rapidly, shaped by new technologies, interdisciplinary collaborations, and emerging forms of inquiry. We will support initiatives that push the boundaries of mixed methods design, integration, and analysis.

Third, we will invest in capacity building and mentorship. Our students and early career scholars are the future of this organization. We will expand mentorship programs, create more accessible training opportunities, and ensure that scholars from all regions have pathways to leadership and participation.

Fourth, we will continue strengthening our governance and communication. Transparency, responsiveness, and member engagement are essential to a healthy organization. We will refine our communication channels, enhance opportunities for member input, and ensure that our structures reflect our values.

Across all these priorities, our commitment to equity, inclusion, and ethical practice remains central. Mixed methods research is uniquely positioned to illuminate complexity, elevate marginalized perspectives, and challenge simplistic narratives. As an organization, we must model the ethical, inclusive, and globally engaged scholarship we seek to promote.

I invite each conference delegate to participate actively in the year ahead—join a committee, contribute to a working group, share your ideas, and help shape our collective direction. MMIRA thrives because of the energy and insight of its members, and your voice matters.

As we reflect on this conference, I hope you found inspiration in the sessions, connection in the conversations, and renewed purpose in the work we shared together. I also hope these proceedings serve as a lasting resource that continues to inspire new ideas, collaborations, and meaningful research long after the conference has concluded. Thank you for the opportunity to serve as your President. I look forward to the year ahead with optimism, gratitude, and a deep sense of responsibility in serving you.



Dr Ingrid Hunt-Anderson

President

Mixed Methods International Research Association



MESSAGE FROM THE VICE CHANCELLOR

Torrens University Australia

It gives me great pleasure to introduce the Proceedings of the Mixed Methods International Research Association (MMIRA) 2026 Global Conference, hosted by Torrens University Australia in Brisbane.

It was an honour to welcome researchers, practitioners, students, journal editors and partners from around the world to our Brisbane campus for this significant international gathering. Bringing together delegates from 27 countries, eight global regions and 17 disciplinary fields, MMIRA 2026 demonstrated the strength of interdisciplinary collaboration and the growing international impact of mixed methods research.

The conference theme, **Navigating the Polycrisis: Mixed Methods for a Changing World**, reflected the complex challenges facing society today. Issues such as climate change, public health, inequality and technological transformation demand approaches that integrate diverse perspectives, disciplines and forms of evidence. At Torrens University Australia, this commitment to applied, interdisciplinary and industry-connected research is central to our mission, making it a privilege to host a conference that so strongly aligns with our values.

Throughout the conference, delegates exchanged ideas, challenged perspectives and established new collaborations that will continue to shape research and practice well beyond Brisbane. These proceedings capture the scholarship and conversations that made MMIRA 2026 such a valuable international forum.

I extend my sincere thanks to Professor Ros Cameron, the Organising and Scientific Committees, our keynote speakers, presenters, reviewers, volunteers and partners whose dedication made this conference possible. I also acknowledge the support of the Queensland Government, the Brisbane Economic Development Agency, and Tourism and Events Queensland for helping bring this important global event to Brisbane.

On behalf of Torrens University Australia, thank you to everyone who contributed to the success of MMIRA 2026. We are proud to have hosted this milestone conference and hope these proceedings continue to inspire collaboration, innovation and meaningful research for years to come.



Professor Aleks Subic
Vice-Chancellor and President
Torrens University Australia



About MMIRA

The **Mixed Methods International Research Association (MMIRA)** is a global professional community dedicated to advancing interdisciplinary mixed methods research and fostering collaboration among researchers, educators, practitioners, students and policymakers from around the world.

MMIRA promotes research that integrates quantitative and qualitative methods, diverse epistemologies, axiologies, and stakeholder perspectives to address complex social, behavioural, health, educational and political challenges. By encouraging methodological innovation and interdisciplinary collaboration, the Association supports research that contributes to a deeper understanding of both the human condition and the natural world.

The Association's mission is to engage with the international research community to advance the theory, practice and application of mixed methods research through scholarship, education and global collaboration. Through its conferences, publications, professional development opportunities and international network, MMIRA provides a platform for sharing knowledge, developing research capacity and strengthening connections across disciplines and cultures.

MMIRA's vision is to bring together diverse communities of scholars, students, practitioners, policymakers, citizens and other stakeholders to expand knowledge, inspire innovation, and contribute to social betterment and global justice. By fostering inclusive dialogue and meaningful collaboration, the Association continues to support the development of mixed methods research as a powerful approach for understanding and addressing the increasingly complex challenges facing our world.

MMIRA Mixed Methods
International Research Association

Creating an international community
to promote interdisciplinary mixed
methods research.



Global
Community



Conferences
and Events



Journal of
Mixed Methods
Research



Training and
professional
development



Regional
chapters



Student support
and awards

About Torrens University Australia

Torrens University Australia is a contemporary university committed to applied learning, industry-connected research and global collaboration. With campuses across Australia and a diverse international community, the University fosters interdisciplinary thinking and innovation to address complex real-world challenges. As Australia's only Certified B Corporation® university, Torrens is recognised for its commitment to creating positive social, environmental and economic impact.

As host of the MMIRA 2026 Global Conference, Torrens University was proud to welcome researchers, educators and practitioners from around the world to its Brisbane campus. The University's commitment to collaboration, innovation and research excellence provided an ideal setting for the exchange of ideas, the advancement of mixed methods research, and the development of new international partnerships.





MMIRA2026
GLOBAL CONFERENCE

MMIRA 2026 CONFERENCE AT A GLANCE

The MMIRA 2026 Global Conference brought together researchers, educators, practitioners and students from around the world to explore how mixed methods research can address the complex challenges of a changing world. Hosted by Torrens University Australia in Brisbane, the conference fostered collaboration, innovation and international exchange across a diverse range of disciplines.



THE EVENT

- Brisbane Australia
- 24 - 27 August 2026
- Hosted by Torrens University Australia

CONFERENCE THEME

Navigating the Polycrisis:
Mixed Methods for a Changing World



GLOBAL REACH

27

COUNTRIES
REPRESENTED

8

WORLD REGIONS
IN ATTENDANCE

17

ACADEMIC DISCIPLINES
REPRESENTED



PROGRAM HIGHLIGHTS

- 4 International Keynote Speakers.
- Professional Development Workshops
- Research Presentations
- Poster Presentations
- AI in Mixed Methods Research Panel
- Journal of Mixed Methods Research Editorial Panel



COLLABORATION & IMPACT

- International networking and collaboration
- Interdisciplinary research and innovation
- Knowledge exchange across a global community



MMIRA2026
GLOBAL CONFERENCE

PROGRAM

Day 1: Monday 24 August

10:00 Workshop Attendees Arrival and Registration

10:30 - 12:30 | Concurrent Workshops

Workshop 1: Teaching of Mixed Methods Research: Centring Integration in Instructional Design

Facilitator: Prof Cheryl Poth

Workshop 2: The Continuing Evolution of Mixed Methods Designs

Facilitators: Prof John Creswell & Dr Mariko Creswell

Workshop 3: The AI Shift in Research: Understanding Artificial Intelligence as Both Lens and Laboratory

Facilitator: Dr Farveh Farivar

12:00 Conference Attendees Registration

13:30 Conference Opening Ceremony

14:15 **Keynote 1:**
From Maverick to Mainstream: A Mixed Methods Bricoleur Contemplates the Poly-Crisis
Professor Pat Bazeley

15:00 Tea & Coffee Break

15:30 **Keynote 2:**
Using Dialectical Pluralism in Mixed Methods Research
Professor Burke Johnson

16:15 Poster Presentations

Day 2: Tuesday 25 August

8:00 Registration

9:00 - 10:40 | Concurrent Session 1

Concurrent Session 1A Condensed Papers	Concurrent Session 1B Roundtables	Concurrent Session 1C Full Papers	Concurrent Session 1D Full Papers
Facilitator: A/Prof Timothy Guetterman	Facilitator: A/Prof Michelle Nichols	Facilitator: Dr Emma Bullock	Facilitator: Professor John Creswell
Are You Considering Artificial Intelligence in Mixed Methods Research? An Introduction and Decision Points A/Prof Timothy Guetterman	Is Sustainability Possible? Wellness Interventions for Latino Caregivers in the United States Miss Nicole Montanez Alicea	Designing Complexity-Centred Mixed Methods Research in Times of Polycrisis Dr Emma Bullock Dr Cheryl Poth	Expanding Mixed Methods Research in East Asia: Present and Future Dr John Creswell
Correlating Resonance: A Mixed Methods Framework for Frame Analysis in Contested Policy Spaces Dr Geoff Ebbs	Exploration for a knowledge translation model in public dissemination via social media: A mixed-method study Mr Yifei Song	Advancing Methodological Rigour: Mixed Methods Phenomenological Research on migrants' job transitions in Business Studies Mrs Dominika Ohana	Methodological Perspectives on Content Analysis: Measuring Environmental Reporting in East African Community Countries Mr Moise Mfashingabo
Design of the Flourish Movement Mixed Methods Action Learning Intervention Dr John Molineux	A Mixed Methods Scoping Review of Parental Empowerment Within Early Childhood Intervention Systems Miss Yu-Ru Jin	What can MMR learn from Kaupapa Māori Research Principles? A/Prof Peter Rawlins	Barriers to Remittance Rural Hometown Investing: A Mixed Methods Grounded Theory using Situational Analysis Mr Jeremaiah Opiniano
Identifiability, Participation, and Data Sufficiency in Opt-in Mixed Methods GenAI Research Ms Renu Joshi	Are Australian paramedics safe: A convergent mixed methods study of paramedic safety during transportation Mr Lyle Brewster	From Gaps to Growth: A Mixed Methods Multi-Sectoral Needs Analysis of Agricultural Processing in the Philippines Ms Kristin Clemente	When to Teach Mixed Methods in Nursing? A Multiphase e-Delphi Study of Expert Views Dr Hisako Kakai Prof. Mitsuyuki Inaba

10:40 Tea & Coffee Break

11:00 - 12:15 | Concurrent Session 2

Concurrent Session 2A Research In Progress	Concurrent Session 2B Roundtables	Concurrent Session 2C Full Papers	Concurrent Session 2D Full Papers
Facilitator: Professor Cheryl Poth	Facilitator: Professor John Hitchcock	Facilitator: Mr Andrew Lacsina	Facilitator: Dr Jessica Stander
Exploratory Sequential Mixed Methods for Tool Development: Assessing Universal Health Care Competencies in Mentor-facilitated Environments A/Prof Maria Elizabeth Grageda	From Graduation to Career Progression: A Longitudinal Mixed Methods Study of Women in Information Technology Dr Leonie Newnham	AI-enabled Software Development Practice Backshoring: A Feasibility Study for Australian SMEs Mr Charles Lindquist	Mixed Methods Teaching Strategies for Maritime Researchers Dr Adeola Oluwatoyin Osundiran
Convergences and Complexities: Comparing Human-Led and AI-Facilitated Mixed Methods Meta-Inferences Dr Peggy Shannon-Baker Dr Chihiro Tajima	A Case Study of L2 WTC Change During Study Abroad With Convergent Mixed Method Miss Mari Suzuki	Sensing clients' pulse surrounding personalized and digital financial services: A mixed methods study of Philippine cooperatives and their members Mr Andrew Lacsina	Maximising student learning through automated individualised feedback on assessment: An explanatory sequential mixed methods study Dr Jessica Stander
Updating the Good Reporting Guideline for Mixed Methods Research Mr Frank Kiwanuka	Using mixed methods to examine teachers' perceptions of integrating language into subject-areas in primary school Mr Romulo Guedez Fernandez	Leveraging AI Capabilities for Sustainable Supply Chain Performance: A Multi-Analytical Approach Measuring the Role of Digital Transformation in Manufacturing Dr Fakhar Shahzad	Institutionalizing a mentoring framework that motivates journalists in Philippine newsrooms to do better news work Mr Jasper Emmanuel Arcalas

12:15 Lunch

PROGRAM - TUESDAY

13:00 - 14:40 | Concurrent Session 3

Concurrent Session 3A Condensed Papers	Concurrent Session 3B Roundtables	Concurrent Session 3C Full Papers	Concurrent Session 3D Full Papers
Facilitator: Professor Kate Ames	Facilitator: A/Prof Heinz Herrmann	Facilitator: Professor Susanne Vogl	Facilitator: Dr Toshiyuki Ojima
Navigating complexity to conduct an international study of women with ADHD and the power of podcasts Prof Kate Ames	Fluid community-engaged mixed methods research during uncertain times: A healthcare transportation service case study Dr Marcy Antonio	Pragmatism in Practice: A Mixed Methods Study Developing a Therapist Readiness Guide for Trauma Processing Ms Kim Golda	The role of conceptual models in enhancing rigor within mixed methods study designs A/Prof Timothy Guetterman
Using Participatory Mixed Methods Designs to Understand Multi-Tiered Systems of Support: A Conceptual Paper Dr John Hitchcock	Using phronesis to integrate "dissonant" findings: Quandaries assessing & sharing outcomes of a student-designed playground Dr Elizabeth Larson	Focusing on Integration in Mixed Methods-Grounded Theory Methodology (MM-GTM): Insights from Housing Research Mrs Antonia Josefa Krahl	Triangulation Using Multiple Artificial Intelligence Systems: Enhancing Trustworthiness and Insight Dr Toshiyuki Ojima
Using a Multilevel Mixed Methods Research Design to Develop a Model of Bereaved Organisational Support Dr Leesa Taylor	Exploring Migrant Entrepreneurial Pathways: A Comparative Mixed Methods Study of Australia, Italy, and Ireland Mrs Dominika Ohana	Designing data collection in Mixed Methods Research: Core dimensions Prof Susanne Vogl	LLM-assisted Mixed Methods Network Analysis: Combining Large Language Models with Network Science for Applied Research Dr Kelly Grace
Evaluating the Effectiveness of Professional Development in Evidence-Based Decision-Making: A Quasi-Experimental Mixed Methods Study using Protocol Analysis Dr Fiona Chateaur		Assessing Quality in Theory-Based Joint Displays: A Unified Checklist Dr Carolina Bustamante	Making Space for Learners' Voice: Reflections on an Embedded Open Ended Question in a GenAI Survey Ms Renu Joshi

14:40 Tea & Coffee Break

15:00 - 16:40 | Concurrent Session 4

Concurrent Session 4A Research In Progress	Concurrent Session 4B Roundtables	Concurrent Session 4C Roundtables	Concurrent Session 4D Full Papers
Facilitator: Professor Ros Cameron	Facilitator: Professor Tony Onwuegbuzie	Facilitator: Professor Burke Johnson	Facilitator: Professor Katrin Niglas
Exchange Rate and Poverty in a Developing Country Dr Eseosa Obadiaru	The impact of leader's temporal resilience responses on team time performance: A mixed-method study Dr Angela J Xu	Flex-Place Arrangements and Work-Family Balanced: A Mixed Method Enquiry Ms Sasuli Vidana Ms Gnei Rushna Preena	Bye-Bye-Bi: A Mixed Methods Study on Bisexuality and Heteronormativity Among Filipino Senior High School Students Dr Maribel Gaite
How CEO Attention Shapes Firm Innovation in Turbulence Dr Jason Yang	Spatializing Socioecological Conflicts in Huemul Conservation: A Qualitative GIS Approach in Protected Areas of Chile Mr Lucaz Gonzalez	Beyond Hiring: A Mixed-Methods Study of Disability Retention and Progression in Australian SMEs Ms Cindy Choo	Leading in Polycrisis: Mixed Methods Study Examining the Evolving Roles of Academic Deans in Research-Intensive Universities Dr Vanessa Ellis Colley
A mixed-method modified Delphi approach to develop Decision-Support Indicators for Biochar-Based Concrete via a multistakeholder study Dr Razieh Sadraei	Civic Consciousness in a Children-Centred Community Practice: An MMCBPR Study Prof Mitsuyuki Inaba Mrs Saori Yamanaka	Bridging the AI Capability Gap in HR: Evidence from a Cross-National Study Mrs Justyna Bugaj	A New Map of Educational Sciences –Interdisciplinarity and Methodological Renewal Prof Katrin Niglas
Lived Experiences and Motivation behind the Migration of Professionals from Sub-Saharan Africa Dr Eseosa Obadiaru	Beyond Service Speed: A Mixed-Method Study of Organizational Stressors and Employee Outcomes in Indian QSRs Mr Sajeet Pradhan	Mixed Methods and Implementation Science for COPD Self-Management: The CoSMa Study Protocol Dr Hongling Chu	Cross-sector comparison of Generative- AI (Gen-AI) and AI use by student teachers and Teachers in Aotearoa New Zealand Mrs Fiona O'Connell Jones

17:30 Welcome Reception

Day 3: Wednesday 26 August

8:30 - 10:10 | Concurrent Session 5

Concurrent Session 5A Condensed Papers	Concurrent Session 5B Roundtables	Concurrent Session 5C Full Papers	Concurrent Session 5D Full Papers
Facilitator: Dr Jessica Stander	Facilitator: Professor Burke Johnson	Facilitator: Professor Tony Onwuegbuzie	Facilitator: A/Prof Michelle Nichols
Evaluating an AI-Assisted Record Card (ERiK) for Clinical Note Efficiency, Accuracy and Educational feedback: A Mixed-Methods Pilot Study for Physiotherapy Education Dr Jessica Stander	Alignment and Fragmentation in Sustainability Transitions: Explaining Coordination through Organisational Narratives and Network Structure Mrs Catalina Espinosa	University-Community Engagement in Marginalized Communities through Media and Film Short Courses: A Mixed Methods Research Dr Olivene Burke	Cultural Influences on End-of-Life Decision Making in Japan among Doctors, Nurses, and Older Adults Dr Yumi Naito
Utilization Status and Decision-making Mechanisms of Fertility Preservation for Young Early-Stage Breast Cancer Patients Ms Jieying Chen	Evaluating the Effectiveness of BBEE Policy Implementation in Supporting MSME Development in South Africa: A QUAL+quan Mixed Methods Study Mr Joseph Phosane Mngqibisa	Development and Validation of Blended Teaching Assessment Tool (BTAT) for Health Science Program in the Philippines. A/Prof Maria Elizabeth Grageda	Integrating Patient-Staff Perspectives on Cardiac Knowledge: A Convergent Mixed Methods Study Dr Kylie Short
Explaining Behavioral Discordance in Nutritional Label Use – A Fully-Integrated Pragmatic Explanatory Mixed-Method Study Dr Kishore Eswaramoorthi	Assessing Cybersecurity Maturity in Manufacturing SMEs: A NIST CSF Protect Function Approach in Sri Lanka Dr Leonie Newnham	A View of the Multifaceted Domain of Teacher Mentoring Through Three Methodological Lenses Dr Rebecca Tickell	A mixed-method evaluation of the primary health care workforce in China: insights from central, western, and northern counties Dr Shangzhi Xiong
Reframing Holistic Formations through God-Centered Programs in Higher Education Mr Aces Joseph L. San Pedro Dr Roger Carlo Pineda	Enabling Local Energy Communities: Insights from Mixed Methods Research in Poland Dr Sylwia Mrozowska	Using Mixed Methods to Explore and Support the Consequential Validity of International Large-Scale Assessment Systems Dr John Hitchcock	How is Mixed Methods Research utilized in Positive Deviance Applications? Dr Yoko Kawamura

10:10 Tea & Coffee Break

10:30 - 12:10 | Concurrent Session 6

Concurrent Session 6A Research In Progress	Concurrent Session 6B Roundtables	Concurrent Session 6C Full Papers	Concurrent Session 6D Full Papers
Facilitator: A/Prof Peter Rawlins	Facilitator: Professor John Hitchcock	Facilitator: Dr Jocelyn Tan	Facilitator: Dr Leigh-ann Onnis
ICT Adoption and Career Support for Japanese Language Teachers: A Mixed Methods Analysis Dr TzuHsuan Ma Dr Jihyun Yoon Dr Kaoru Fujimoto	Developing Competency Indicators For Clinical Trial Drug Administrators: An Exploratory Sequential Mixed-Methods Study Miss Tian Yu	Feeling the Force: A Mixed Methods Study of an Innovative Spinal Mobilization Simulator Dr Jessica Stander	Inference in Qualitative Research as a Lever for Robust Meta-Inferences in an Age of Polycrisis Prof Mehdi Riaz
Integrating Scoping Review, Interviews, and Grey Influence Analysis to Investigate Online Student Engagement Dr Farveh Farivar	Moving from Exposure to Engagement: How Graduate Students Develop Interest in Mixed Methods Research Ms Charlotte V. West	Opera-singing to support adults living with chemotherapy-related cognitive impairment: A concurrent mixed methods study Prof Dominique Tremblay	Leveraging 'Qualitative Informed Mixed Methods' in Education Policy Research to Map Processes and Outcomes Dr Na Lor Ms Shengying Li
Teaching Art on a Cart: Mixed Methods Examination of NYC Public School Art Educators' Well-Being Mr Edward Iverson	Preparing Smart Technology Capable Project Management Graduates: A MMR Study of the Australian Higher Education Sector Ms Lee Buckley	"Under the Weather..."; using co-design and mixed methods research to capture climate vulnerability for people experiencing homelessness Dr Jocelyn Tan	Person-environment fit as a HRM strategy for attracting managers to rural and remote health services Dr Leigh-ann Onnis
Teaching Integration Through a Cross-Faculty Social Enterprise Expo Dr Juan Carlos Munoz Carpio	Balancing Human and Artificial Intelligence in Learning and Assessment Design: An Exploratory Study of AI-Aware Pedagogy Dr Nazrul Islam Pramanik	Navigating Disaster Shelter Management in a Polycrisis: Integrated Insights into Organizational Differences and Improvement Strategies Dr Toshiyuki Ojima	Mixed Methods Insights into Ethnic Studies: A Qualitative Informed Latent Class Analysis Dr Na Lor Ms Shengying Li

12:10 Lunch

13:00 **MMIRA Annual General Business Meeting & MMIRA Awards**

14:00 **Editorial Panel**

Panellists: A/Prof Tim Guetterman, Professor Katrin Niglas, Professor John Hitchcock, Professor Susanne Vogl
Professor Tony Onwuegbuzie & Professor Tomoko Kamei

Chair: Professor Ros Cameron

14:45 Tea & Coffee Break

15:00 - 16:15 | Concurrent Sessions 7

Concurrent Session 7A Full Papers	Concurrent Session 7B Roundtables	Concurrent Session 7C Roundtables
Facilitator: Dr Bixuan Yan	Facilitator: A/Prof Michelle Nichols	Facilitator: Professor Pat Bazeley
Rapid Mixed Methods Research for Timely Action in the Polycrisis Dr Toshiyuki Ojima	Advancing understanding of mixed methods research in genetic counselling: a focused mapping review and synthesis Dr Stephanie White	Advancing Mixed Methods Integration in Early Childhood Research: Examining Young Children's Challenging Behaviors Dr Angel Fettig
Quality of Life in Patients with Idiopathic Pulmonary Fibrosis in China: A Mixed Methods Study Dr Bixuan Yan	Intersecting mixed methods, user experience (UX) design, and best language translation practices to create person-centered digital health Dr Justine Wu	Universal Childcare and Equity in Aotearoa New Zealand's Early Childhood Education and Care System Mrs Jeana Nichols
Illness Perception among periodontitis patients: Exploratory Sequential Mixed-Methods Design Combining Brief-IPQ and Secondary Analysis of Patient Interviews Mrs Lina Weinert	Bridging the cancer evidence gap to enhance prevention and early intervention and to reduce premature mortality among people experiencing homelessness Dr Jocelyn Tan	National Identity in Australia: Meaning and Representation Mrs Sofia Kalashnikova

16:15 - 17:30 | Concurrent Workshops

Workshop 4: What Are Your Contributions to Mixed Methods: An Introduction to Publishing	Workshop 5: Developing joint displays to conduct and represent integration in mixed methods research
Facilitator: A/Prof Peggy Shannon-Baker	Facilitator: A/Prof Timothy Guetterman

Day 4: Thursday 27 August

9:00 **Keynote 3:**
Mixed Methods Research for a Complex World
Professor Cheryl Poth

9:45 Conference Special Awards Ceremony & Thank You to Sponsors & Volunteers

10:10 Tea & Coffee Break

14:15 **Keynote 4:**
Charting the Future of Mixed Methods Research: Meta-Principles from Global Voices for a Unified Vision of Quality
Professor Anthony J. Onwuegbuzie

15:30 **AI in MMR Panel:**
Panellists: Prof Anthony Onwuegbuzie; Prof Cheryl Poth; A/Prof Heinz Herrmann & Dr Farveh Farivar
Chair: A/Prof Tim Guetterman

16:15 Closing Remarks

10:30 - 12:30 | Concurrent Workshops

Workshop 6: Making Complexity Visible: Using Systems Diagrams to Plan Integrative Mixed Methods Designs

Facilitators: Professor Cheryl Poth, Dr Emma Bullock

Workshop 7: Critical Dialectical Pluralism in Action: Applying a Meta-Transformative Multidimensional Metaparadigm and Metaphilosophy to Mixed Methods Research

Facilitator: Professor Anthony Onwuegbuzie

ACKNOWLEDGEMENTS

Conference leadership and contributors



We gratefully acknowledge the people and organisations whose time, expertise and support made the MMIRA 2026 Global Conference possible.



CONFERENCE CHAIR
Professor Ros Cameron



CHAIR SCIENTIFIC COMMITTEE
A/Prof Heinz Herrmann



CONFERENCE COORDINATOR
Dominika Ohana

Torrens University Australia

MMIRA Board

Peggy Shannon-Baker, Jessica Stander,
Tim Guetterman, Ingrid Hunt-Anderson,
Michelle Nichols & John Hitchcock

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Editorial Panel members
AI in MMR Panel Chair & Panellists
The 27 session chairs

Paper reviewers

Jessica Stander & Farveh Farivar

Poster Judges

Peter Rawlins & Kylie Short (MMIRA-O)

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With thanks to our sponsors and
supporting organisations for their
contribution to the conference

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Hosts



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MMIRA 2026

KEYNOTE SPEAKERS

Perspectives shaping mixed methods research





KEYNOTE SPEAKER

Professor Pat Bazeley

PhD, Director of Research Support P/L

Biography

Pat Bazeley (Macquarie University) is Director of Research Support P/L and is formerly an Adjunct Professor in the Translational Research and Social Innovation group at Western Sydney University in Australia. Since graduating in psychology, she has worked in community development and programme evaluation, project consulting, and in academic research development. For more than 30 years Pat has been providing research training in data analysis and serving as project consultant to academics, graduate students and practitioners representing a wide range of disciplines across Australia and internationally. Her expertise is in helping researchers to make sense of qualitative, survey, and mixed methods data, and to use computer programs to assist in management and analysis of data. Pat's research and writing has focused on qualitative data analysis, mixed methods integration, the development and performance of researchers, community health services, and the wellbeing of older women. She has published books, chapters, articles, and reports on these topics. She has served on the Editorial Board of the *Journal of Mixed Methods Research* (JMMR), was 2015–2016 President of the Mixed Methods International Research Association, and is recipient of the inaugural 2024 "best paper" award for JMMR.

From Maverick to Mainstream: A Mixed Methods Bricoleur Contemplates the Poly-Crisis

Abstract

Life today is replete with interconnected, multi-sector catastrophes – a state of poly-crisis for which we have no optimal solutions or definitive answers. Can mixed methods research, which integrates multiple interdependent approaches to making, gathering, and/or analysing data, contribute to finding some of those solutions or answers?

In this talk I will draw some lessons from my 50+ years journey as a maverick – perhaps even a renegade – student and researcher and reflect on their implications then and for mixed methods researchers today. These include:

- the importance of strong and broad foundational skills and understanding
- working "naturally" and creatively as a bricoleur; open to innovation
- marrying a practical approach with conceptual thinking.

The siloing of the research world into qual and quant, with associated 'paradigms', were issues not encountered until I eventually entered an academic environment and was formally introduced to mixed methods research in the 1990s. Over time, things done naturally have gained mainstream acceptance, and lessons learned prove to be highly relevant "craft skills" needed to deal with the complexity, messiness, and uncertainty of problems we face today.





KEYNOTE SPEAKER

Professor R. Burke Johnson

PhD, University of South Alabama

Biography

Burke Johnson (College of Education, University of Georgia) is Professor Emeritus, Department of Counseling and Instructional Sciences at the University of South Alabama. He also has graduate degrees in psychology, sociology, and public policy, which have given him a multidisciplinary perspective on research methodology. He was an early Associate Editor for the *Journal of Mixed Methods Research* (2006-2009) and was a founding member of the Mixed Methods International Research Association (officially founded in 2013). His works have been cited 105,215 times (Google Scholar, June 6, 2025). Burke is coauthor/coeditor of eight books, four of which are (a) *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences* (Sage 2021, 2ed. with Abbas Tashakkori and Charles Teddlie); (b) *The Routledge Reviewer's Guide to Mixed Methods Analysis* (Routledge 2021, edited with Anthony Onwuegbuzie); (c) *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry* (Oxford University Press, 2015, edited with Sharlene Hesse-Biber); and *Educational Research: Quantitative, Qualitative, and Mixed Approaches* (currently in 8th ed.; Sage 2025, with Larry Christensen). He and Sharlene Hesse-Biber are the Editors of the Reframing Mixed Methodsbook series with Routledge. Burke has conducted mixed methods workshops, keynotes, and courses across the world.

Using Dialectical Pluralism in Mixed Methods Research

Abstract

Mixed Methods researchers routinely have to operate and make decisions and choices in the presence of multiple differences and tensions surrounding each research project. Dialectical pluralism (DP) is a pluralist metaparadigm and philosophical process theory for interacting with and learning from important differences we face in research and practice to systematically produce new combinations and integrations for addressing these complex issues and dilemmas we face in MMR, especially when we are working on heterogeneous research teams. Dialectical pluralism is not in competition with any paradigm in MMR because it is a process and metaparadigm. The DP process and ideal outcome is to continually work towards win-win solutions. DP relies on collaborative efforts and produces strong research that is *justified* according to multiple relevant epistemological and research quality standards. The process relies on five fundamental principles and many well-established strategies from multiple applied literatures. Application of DP must be tailored for each research project or study.



KEYNOTE SPEAKER

Professor Cheryl Poth

PhD, Faculty of Education
University of Alberta, Canada

Biography

Cheryl Poth, is a Professor and award-winning instructor and author in the Centre for Research and Applied Measurement and Evaluation in the Faculty of Education at the University of Alberta in Canada. She is the co-founder and lead of the Alberta Community and Clinical Evaluation and Research Team and serves as the methodologist on several cross-disciplinary research teams. During the past decade, her collaborations with professional associations, community organizations, students, clinicians, teachers, and academics have examined a range of issues concerned with enhancing capacity for impactful research and evaluation across diverse contexts under conditions of varying complexity. Complex conditions require adaptive responses to changing circumstances. Working under these conditions is challenging because of the lack of predictable outcomes and established pathways for generating solutions. Her work integrates across the disciplines of education, psychology, and health sciences.

She is the past president of the Mixed Methods International Research Association, current associate editor of the *Journal of Mixed Methods Research*, and editor of *The SAGE Handbook of Mixed Methods Research Design* (2023, Sage). She has delivered dozens of invited talks, webinars, and capacity-building workshops on four continents and recently served as a MERIT visiting professor (2023-25) with the McMaster University Health Education Research, Innovation & Theory Centre. Her books, *Qualitative Inquiry & Research Design* co-authored with John Creswell (2024, Sage), *Innovation in Mixed Methods Research: Guiding Practices for Integrative Thinking with Complexity* (2018, Sage) and *Research Ethics* (2021, Sage) are inspired by the dilemmas she hears in the field.

Mixed Methods Research for a Complex World

Abstract

What does a complex world ask of mixed methods researchers? As researchers increasingly confront interconnected social, environmental, technological, and health challenges, complexity is no longer the exception; it is becoming the context in which we work, and its avoidance is no longer an option. The idea that complexity changes the mixed methods researcher aligns closely with the conference theme, *Navigating the Polycrisis: Mixed Methods for a Changing World*. This keynote explores how engaging with complexity transforms the way we think, design, integrate, collaborate, and continue learning as mixed methods researchers.

Building on recent conceptual work, this keynote introduces four interrelated ways researchers can engage with complexity: complexity-aware, complexity-sensitive, complexity-informed, and complexity-centred. Together, they provide a common language for discussing how complexity shapes integration decisions, research design, and the preparation of the next generation of mixed methods researchers.

Through practical examples and reflections drawn from research and teaching, I challenge us to reimagine complexity as a catalyst for methodological innovation. Ultimately, the keynote invites us to consider how learning to see complexity differently can transform the future of mixed methods research and the global community that continues to shape it.



KEYNOTE SPEAKER

Professor Anthony J. Onwuegbuzie

PhD, University of Johannesburg,
University of South Africa

Biography

Anthony J. Onwuegbuzie is a multiple award-winning author, researcher, methodologist, scholar, educator, thought leader, and mentor. Currently, he is Distinguished Visiting Professor at the University of Johannesburg and a Professor Extraordinarius at the University of South Africa.

With a current h-index of 116 and more than 125,000 citations, he has had published more than 600 works, including more than 450 journal articles, 75 book chapters, and 6 books. He has delivered more than 1,000 presentations, 250 methodological workshops, and 80 keynote addresses worldwide. He is former editor of *Educational Researcher* and is currently editor-in-chief of both the *International Journal of Multiple Research Approaches* and the *Journal of Mixed Methods Studies*. He is a past president of the Mixed Methods International Research Association. According to the AD Scientific Index World Scientist and University Rankings 2025, within the Field of Education, he is ranked #1 in the United Kingdom and #22 in the world in terms of number of citations over the last 6 years. Also, he has been recognized as a top social science researcher and a top-cited Social Sciences and Humanities Scientist by Research.com, achieving the rankings of #2 in South Africa and #104 globally. Most recently, he received the 2025, 2022, and 2023 Research.com Social Sciences and Humanities Leader Awards (South Africa, U.K., and USA, respectively), the 2023 Best Researcher Award: International Academic Awards, and the 2024 Research Excellence Distinction Award: International Academic Achievements and Awards.

Charting the Future of Mixed Methods Research: Meta-Principles from Global Voices for a Unified Vision of Quality

Abstract

What might become visible when global voices on mixed methods quality are brought into conversation—not to erase their differences, but to learn from them? Drawing on contributions to the forthcoming *Routledge International Handbook for Enhancing Quality in Mixed Methods Research*, this keynote transforms an international collection of perspectives into a living inquiry into the future of the field. Across diverse philosophies, designs, cultures, analytic traditions, and emerging technologies, recurring meta-principles reveal quality as more than methodological rigor: it is relational, integrative, reflexive, context-responsive, transparent, consequential, and continually constructed.

Rather than presenting these principles, the keynote invites participants to experience them through an arts-based methodological performance combining architectural metaphor, visual symbolism, poetic inquiry, audience participation, and narrative progression. Guided by Critical Dialectical Pluralism and its 10 CLEAR STEPS metaphilosophically informed dimensions—**C**ultural, **L**ife, **E**nvironmental, **A**cademic, **R**esearch, **S**piritual, **T**heoretical, **E**thical, **P**olitical, and **S**ocietal—competing perspectives will be placed into productive dialogue as we navigate tensions between common standards and contextual responsiveness, methodological coherence and pluralism, and established practices and emerging possibilities.

Against a backdrop of interconnected global polycrises, participants will be invited not merely to ask what constitutes quality in mixed methods research, but to help imagine what quality must become.



MMIRA 2026

ABSTRACTS

Research, ideas and emerging insights



Theme 1: Integration in MMR

Theme 2: Joint Displays and Data Integration

Institutionalizing a mentoring framework that motivates journalists in Philippine newsrooms to do better news work

Jasper Emmanuel Y. Arcalas

Department of Journalism, Faculty of Arts and Letters, University of Santo Tomas, Manila, Philippines; Research Center for Social Sciences and Education, University of Santo Tomas, Manila Philippines

Abstract:

Mentoring has been considered as a positive force to employees' motivation and creativity. But in the context of journalism, studies about mentoring have been few and far between with current research being limited to editorial relationship (Bird-Meyer, 2020), internship (Opiniano et al., 2021), precarity (Fulton, 2014) and implications in newsrooms (Simoni and Tyree, 2020). This study fills a gap in literature by theorizing a mentoring framework that motivates journalists to become more creative in their work. In doing so, the study advances a mentoring framework that of journalism nature, advancing previous frameworks that came from other domains like education (Collins et al., 1989), nursing (Chen et al., 2020), medicine (Doles et al., 2025). The study also sought to uncover the correlation between mentoring, motivation and creativity in journalism.

This convergent mixed-methods study, which surveyed 202 Filipino journalists and interviewed in-depth 30 journalists (reporters and editors), piloted the Pyramid Integration Framework (PIF) wherein four designs (three qualitative, one quantitative) were integrated. PIF builds upon previous integration tools, particularly the Pillar Integration Process (Johnson et al., 2017) by expanding how to integrate data into studies that have more than two designs. This study utilized Grounded Theory, Phenomenology and Latent Content Analysis for its qualitative components while a correlational design using Partial Least Squares – Structural Modeling was done for the quantitative study.

The meta-analysis through PIF yielded the Cross Mentoring Framework of Journalism (CMFJ) that allows newsrooms to adopt a system of mentoring. The framework contains four iterative phases (Building In, Building Up, Building On and Building Out) that require reciprocal efforts, values, and attitude between a mentor and a mentee to grow and sustain a mentoring relationship. The framework shows an overarching goal: mentees becoming mentors that allow for the sustainability of quality journalistic practice within newsrooms that resonate beyond the journalism industry. The study advances two types of mentoring that cut across the framework: formative (critical knowledge and skill transfer) and transformative (vital character development). A journalistic mentoring definition is also put forward by the study.

This study contributes to global discourse on mentoring, motivation and creativity in journalism studies by theorizing a mentoring framework that is journalistic in nature but can be adopted and adapted in other domains of knowledge. The CMFJ also helps newsrooms to adopt a system that will help them kickstart or sustain mentoring in their work environments. Across the framework, newly hired professionals slowly –phase by phase– grow and develop towards being more-abled individuals with the end goal of becoming eventual mentors that would help in sustaining and contribute to leading the newsrooms' quality journalism work.

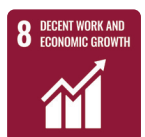
The CMFJ could help in addressing the inter-generational gaps that newsrooms and the entire journalism industry are facing amid the fast-changing landscape and influx of younger blood of journalists by providing an avenue for wiser and veteran journalists to share the critical and necessary journalistic skills and knowledge to younger journalists who are looking for such support in their budding careers.

Keywords:

creativity, news work, mentoring, motivation, Csikszentmihalyi, mixed methods



Journalism



Theme 1: MMR and Complexity

Theme 2: Paradigms and MMR

Designing Complexity-Centred Mixed Methods Research in Times of Polycrisis

Emma P. Bullock

Sam Houston State University

Cheryl Poth

University of Alberta

Abstract:

Complexity science holds significant promise for informing mixed methods research design in times of polycrisis—situations in which multiple, interacting crises (e.g., public health, social inequities, climate change, political instability) co-occur and amplify one another. What makes polycrisis particularly challenging to study is the rapidly shifting and often unknown interdependencies among systems, actors, and contexts. These conditions closely mirror the interconnected nature of the United Nations Sustainable Development Goals (SDGs), in which progress toward one goal is often contingent on, or constrained by, progress on others. Under such circumstances, research problems evolve, boundaries shift, and assumptions about stability no longer hold, necessitating mixed methods designs that can adapt.

This presentation introduces a complexity-centered approach to mixed methods research design, grounded in principles of complexity science, and situates it within a broader framework of four uses of complexity: complexity-aware, complexity-sensitive, complexity-informed, and complexity-centered. While the first three have become increasingly visible in mixed methods literature, complexity-centered approaches—where complexity is a defining characteristic of the research process itself as well as a feature of the system under study—are underdeveloped, particularly with respect to illustrative examples. A complexity-centered approach foregrounds uncertainty, emergence, and adaptation as central design features and positions integration as an evolving process rather than a fixed set of procedures.

Drawing on illustrative examples aligned with SDG-relevant challenges (e.g., good health and wellbeing, quality education, reducing inequalities), the presentation demonstrates how complexity-centered designs require researchers to allow the why, who, when, and how of integration to respond in real time to evolving study conditions. These examples highlight how design decisions are shaped not only by methodological considerations of rigor and feasibility but also by ethical, relational, and situational considerations.

The presentation concludes by outlining implications for mixed methods research design and training. Preparing researchers to work effectively under conditions of polycrisis, and in pursuit of the SDGs, requires new ways of mixed methods thinking and acting when responding to uncertainty. We argue that complexity-centered mixed methods design practices contribute to realizing a distinct complexity paradigm, one that is increasingly essential for addressing today's most pressing societal challenges.

This presentation is original in explicitly positioning the study of problems experiencing polycrisis as requiring a way of thinking and designing mixed methods research.

It illustrates the key features of a complexity-centred approach by offering illustrative examples where principles from complexity science inform mixed methods design decisions. The presentation introduces a complexity paradigm for addressing

interconnected global challenges such as those reflected in the UN Sustainable Development Goals.



Multi-Disciplinary



University-Community Engagement in Marginalized Communities through Media and Film Short Courses: A Mixed Methods Research

Dr Olivene Burke

University of the West Indies Mona Campus, Jamaica

Abstract:

Globally, governments are challenged to address the growing number of issues in marginalized communities. They have sought to engage various stakeholders to address the issues, including universities. Given universities' mandate to enhance the knowledge economy they are tasked with developing and implementing strategies to advance university-community engagement. These strategies should contribute to reducing global inequalities identified under the Sustainable Development Goals (SDGs) 4 and 10.

Through its university-community engagement programme, The University of the West Indies, (UWI) Mona responded to the call to upskill and retool marginalized youth through a specially designed continuing education intervention programme. This intervention provided media and film education in marginalized communities in Jamaica to equip members with critical thinking skills to analyze, evaluate and create media messages. Such skills create opportunities and promote societal inclusiveness.

The purpose of the research is to examine the extent to which the media and film short term intervention course provides access to continued education (skill/career development) for members of marginalized communities and how they perceive the impact of the programme on their livelihood. The research further assessed how the courses not only provide "rich knowledge and skills development, but also promote the development of thinking skills" (He, Yang, Yuan, 2024, p. 1).

The researcher utilized a mixed methods sequential design to collect data in two phases (Creswell & Creswell, 2018). Quantitative data were collected using a survey distributed through SurveyMonkey to course participants in phase one, followed by qualitative data using interviews conducted via Zoom and face-to-face in phase two. Although quantitative data were collected in the initial phase the study is qualitatively driven. The qualitative strand guided the overall interpretation and understanding (Creswell & Plano Clark, 2018).

There were 20 participants for the survey and eight interviews from 7 communities across Jamaica. Data from the survey were entered into SPSS for quantitative analysis, and NVivo for the qualitative data which was transcribed and coded. Data from both the quantitative and qualitative phases were integrated to provide a comprehensive understanding of the phenomena.

Preliminary findings from the research revealed 75% of participants felt that the university's use of media and film intervention created a platform to reimagine the provision of access to education to marginalized communities and expanded public expression. Participants indicated they were exposed to promoting responsible communication. Others felt more included as they developed critical thinking skills and competencies - for example, script writing and digital content creation.

Significantly, the film production short course has been used as a powerful (intervention) tool to advance equitable media education solutions for marginalized community members to navigate spaces often perceived as exclusive. One recommendation is that the film short course be replicated globally to transform marginalized communities. The study has implications for policy, as the findings highlight the sad reality that individuals often face significant barriers on account of socio-economic realities. Consequently, the need to re-imagine policies for alternate education and training programmes through short courses should be mandatory to provide more equitable opportunities for the marginalized.

Keywords

University-community engagement, marginalized communities, community youth education, short courses, media and film



Education



Assessing Quality in Theory-Based Joint Displays: A Unified Checklist

Carolina Bustamante

State University of New York at Old Westbury

Abstract:

Purpose: This paper addresses the need for clearer and more comprehensive guidance on quality in theory-based joint displays in mixed methods research. Although joint displays are widely recognized as an important mechanism for making integration visible, existing guidance tends to emphasize conceptual and methodological issues such as clarity, transparency, and integration while offering limited practical direction regarding the visual and graphic design of displays. The purpose of this paper is to propose a unified checklist for assessing and strengthening the quality of theory-based joint displays.

Design/methodology/approach: This work draws on methodological literature on mixed methods integration and joint displays, including work on legitimization, integration, and visual displays (Creamer, 2023, 2024; Fetter & Guetterman, 2021; Guetterman, Creswell, & Kuckartz, 2015; Guetterman, Fetter, & Creswell, 2015), and brings it into conversation with scholarship on data visualization and graphic design (Cramer & Hason, 2024; Datawrapper Academy, 2024; Midway, 2020; Murchie & Diomedes, 2020). From this synthesis, a conceptual model of quality in joint displays is developed and then translated into a unified checklist organized into two broad areas: conceptual and methodological rigor, and visual design and aesthetics. The checklist is illustrated through a worked example in which a previously published joint display from a convergent mixed methods study on language teachers' learning and use of Web 2.0 tools (Bustamante, 2017) is evaluated point by point and revised accordingly.

Findings/Recommendations: The analysis suggests that high-quality joint displays require not only clear integration, theoretical framing, and meta-inferences, but also careful attention to message hierarchy, layout, typography, color integrity, consistency, and portability. The unified checklist helps identify areas of overlap across prior checklists while also revealing gaps that may otherwise go unnoticed, especially in the visual presentation of integrated findings. Applying the checklist to the published example demonstrated how targeted revisions improved the display's clarity, interpretive strength, readability, and reusability across formats.

Originality: The paper contributes to the mixed methods literature by consolidating multiple dimensions of quality into a single practical tool and by explicitly introducing visual design and aesthetics as a necessary dimension of joint display quality. In doing so, it extends existing checklists and frameworks beyond methodological coherence alone and offers concrete criteria for evaluating the visual form through which integration is communicated.

Practical implications: The checklist is intended as a usable resource for researchers, students, reviewers, and instructors who design, assess, or teach joint displays. It can support the development of stronger figures for manuscripts, presentations, and other dissemination formats, while also providing a shared language for discussing quality in mixed methods visuals.

Keywords

joint displays; integration; visual design; quality criteria



Education

Theme 1: MMR and Complexity

Theme 2: MMR other

From Gaps to Growth: A Mixed Methods Multi-Sectoral Needs Analysis of Agricultural Processing in the Philippines

Kristin R. Clemente

Mater Dei Academy

Abstract:

In the Philippines, farming has been passed down through generations. But today, farmers face crisis after crisis. The weather is unpredictable, global prices go up and down, and up to half of what they grow goes to waste before reaching the market. Small farmers are stuck in the “missing middle”: they sell raw products and never get to process them for higher value. A farmer earns only PHP 322 or US \$ 5.32 a day on average. This explanatory sequential mixed methods study sought to answer the central question: “What are the critical agricultural processing gaps among Filipino farmer associations and agribusinesses, and how can government policy address these to help smallholders capture more value?” The research looked at four sectors: poultry, piggery, rice, and dairy. It listened to farmer associations and agribusiness enterprises, the people who know the struggles best. The study first surveyed all eligible groups to find out who they were, what they produced, and what they needed in infrastructure, technology, market access, and skills. So far, 31 out of about 40 eligible groups have taken part. The second phase involved in-depth interviews with selected farmers to hear their stories: the hopes they carry despite the hardships, the small wins that get overlooked, and the systems that hold them back. The study is guided by the Global Value Chain theory, Resource-Based View, and Systems Theory. These help see not just what is missing, but how power, resources, and broken connections trap farmers in low-value work. Data collection and analysis are ongoing and are expected to be completed in April 2026. The quantitative and qualitative parts will be brought together using a joint display matrix (Guetterman & Fetters, 2018). The goal is to create recommendations that are backed by numbers and rooted in the real experiences of farmers, processors, and local government officials. In a time when crises pile on top of each other, mixed methods offer a way forward. They help see the whole picture: the climate shocks, the unstable prices, the waste, while also letting the voices of the people who live through it be heard. They show a path from describing problems to solving them, from gaps to growth, from a farmer’s daily struggle to a future where the land finally gives back what it deserves.



Agricultural,
Veterinary and
Food Sciences



Expanding Mixed Methods Research in East Asia: Present and Future

John W. Creswell

University of Michigan

Jeremaiah M. Opiniano

University of Santo Tomas

Abstract:

We have seen the rapid expansion of mixed methods research (MMR) into East Asian countries in the last few years. This expansion represents the continuing development of three affiliates and eight chapters within the Mixed Methods International Research Association (MMIRA) spanning across the globe. Specifically, Japan Society for Mixed Methods Research (JSMMR), the MMIRA-China Chapter (ChC), the Philippine Association of Mixed Methods Researchers and Emergent Scholars (PAMMRES), and most recently the Southeast Asia chapter (MMIRA-SEA) have encouraged the development of MMR in East Asia.

In addition, MMIRA regional and global conferences have featured panels discussing the expansion in East Asia, such as the JSMMR-MMIRA Asia Regional conference in Shizuoka, Japan in 2019; the MMIRA Regional Conference in Beijing, China in 2023; the MMIRA Global Conference in Jamaica in 2024; and the JSMMR-MMIRA Asia Regional conference in Tokyo, Japan in 2025. Participants in panel presentations have varied, but often they represent China, the Philippines, Japan, Thailand, Taiwan, and Korea. With the new MMIRA-SEA chapter, additional countries, such as Laos, Cambodia, Vietnam, Indonesia, Singapore, Brunei, Myanmar, and Malaysia will become part of the MMR global community.

From these panels and developments, we have learned about the activities surrounding expansion, the challenges and rewards, and the cultural adaptations of Western mixed methods research. Still, more needs to be learned and, unfortunately, this rapid expansion remains largely unnoticed by the world mixed methods community. Further, the expansion has led to innovative thinking about the cultural adaptation of mixed methods research that needs to be shared internationally, especially as new chapters are proposed to MMIRA.

The purpose of this presentation will be to discuss the expansion of mixed methods research in East Asia using a three-part framework: 1) The activities developed in East Asian countries; 2) The adaption of mixed methods research to the countries focused on opportunities and challenges; and 3) The emerging efforts to adapt the Western mixed methods ideas to fit the culture of the countries. Thus, the present state of expansion will be discussed (1 and 2), as well as prospects for the future (3).

Moreover, a special feature of our presentation will be a discussion about the expansion and adaptation (1,2) of mixed methods research in the Philippines. This will include a recently-completed bibliometric analysis of Filipino mixed methods research projects, designs used, disciplines doing MMR, geographic regions of the researchers, the use of integration, researchers' views about challenges in conducting MMR, and within- country recommendations for further expansion using the Filipino metaphor of "halo-halo."

Evidence pointing toward a future expansion will be discussed. This evidence will include cultural narratives from Japan reported in the Journal of Mixed Methods Research; the increased empirical indigenous studies using mixed methods research; books suggesting culturally-responsible research in East Asia, and availability of country-specific guidelines for research as models (such as from Australia, US Native American methods, and Hawaiian evaluation research methods). Finally, suggestions the future expansion will be provided to stimulate additional dialogue.

Keywords:

Mixed methods research, East Asia, expansion, MMIRA, mixed methods geographic prevalence



Multi-Disciplinary



Leading in Polycrisis: Mixed Methods Study Examining the Evolving Roles of Academic Deans in Research-Intensive Universities

Dr. Vanessa Ellis Colley

University of Saskatchewan

Abstract:

In an era characterized by polycrisis – marked by geopolitical tensions, financial instability, environmental disruptions, and various global pressures – the traditional model of universities faces mounting challenges. Under increasingly entrenched managerialist regimes, universities which were established as a public good have shifted toward market-oriented strategies driven by revenue generation, public-private partnerships, tuition dependency and performance metrics straddled with increased reduction in public funding (Shapira, 2024) - all while ensuring they remain sustainable.

The changes have reshaped institutional governance structures and the professional expectations of academic mid-level leaders (academic deans). Straddled at the intersection of academic governance and corporate management imperatives, academic deans occupy a liminal space that renders their roles complex, ambiguous, and frequently characterized by competing demands (Arntzen, 2016; Boyko & Jones, 2010; Hoyle & Wallace, 2005).

This study investigates how managerialist practices manifest within Canada's U15 research-intensive universities and examines how academic dean's perceptions and lived experiences of these practices shape their professional roles, responsibilities and approaches to institutional governance. Grounded in a constructivist paradigm, the researcher employed a qualitatively dominant cross-over mixed methods design (Frels & Onwuegbuzie, 2013) on the premise that how academic deans experience and understand their roles are socially constructed with multiple realities of the socially constructed understanding and interpretation of the deanship (Ellis Colley, 2023). Data were collected in two phases. A total of 19 academic deans across five U15 universities in Western Canada participated in the survey with the questionnaire distributed through SurveyMonkey in phase one. This had a response rate of 27.5%. Interviews were then conducted via Zoom in phase two with eight participants.

The survey showed that 47% of the participants identified as females and 53% were males. The integrated analysis of the quantitative and qualitative data strands show that deans' responsibilities increasingly reflect corporate-style managerial functions, including budgeting and revenue generation, strategic planning, advancement and donor relations, marketing and marketization, and human resource management. The participants reported role conflict and ambiguity, often stemming from unclear expectations and tensions between collegial academic values and managerial imperatives. Many deans also expressed feeling insufficiently prepared for corporate-oriented responsibilities that diverge from their academic discipline.

The study has implications for policy and practice as the findings illuminate the absence of mentorship in academic leadership and lack of preparedness, universities should consider mandatory leadership capacity building programs as part of their strategic plan, with clearly defined professional management pathways. As the findings highlight the evolving professionalization of the deanship and contribute to broader discussions on governance and leadership preparation, the study has significance for a larger study to examine academic leadership responsibilities in current polycrisis, and how mid-level leaders are navigating even more enhanced complexities to closely align the universities to the purpose for which they were established to ensure inclusive and quality education for all.

Keywords:

managerialism, research-intensive universities, academic deans, mixed methods



Education



Bye-Bye-Bi: A Mixed Methods Study on Bisexuality and Heteronormativity Among Filipino Senior High School Students

Maribel R. Gaite, Ph.D.

Mater Dei Academy

Peter Augustine R. Gaite

Mater Dei Academy

Abstract:

It is only within progressive circles in the Philippines that bisexuals feel the warmth of visibility and acceptance. The few local studies on bisexuality rarely explore the progression of how the Filipino youth experience it over time. This concurrent mixed-methods study is crucial for understanding how young Filipinos manage their sexuality while dealing with intense societal pressures. It sought to answer the central question: "What theory about bisexuality emerges from a culture of heteronormativity among Filipino senior high school students?" Specifically, it addressed the research questions: (1) How do the participants characterize their childhood attractions and preferences? (2) To what extent and what is it like for them to undergo said attractions during their formative years? (3) How has their sexuality changed over the years, if it has? (4) To what degree and how do the participants experience a heteronormative culture as senior high school students? and (5) What theory emerges from the participants' realizations about their bisexuality within their heteronormative context? A total of 41 youth met the inclusion criteria and consented to participate in the survey that included open-ended questions on bisexuality. Employing theoretical sampling, in-depth interviews helped clarify emerging themes on the relational components and mechanisms behind their experiences of identity emergence. Most of them narrated having been indifferent towards same-sex attraction and queerness as young children. Due to a dearth of bisexual representation and an environment largely unwilling to accept queerness, these individuals did not initially view people of the same sex as potential objects of desire, but merely as friends. For the few who were aware of their attractions, they chose to suppress their feelings lest they be seen and treated as "abnormal." The local culture of school-crush teasing, while not overtly malicious, planted seeds of shame and a need for secrecy in the minds of the participants as they were growing up. Unwarranted commentaries created roles and expectations they felt they must fulfill like having to like only the opposite sex. The participants internalized the norm they could not question, the diatribe they could not fend. A substantive theory emerged on the critical phases of the bisexual youth experience. The coming-of-age journey of bisexuality within a heteronormative societal and school structures comprised of the following stages: (1) a heteronormative upbringing marked by early infatuations and initial indifference toward bisexuality, (2) experience of attractions under family scrutiny leading to preference secrecy, (3) adolescent bisexual awakening and the negotiation of a closeted identity amid societal pressures, and (4) the recognition of one's bisexuality while existing within a heteronormative society, culminating in a level of self-acceptance and maturity. The participants appeared to have no definite moment when they suddenly became bisexuals. Feelings of bisexuality were covertly present in them even before they could call it what it was. Their coming-of-age was not one of ease or naivety; it was a metamorphosis of bisexuality. The study recommended that schools must tackle queer topics with respect, alongside heterosexual topics in the spirit of equality and destigmatization.



Education



Pragmatism in Practice: A Mixed Methods Study Developing a Therapist Readiness Guide for Trauma Processing

Kim Golda

CQUniversity, Australia

Abstract:

Purpose: The purpose of this presentation is to demonstrate how a pragmatist paradigm informs an explanatory sequential mixed methods study examining how Eye Movement Desensitisation and Reprocessing (EMDR) therapists assess readiness for trauma processing. The study is situated within a sample of Australian EMDR therapists working with adults with complex trauma. These clients may present with emotional instability, dissociation, and relational or identity difficulties, increasing the risk of destabilisation and creating uncertainty for therapists when determining readiness for trauma processing. Therapists must assess when trauma processing can safely begin, yet little is known about how these decisions are made. Consistent with pragmatism's focus on real-world problems and what works in practice (Creswell, 2018), the study addresses this clinical uncertainty. The aim is to develop a practical readiness guide to support clearer and safer decisions about initiating trauma processing in EMDR therapy.

Design/Methodology/Approach: To address this clinical uncertainty, the study adopted an explanatory sequential mixed methods design informed by pragmatism. Phase 1 involved a cross-sectional online survey of Australian EMDR therapists. The survey included closed-ended quantitative items and open-ended qualitative responses, with findings informing subsequent phases. Phase 2 involves focus groups with EMDR therapists to extend survey findings and contribute to a draft readiness guide. Phase 3 involves EMDR consultants and trainers refining the guide. Findings from each phase build progressively toward the development of a practical readiness guide, consistent with pragmatism's focus on what works.

Findings: Adopting a pragmatist paradigm allowed the study to remain flexible and responsive to the research problem. Rather than starting with a fixed framework of readiness, the survey explored what EMDR therapists recognise and use when making readiness decisions. Quantitative findings identified commonly selected readiness factors, such as clients' ability to regulate emotions, use grounding strategies, maintain dual awareness, and manage dissociative responses, while qualitative responses clarified how these factors are understood and applied in clinical work, and highlighted areas of uncertainty. Using both approaches captured shared patterns in therapists' responses and the complexity of clinical decision making, with methods combined for their usefulness in line with a pragmatist stance. Together, the findings provide a clearer understanding of how therapists assess readiness for trauma processing. Quantitative findings informed qualitative exploration, with integration occurring in the development of the readiness guide. The sequential design allows later phases to build on this understanding, adding clinical depth to support the development and refinement of a practical readiness guide.

Originality: This study applies a pragmatist mixed methods approach to the underexamined clinical issue of how EMDR therapists determine readiness for trauma processing in complex trauma. By integrating quantitative and qualitative evidence, the study moves beyond description to develop a practical guide informed by clinical experience.

Practical Implications: Grounded in pragmatism, the study demonstrates how selecting and combining methods based on usefulness can translate research into practical guidance. The sequential design supports the development of a readiness guide to assist therapists in making clearer readiness decisions in EMDR therapy.

Keywords:

Pragmatism; Mixed Methods; Explanatory-sequential; Integration



Health Sciences



Psychology



Theme 1: AI technologies in MMR

Theme 2: Analytical Techniques in and for MMR

LLM-assisted Mixed Methods Network Analysis: Combining Large Language Models with Network Science for Applied Research

Kelly Grace

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Abstract:

Purpose: This session will highlight the use of LLM-assisted mixed methods network analysis as an emerging method to address a methodological gap in integrating qualitative data into network analysis mapping. LLM-assisted mixed methods network analysis allows the integration of qualitative themes from large amounts of network data such as from social media data and bibliometric data (Boudourides, 2026). This provides an expansive look at the relational structures in networks that are shaping the health sciences field (Borgatti et al., 2009; Cunningham et al. 2012; Yu et al., 2023). This presentation presents a practical approach that pairs LLM-assisted qualitative analysis with network analysis methods to leverage large relational datasets while integrating qualitative meaning. This approach is demonstrated through two applied cases: mapping interprofessional communities of practice in health sciences and the bibliometric mapping of scholarly impact in clinical and translational science.

Design/methodology/approach: This work describes the steps taken to scrape, process and analyze data in the two case studies. Including a look at human-centered validation processes to support accurate and ethical analysis of large amounts of qualitative data. It will also showcase the software analysis considerations of this approach as well as the realities of working with large-scale data in this way. The cases will give context to the opportunities and challenges of implementing this approach.

Findings/Recommendations: LLM-assisted mixed methods network analysis is a promising approach for understanding the relationships between key actors in large networks and communities and allows for the integration of qualitative themes into the mapping of these relationships to create deeper context and understanding of the issue being examined. Rigor and human-centered validation approaches of large amounts of data is a critical component of implementing LLM-assisted mixed methods network analysis (Boudourides, 2026b). Researchers hoping to implement this method should be well-versed in these processes to ensure ethical analysis and accuracy of findings.

Originality: This is an emerging approach that integrates quantitative and qualitative data into network mapping and research at scale using LLM-assisted analysis. It can help researchers better understand the communities and networks of interest in a way that was largely inaccessible due to the large amounts of data being analyzed. However, it is still in its nascent phase of development and requires more researchers to weigh in on the opportunities and pitfalls of applying this approach.

Keywords:

network analysis; Large Language Models; Health Sciences; Interprofessional Education; Clinical and Translational Science



Health Sciences



Theme 1: Integration in MMR

Theme 2: Mixed Method in Tool Development Process to ensure validity

Development and Validation of Blended Teaching Assessment Tool (BTAT) for Health Science Program in the Philippines

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Maria Teresita B. Dalusong

Pamantasan ng Lungsod ng Maynila (University of the City of Manila), Philippines, College of Physical Therapy; University of the Philippines, National Teachers Training Center in Health Professions

Valentin C. Dones III

University of Santo Tomas, Philippines

Abstract:

Background: Blended teaching combines synchronous, asynchronous, and face-to-face methods, which traditional classroom-based evaluation tools fail to capture (Matosas-López et al., 2019)(Ozga et al., 2020). Existing instruments also show validity and reliability issues due to weak development processes (Morgado et al., 2017)(Dones et al., 2024), potentially leading to inaccurate evaluation that affect faculty members and administrative decisions. Therefore, a contextually grounded and validated tool is needed to assess instructional quality in blended learning. This study developed and validated the Blended Teaching Assessment Tool (BTAT) and confirmed the dimensions for quality blended teaching in health science programs.

Method: The study employed exploratory sequential mixed method design using Boateng's (2018) three phases of instrument development process: (1) Item development; (2) scale development; (3) tool evaluation. Item generation was conducted through literature review and focus group discussion with 13 experts, and 9 students. The items then underwent content validation with 16 experts using 3 rounds of Delphi approach. Followed by Cognitive interviews with 8 participants items using content analysis of Tourangeau's four steps of cognitive operation. BTAT was migrated to google form and was administered to universities. Cross-sectional survey was accomplished by 554 participants. The sample was randomly split into two: 304 for Exploratory factor analysis (EFA) and 250 for Confirmatory Factor Analysis (CFA) to obtain construct validity and reliability.

Results: Literature review and FGD generated 156 initial items. Majority of the items were given acceptable CVI ($I-CVI \geq 0.78$) and good (to excellent ($0.6 - 0.74$) modified kappa statistics. Experts' input further refined and reduced BTAT to 82 items within 8 themes. Content analysis of cognitive interview further refined BTAT reducing the items to 53 items within 5 themes.

EFA identified a reliable 6-factor structure with 70.7% total variance explained and excellent Cronbach alpha ($\alpha = 0.8-0.9$) for Course Guide & Direction, Teaching Skills, Quality of Learning Videos, EdTech Use, Learning Activities, and Reflective Feedback.

CFA confirmed the 37-item in the 6-factor model with good fit ($RMSEA = 0.076$, $GFI = 0.95$, $SRMR = 0.057$), strong factor loadings (>0.5 , $p < 0.05$), average variance extracted ($AVE \geq 0.5$), and high reliability ($\alpha = 0.959$; Composite Reliability = 0.954). These confirm the dimensions for quality blended teaching obtained through EFA. Heterotrait-Monotrait Ratio (HTMT) showed acceptable discriminant validity (≤ 0.85) for BTAT indicating that each dimension is considered distinct from other dimensions (Ab Hamid et al., 2017).

For the 37 BTAT items, Cronbach's α was high overall (0.959) and for each factor (>0.70), indicating strong internal consistency. McDonald's ω (0.954) also showed excellent reliability. (Orcan, 2023).

Conclusion: BTAT shows strong convergent validity through its 6-factor structure, supported by acceptable loadings, eigenvalues, total variance explained, fit indices, AVE, and composite reliability. Discriminant validity is confirmed by HTMT (≤ 0.85) and clear factor loadings without cross-loading. These indicate that BTAT captures the construct for measure for quality Blended instructional delivery.

BTAT demonstrates good construct validity and internal reliability that measures 6 dimensions of quality blended teaching approach in health science programs.



Education



Theme 1: MMR Research Designs - Innovation and creativity

Theme 2: Quality criteria in MMR

The role of conceptual models in enhancing rigor within mixed methods study designs

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University of Michigan School of Nursing

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Abstract:

Purpose: Theoretical and conceptual models have been recommended in mixed methods research to both provide a lens and to inform the procedures and methods used (Alavi et al., 2018; Feters, 2020). However, researchers often fail to thread conceptual model elements throughout the research, overlooking their potential to enhance rigor. Few examples of a thoroughly integrated conceptual model appear in mixed methods literature, limiting our ability to understand phenomena of interest.

We broadly define conceptual models as used in mixed methods research to include formal theories, conceptual models, and theoretical frameworks. Integration of qualitative and quantitative approaches is the defining feature of mixed methods (Guetterman & Manojlovich, 2024), yet conceptual models are underutilized despite their potential to inform integration. Therefore, the aim of this paper is to describe the incorporation of a conceptual model throughout multiple levels: writing aims, designing the mixed methods study, determining methods and analysis, and interpreting and reporting.

Approach: The incorporation of a conceptual model will be illustrated by the CONTRACTION-CS study, which is examining variation in cardiac inotrope usage among cardiac surgery patients within US-based institutions (Mathis et al., 2025). The study uses an explanatory sequential mixed methods design consisting of an initial quantitative observational cohort study using electronic health record (EHR) data and surveys followed by qualitative interviews. Sutherland and Levesque's (2020) analytical framework for clinical practice variation informs all phases of the mixed methods design (Sutherland & Levesque, 2020).

First, the framework was tailored into a guiding conceptual model within the context of cardiac inotrope usage, focusing on domains of capacity, agency, and evidence as drivers of clinical variation. Overlapping domains for patient-, clinician-, and institution-level drivers were added to match the granularity of planned analyses and facilitate clinically meaningful interpretations. The conceptual model subsequently informed data collection, by aligning surveys and semi-structured interview guides on common domains (i.e., matching and connecting integration). Moreover, the conceptual model informed sampling decisions in the surveys and interviews (building integration). At the analysis stage, the conceptual model informed both the quantitative analysis and thematic analysis. Finally, the model served as a basis for merging quantitative and qualitative results on common domains through joint displays.

Findings/recommendations: Conceptual models can provide a crucial tool for achieving meaningful integration in mixed methods research. To ensure the conceptual model is leveraged to its fullest capacity, we recommend centering the model through multiple levels of a mixed methods study. Future research should examine the extent to which conceptual models are used in mixed methods research and identify exemplary practices.

Originality: This paper provides a detailed example of how a conceptual model can be threaded throughout a mixed methods design and how it remained at the center of integration strategies.



Health Sciences



Theme 1: MMR and Complexity

Theme 2: MMR Research Designs - Innovation and creativity

Using Mixed Methods to Explore and Support the Consequential Validity of International Large-Scale Assessment Systems

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Abstract:

Consequential validity concerns the intended and unintended consequences of measurement (e.g., Messick, 1989, 1994, 1995) and raises questions about test bias and the impact an assessment system has on a given society. International large-scale assessments (ILSAs) are often interpreted as indicators of system performance and can generate substantial policy responses. For example, so-called “PISA shocks” have prompted significant educational reforms in countries across the world, including Australia, Germany, and Norway, illustrating how assessment results can reshape national policy agendas and public discourse (Li et al., 2025; Lingard et al., 2015; Sellar & Lingard, 2014). While such assessments are designed to provide comparative information on student achievement, their use in policy-making contexts may produce unintended consequences, including the narrowing of curricular priorities and the reorientation of national education systems toward measurable outcomes (Verger et al., 2019). The presence of such unintended consequences calls into question measurement validity in its various forms (e.g., construct, face, predictive, criterion validity). As a result, every society that uses ILSAs should be concerned with consequential validity, which involve complex interactions among psychometrics, policy processes, and local educational contexts (e.g., Rutkowski et al., 2013).

Purpose: Consequential validity has also been a concern among qualitative researchers (e.g., Patton, 2015) and mixed methods researchers (e.g., Brewer et al., 2015; Hitchcock et al., 2015; Slomp et al., 2015). However, there is merit in further developing a mixed methods lens to understand ILSA consequential validity. This paper will therefore demonstrate how mixed methods can inform multiple facets of an ILSA. This presentation will draw on ILSA resources, such as Rutkowski et al. (2013) and Nilsen et al. (2022), to inform the merits of mixed methods research for investigating LSAs.

Methods: As societies evolve, so will their use of assessment data, suggesting mixed methods frameworks can be useful when thinking through the management of even longstanding ILSAs. This presentation will present a straightforward mixed methods approach, the Participatory Culture-Specific Intervention Model (PCSIM; Hitchcock & Nastasi, 2024), to guide discussion of an ILSA’s consequential validity and inform subsequent policy crafting. As a participatory approach (i.e., one works with interest holders such as policymakers, psychometricians, and end-users of assessment information), PCSIM provides a 10-stage process guiding interest-holders through: (a) accounting for existing research, practice, and assessment policy, (b) learning the local culture at hand and how an ILSA has been used within a given society, (c) forming partnerships to inform system research and management, (d) specifying goals and problems the ILSA is meant to address, (e) conducting formative research, (f) developing a local, culture-specific theory around the merits of an ILSA, (g) developing a culturally relevant changes to a system, (h) further system adaptation, (i) guiding subsequent implementation of system use and changes, and (j) building capacity and translating findings to new contexts.

Practical and social implications; This paper will demonstrate how this process can inform overall guidance on ILSA design, use, and refinement, further establishing the merits of mixed methods thinking when developing well-planned ILSAs that hold up to the lens of consequential validity.

Keywords:

large-scale assessments, consequential validity, mixed methods



Education



Making Space for Learners' Voice: Reflections on an Embedded Open Ended Question in a GenAI Survey

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Abstract:

Purpose: Research on Generative AI (GenAI) in technology enhanced learning is developing quickly, alongside ongoing uncertainty about appropriate use, ethics, and learner support. In this context, survey research can limit learner voice by relying on predefined response options that may not reflect how learners understand and experience emerging technologies. Although mixed methods research has long recommended embedding qualitative elements within surveys to address this issue (Creswell & Plano Clark, 2017; Zhou et al., 2024), such approaches remain uncommon in large scale technology enhanced learning studies. This paper presents methodological reflections on the design and integration of a learner survey that embedded an open ended question within a predominantly quantitative survey instrument.

Design/methodology/approach: The study used a concurrent mixed methods design (Creswell & Plano Clark, 2017) in an open, distance, and flexible learning (ODFL) context in New Zealand. A 41 item exploratory survey was administered to 459 learners. The survey was structured around six focus areas, with the final section consisting of a broad, open ended question inviting learners to share perspectives on GenAI use not captured elsewhere. Some closed response items included an "Other (please specify)" option, allowing learners to introduce responses not represented in the predefined categories. Quantitative data were analysed descriptively, while responses to the final open ended question were analysed thematically and integrated at the level of interpretation.

Findings/Recommendations: Placing the open ended question at the end of the survey allowed learners to express connections between ethical concerns, learning practices, and institutional expectations that were not evident in fixed response items. These responses were not peripheral; rather, they helped explain and contextualise quantitative patterns, consistent with an explanatory integration logic in mixed methods research (Fetters et al., 2013). At the same time, clear methodological limits were evident. Brief free text responses, including those provided through "Other" fields, supported clarification and personal context but were not suitable for standalone qualitative analysis. The lack of follow up probing further limited analytic depth. End of survey open ended questions are therefore best used as explanatory complements to quantitative findings rather than as substitutes for in depth qualitative methods.

Implications: Short free text survey responses limit analytic depth, positioning embedded open ended questions as tools for explaining and contextualising quantitative patterns rather than generating rich qualitative insight. Nevertheless, integrating such questions in large scale GenAI surveys offers a practical, scalable way to surface learner perspectives and support more inclusive and ethically responsive research on emerging technologies.

Originality/contribution: This paper contributes to mixed methods and technology enhanced learning research by showing how learner voice can be intentionally incorporated into large scale surveys through design led integration (Creamer, 2018). It offers a pragmatic methodological approach for researching emerging educational technologies that balances interpretive depth with survey scalability.



Education



Theme 1: Teaching MMR

Theme 2: Joint Displays and Data Integration

When to Teach Mixed Methods in Nursing? A Multiphase e-Delphi Study of Expert Views

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Aoyama Gakuin University

Michiko Abe

Hamamatsu University School of Medicine

Mitsuyuki Inaba

Ritsumeikan University

Abstract:

Purpose: Mixed methods research (MMR) is increasingly valued in nursing because it can address both the scientific and human dimensions of health-related phenomena (Thompson & Ivankova, 2022). This presentation reports one part of a larger multi-phase study launched in April 2020 to develop an e-learning program for Japanese nursing researchers learning MMR. Informed by prior research that identified limited awareness, uneven use, and substantial learning needs related to MMR among nursing researchers in Japan, the present study examines expert views on when key MMR content should be taught across bachelor's, master's, and doctoral education in nursing.

Design/methodology/approach: We employed a multi-phase mixed methods approach incorporating a modified e-Delphi study. The present analysis focused on 11 experts from different regions of the world who participated in a two-round e-Delphi survey and 8 who subsequently took part in post-interviews. Cluster analysis was conducted on survey ratings of how strongly specific MMR teaching topics should be emphasized at each educational level. Interview data were then integrated with the e-Delphi findings using a joint display (Fetters et al., 2013). Furthermore, a text-mining technique was employed to visualize qualitative differences in post-interview responses across the participants. The survey covered key topics in MMR education across educational levels.

Findings/Recommendations: Two clusters were identified. Cluster 1 showed a clearer increase in ratings from bachelor's to master's to doctoral levels, indicating a stronger tendency to place core MMR content primarily in graduate, especially doctoral, education. Cluster 2 showed relatively higher ratings at the bachelor's level and a less steep gradient across stages, suggesting a more bachelor-inclusive and developmentally progressive approach. Integrated analysis indicated that the key difference between the two clusters lay less in whether MMR education was important than in where along the educational trajectory it should be emphasized. At the same time, considerable common ground was observed: bachelor-level education was generally framed as literacy-oriented, master's-level education as basic design and planning, and doctoral-level education as implementation and execution. Mentoring and interactive learning opportunities were regarded as important across levels. These findings suggest that staged MMR curricula should be designed with attention both to developmental sequencing and to learners' methodological backgrounds.

Originality By integrating: e-Delphi findings with post-interview data, this study clarifies not only differences in experts' rating patterns but also the meanings attached to them. Rather than treating curricular timing as a purely technical issue, the study shows that expert views reflect different assumptions about readiness, progression, and the role of MMR within nursing education. The findings contribute to the development of context-sensitive MMR curricula and may also inform the design of e-learning support for nursing researchers in Japan and beyond. The study is also methodologically original in its use of text mining to visualize qualitative differences in post-interview responses, complementing the integration of e-Delphi and interview findings through joint display.

Keywords:

multi-phase mixed methods e-Delphi study, nursing education, e-learning, cluster analysis, joint display, visualization



Education



Theme 1: Paradigms and MMR

Theme 2: MMR and Complexity

How is Mixed Methods Research utilized in Positive Deviance Applications?

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Abstract:

Background: Positive deviance (PD, thereafter) is “an approach to social change that enables communities to discover the wisdom they already have and then to act on it” (Singhal and Peers, 2019). It is a solution-focused framework applied to a range of social problems worldwide. PD needs to be grounded in mixed-methods research (MMR) to effectively address social issues.

The concept of PD was first introduced by Marian Zeitlin, a nutrition scientist, who conducted a meta-analysis of nutrition support interventions for developing countries. The idea was developed into a practical framework in Vietnam in the 1990s, applied to the childhood malnutrition problem, a wicked problem involving multiple factors across sociopolitical, economic, and individual levels. The PD approach can be most powerful for complex issues, such as the Vietnam case.

In the very complex era we live in, PD has been appreciated more than ever. As reflected in the literature, the number of scientific studies using PD has increased over the last decade. Especially in health care delivery, the accumulation of literature is extensive (Kassie et al., 2024). While those review studies (Foster et al., 202; Kassie et al., 2024) examined designs, they did not examine them sufficiently from the MMR standpoint.

Additionally, the author has introduced PD to occupational health and safety (OHS) professionals, such as occupational doctors and nurses, and health and safety officers, and it has been well received, with very high expectations for application in their practices. However, research studies applying PD to OHS issues seem limited to health care; the addressed topics are mainly safety in medical care procedures. **PURPOSE:** Given the above context, this study aims to examine empirical studies that use the PD in OHS to determine how they also employ MMR, with a focus on recent years, a period marked by conceptually and practically divergent developments for both the MMR and PD. This study will demonstrate how MMR can work with practical frameworks, such as the PD, to more effectively challenge and address social issues.

Methods: Published empirical studies on OHS since 2020 that used the PD will be identified by searching the PubMed, Scopus, and Google Scholar databases using keywords and their synonyms in titles. Only studies with MMR designs will be selected. The selected MMR studies will be further examined to determine whether they explicitly specified particular MMR designs, what quantitative and qualitative data were collected and analyzed in each arm, and how those results were integrated. The selected studies will be categorized and numerically analyzed, and several representative studies will be further selected and descriptively analyzed.

Result Implications: The final integrated results from the quantitative and qualitative analyses of the extracted studies will reveal trends and snapshots of how PD and MMR work together to solve complex social and organizational issues in the OHS context.



Health Sciences



Multi-Disciplinary



Theme 1: Inter-Methodology Mixing (I-MM)

Theme 2: Joint Displays and Data Integration

Focusing on Integration in Mixed Methods-Grounded Theory Methodology (MM-GTM): Insights from Housing Research

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Abstract:

In my dissertation on the sociology of housing, I examine the action logics of housing companies oriented towards the common good in two German metropolitan regions. The scope of action to these housing companies – in the context of a transformed German welfare state and the associated successive marketization of social housing provision – is stretched between social responsibility on the one hand and economic action on the other.

Therefore, I have implemented a Mixed Methods Case Study Design (Cook & Kamalodeen, 2023) aimed at generating complementary findings using two German metropolitan regions with tight housing markets but different housing policy instruments as cases.

To generate the data, I conducted 24 semi-structured interviews with executives from housing companies and complemented them with quantitative metrics (e.g. company financials). For the analysis, I applied, among other methods, the grounded theory methodology in conjunction with mixed methods (MM-GTM) such as integrated theoretical coding (Creamer 2022).

Integration is considered the “heart and soul of mixed methods research” (Guetterman et al., 2020, p. 430; Bazeley & Vogl, 2026). However, the challenge of integration is currently being further discussed in the MMR discourse, as integration remains “often underdeveloped and theoretically insufficiently grounded” (Vogl, 2023, p. 143; Vogl & Krah 2025).

My contribution builds on this MMR debate regarding integration. On the basis of my empirical study, I therefore outline my approach to Mixed Method-Grounded Theory Methodology and explicate the various points of integration in the analytical process, culminating in the dissemination of the results in a joint display. Finally, I reflect on associated strengths and limitations.



Human Society



Theme 1: Joint Displays and Data Integration

Theme 2: Inferences and Meta-inferences

Sensing clients' pulse surrounding personalized and digital financial services: A mixed methods study of Philippine cooperatives and their members

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Abstract:

Cooperatives remain a major player in financial inclusion, especially in communities without or with limited access to financial intermediation. Their roles operate through traditional, in-person services. At least in the Philippines, these financial institutions still operate in-person, non-connected financial services but these cooperatives have long embrace having their own automated teller machines (ATMs), foreign and domestic remittance services, bills payments platforms, among other electronic financial services.

While cooperatives have embraced previous modes of technological innovation, today's digital finance environment provides newer opportunities and challenges to the cooperatives sector. If cooperatives were to remain cooperatives, as well as to keep in good stead with the banking sector, cooperatives may have to embrace the client- and process-oriented modes of digital finance: mobile banking/apps, cloud computing, big data, electronic stored value money cards, etc. (IDB Invest, 2021). In the Philippines, financial technologies (FinTech) have permeated Filipinos' daily transactions led by the super app GCash. This development from FinTech challenges the ability of cooperatives since: a) their staff may not be well-versed with digital competencies and digital finance; b) digital finance may be a costly financial infrastructure; and c) cooperatives' efforts to provide personalized services in rural areas, the cooperative clientele may be divided between older and younger generations (with the latter more versed with digital technology) (IDB Invest, 2021).

FinTech may be posing challenges to cooperatives. At least for GCash, some cooperatives act as "mobile billers" and as payment outlets. However, since people can easily get GCash accounts, will the situation see members of cooperatives abandon their cooperative membership and whatever financial obligations they have with cooperatives? Given the reach also of FinTech, these digital financial services may, in a way, address interconnectivity issues that have long plagued the cooperatives sector. Meanwhile, there seems to be limited research that captures the integrated perspectives of both the members and the officials and staff of cooperatives surrounding digital finance.

This convergent mixed methods action research seeks to determine the pulse of cooperatives and cooperative members surrounding the use of personalized and digital finance in delivering and accessing the financial products and services of cooperatives. Covering the member-primary cooperatives of the National Confederation of Cooperatives (NATCCO), the study conducted a survey of individual members of these primary cooperatives (N=1,070) and is finishing focus groups and key informant interviews with officials of these cooperatives under the NATCCO network (target N=20). Results from the qualitative survey will be processed using descriptive statistics (frequency counts, mean scores). Meanwhile, field texts (transcripts) from interviews will be analyzed using thematic analysis (Braun & Clark, 2006). Once the outcomes of both quantitative and qualitative analyses are produced, proponents will integrate using joint display tables (Guetterman, 2022), particularly the pillar integration process or PIP (Johnson et. al, 2019). Mixed methods findings here hope to provide insights on cooperatives' embrace of digital finance, especially if to connect cooperative members from different parts of the Philippine archipelago.

Keywords:

Cooperatives, digital finance, financial services, Philippines, mixed methods



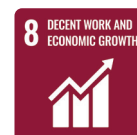
Commerce



Management



Tourism and
Services



Theme 1: AI technologies in MMR

Theme 2: MMR and Complexity

AI-enabled Software Development Practice Backshoring: A Feasibility Study for Australian SMEs

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Dr. Sajjad Shokouhyar, PHD

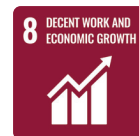
Australian Institute of Business, Australia

Abstract:

For decades, Australian SMEs have relied on offshore outsourcing for software development, leading to reduced costs but also creating dependency and eroding in-house technical capabilities. This research is motivated by a critical question: Can Artificial Intelligence (AI) provide a viable pathway for SMEs to backshore their software development, strengthening Australia's industry? This study investigates the feasibility and socio-technical implications of AI-driven backshoring. Generative AI, especially Large Language Models (LLMs), is reshaping software development. Studies show significant productivity gains from AI coding assistants, challenging the economic rationale for offshoring. This presents an opportunity for Australian SMEs to augment domestic teams with AI, neutralising labour arbitrage. This research moves beyond technical performance to examine impacts on human capital, organisational practice, and strategic control, addressing a key knowledge gap. To provide actionable insights, this study employs an explanatory sequential mixed-methods design. The initial quantitative phase uses Empirical Process Control Theory (EPCT) to inform an empirical experiment comparing AI and human performance (speed and accuracy) in agile roles. In addition, Transaction Cost Economics (TCE) is used to frame a predictive cost model derived for evaluating the 'make-versus-buy' decision. The subsequent qualitative phase uses a questionnaire and semi-structured interviews to explore strategic and human factors. This phase is informed by Resource Dependency Theory (RDT) to assess how backshoring impacts strategic control, and it is analysed through Socio-technical Grounded Theory (STGT) to uncover crucial human factors like workforce retraining and organisational change for a successful transition. This research aims to create tangible change for Australian SMEs. Its primary contribution will be a practical framework guiding SMEs in adopting AI and backshoring development. It will also provide a data-driven cost-benefit model for strategic backshore decisions. The findings will generate evidence-based recommendations for policymakers and educational institutions, helping to reform curricula and shape industrial policy to foster a resilient, AI-augmented domestic software industry.



Multi-Disciplinary



Theme 1: Analytical Techniques in and for MMR

Theme 2: Software Application in MMR

AI-Assisted Mixed Methods Content Analysis: Environmental Reporting across East African Community Countries

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Abstract:

Purpose: This paper develops and pilots a mixed-methods content analysis framework to evaluate the extent and quality of environmental reporting (ER) in corporate sustainability reports across the East African Community Countries (EACC). Using the constructed environmental reporting index, we analyse sustainability reports to measure the extent and quality of ER through quantitative disclosure scoring, complemented by interpretive analysis of report narratives, disclosure depth, and coder decisions. The paper further examines how analytical tools can be integrated to strengthen mixed-methods content analysis.

Design/Methodology/Approach: The study employs a sequential, exploratory mixed-methods design to investigate environmental reporting among listed companies on the EACC stock exchange markets. Of the 130 companies considered, only 21 currently prepare sustainability reports. For the pilot study, three 2023 sustainability reports were selected for their size and alignment with the analytical framework. The qualitative strand analyses international sustainability reporting frameworks, such as the GRI guidelines and the IFRS Sustainability Reporting Standards (IFRS S1 and IFRS S2). This analysis, together with environmental indicators specific to the EACC context, informed the development of a preliminary environmental index comprising 57 disclosure items. In the quantitative strand, feedback was gathered through open- and closed-ended survey responses from 68 participants, who assessed the relevance of these disclosure items within the EACC context. This input was instrumental in refining and weighting the index. Finally, the completed index was applied to the three selected reports using a combination of Python, ChatGPT, and manual coding techniques. The outputs generated by these tools were compared and reconciled to evaluate their reliability, efficiency, interpretive usefulness, and integration into overall meta-inferences.

Findings and Recommendations: The findings reveal differences among the three analytical mechanisms. Manual coding supports contextual judgement but requires significant time, may be affected by report format, and can be influenced by researcher bias. Python provides consistency, transparency, and scalability for keyword-based and sentence-level analysis, although its quality assessment depends on coding skills, well-developed search terms, and its ability to capture synonyms or broader sentence meaning. ChatGPT, as an AI-assisted mechanism, is useful for interpreting disclosure narratives, identifying contextual meanings, summarising evidence, and supporting quality assessment beyond simple keyword matching. However, its outputs require verification because they may vary depending on prompts, source material, and model version. Overall, the pilot indicates progress in the extent and quality of ER among selected EACC companies. However, there remains room for improvement in financial quantification, comparability, assurance, and detailed disclosure of environmental impacts.

Originality/Value: This paper contributes to mixed methods research by developing and piloting an AI-assisted mixed methods content analysis approach that integrates computational scoring, AI-supported interpretation, and human judgment. It also provides a context-specific environmental disclosure index for EACC and demonstrates how AI-assisted analysis can improve transparency, reliability, and interpretive depth in environmental reporting studies.

Keywords:

Environmental Reporting, Mixed Methods Content Analysis, Annual sustainability report, AI-Assisted Analysis, East African Community Countries (EACC), listed companies.



Philosophy and
Religious Studies



Theme 1: Analytical Techniques in and for MMR

Theme 2: Data Collection and Quality in MMR

Cultural Influences on End-of-Life Decision Making in Japan among Doctors, Nurses, and Older Adults

Yumi Naito

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Abstract:

End-of-life decision making is a complex issue. Cultural influences on end-of-life decision making in Japan include not fully disclosing the diagnosis and prognosis to the patient, providing treatment without informed consent, providing and withholding life-sustaining treatment, and family-centred decision making. Culture is deeply embedded among Japanese people, affecting many aspects beyond the healthcare setting. Japan is a largely homogenous nation, unlike many other countries, with 98.5% of the population being ethnic Japanese. Additionally, for the first time globally, the number of older adults aged 65 or older now makes up 30% of the Japanese population. As society rapidly ages, there is a clear need to make informed choices. With the increasing number of older adults, end-of-life care has become a critical and significant issue. Japanese families, patients, and health professionals are struggling to manage end-of-life situations such as disclosing diagnoses, providing treatment, discontinuing or withholding life-sustaining treatment, and navigating the lack of government guidelines in advance care planning.

Sample size: 56 interviews, qualitative and 56 demographic data, quantitative Explanatory Sequential mixed methods



Health Sciences



Theme 1: Paradigms and MMR

Theme 2: Mixed Methods for a Changing World

A New Map of Educational Sciences - Interdisciplinarity and Methodological Renewal

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University of Helsinki

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University of Jyväskylä

Rauno Huttunen

University of Turku

Abstract:

Purpose: The article examines how the field of educational sciences in the Nordic context has evolved and become increasingly fragmented over the past decades. The authors argue that the changing landscape of education, research, and society requires a reconsideration of how educational sciences are conceptualized, structured, and practiced.

Their main purpose is to reconstruct a new conceptual “map” of educational sciences that better reflects contemporary realities: interdisciplinarity, practice orientation, and global complexity. The authors emphasize that educational research must bridge theory and practice more effectively and engage with the societal challenges of the 2020s.

Design/methodology/approach: The article draws inspiration from philosophy of science, social epistemology, and educational theory. Rather than presenting a rigid model, the authors aim to stimulate discussion about the identities, boundaries, and missions of educational sciences today.

Findings/Recommendations: The authors emphasize that educational sciences today are inherently interdisciplinary, drawing from sociology, psychology, philosophy, data science, and the arts. This interdisciplinarity, however, should not lead to a loss of identity — instead, it should be understood as the core strength of the discipline.

They discuss how new methodological movements, such as mixed methods, design-based research, and post-qualitative inquiry, have transformed research practices by allowing flexibility and responsiveness to real-world complexity.

Methodological pluralism, the authors argue, is essential for tackling today’s educational challenges, such as inequality, well-being, digital transformation, and environmental sustainability. They call for reflexivity — an awareness of the assumptions, values, and positionalities that guide research — as a central ethical principle of contemporary educational science.

Originality: The authors include post-humanist and post-qualitative perspectives in their proposed “new map” of educational sciences. They do so for several interrelated reasons. Arguments are both epistemological (how we know) and ontological (what we assume about reality).

Traditional educational sciences have been largely anthropocentric, focusing on human learning, teaching, and cognition as isolated from broader material, ecological, and technological contexts. Post-humanist thought challenges this by arguing that learning and education are relational and distributed phenomena, shaped not only by people but also by material environments, technologies, and non-human agents. The authors argue that in an era of ecological crisis, AI, and digital transformation, educational research must account for these non-human forces that co-create learning environments. The authors highlight that educational inquiry increasingly needs to explore affect, embodiment, materiality, and temporality — dimensions that traditional human-centered methodologies struggle to capture. By including these perspectives on the map, the authors legitimize alternative epistemologies that invite creativity, experimentation, and ethical attentiveness to the more-than-human world.



Education



Cross-sector comparison of Generative-AI (Gen-AI) and AI use by student teachers and teachers in Aotearoa New Zealand

Fiona O'Connell Jones

Te Rito Maioha

Fleur Hohaia-Rollinson

Te Rito Maioha

Samantha Kotlowski

Te Rito Maioha

Leena Rebello

Te Rito Maioha

Alicia Savage

Te Rito Maioha

Kendra Tike

Te Rito Maioha

Jo Ward

Te Rito Maioha

Abstract:

This mixed methods study explores how student teachers and teachers across Early Childhood Education, Primary, Secondary, and Tertiary sectors in Aotearoa New Zealand engage with Generative AI (Gen-AI) tools. Using a sequential phased design, an anonymous online survey followed by semi-structured interviews and focus groups, the study aims to capture current understandings, practices, challenges, and cultural considerations related to Gen-AI use. Findings will inform policy, professional development, and ethically grounded, culturally responsive Gen-AI integration across New Zealand's education system.



Education



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Inter-Methodology Mixing (I-MM)

Advancing Methodological Rigour: Mixed Methods Phenomenological Research on migrants' job transitions in Business Studies

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Roslyn Cameron

Torrens University Australia

Syed Mohyuddin

Australian Institute of Business

Abstract:

Purpose: This paper aims to provide a detailed account of how Mixed Method Phenomenological Research (MMPR), adopting a sequential exploratory design and Inter-Methodology Mixing (IMM), was systematically applied within the field of business and management to investigate job transitions among highly skilled European migrants in Australia. This study builds on Mayoh and Onwuegbuzie's (2014) MMPR framework, which is defined as research that, within one study, integrates phenomenological approaches with methods based on an alternative paradigm (Mayoh & Onwuegbuzie, 2015; Mayoh et al., 2023). Additionally, it incorporates IMM and Martiny et al. (2021) front-loaded phenomenology.

Design/methodology/approach: This complex MMPR study unfolded in four distinct phases. Phase I consisted of a comprehensive literature review and the formulation of front-loaded phenomenological questions used in semi-structured interviews with 28 highly skilled European migrants, each preceded by an online pre-interview questionnaire. Sequential design involves using findings from one phase to inform the next Creswell and Clark (2017), therefore the initial research stage focused on identifying the specific lived experiences to be explored through phenomenological inquiry, which was given a priority (Martiny et al., 2021; Mayoh & Onwuegbuzie, 2015; Mayoh et al., 2023). In Phase II, the qualitative findings from Phase I guided the development of a quantitative instrument, an online survey, which was systematically constructed using a matrix that consisted of Phase I findings, research questions, literature review, front-loaded phenomenology, and pre-interview questionnaire questions. Next, the survey was piloted and refined. Phase III comprised the distribution and collection of the online survey, which was completed by 305 participants, enabling robust quantitative analysis with open-ended phenomenological questions to identify broader trends and patterns. Finally, Phase IV integrated qualitative and quantitative findings through meta-inference and joint displays, explicitly applying IMM principles and drawing on leading methodological frameworks (Cameron, 2024; Fetter & Tajima, 2022). This sequential design ensured that qualitative depth informed quantitative breadth, and the integration phase yielded a comprehensive, multidimensional understanding of the job transitions of highly skilled European migrants, thereby ensuring contextual and methodological coherence throughout the research design (Creswell & Clark, 2017).

Findings/Recommendations: The integrated approach provided a nuanced, multidimensional understanding of highly skilled female migrants from Europe as they searched for, secured, and sustained work in Australia, revealing both the depth of lived experiences and the broader trends shaping these transitions. The study demonstrates that IMM, when applied systematically, builds on the field's long-standing commitment to data integration while extending research beyond core design typologies toward more flexible, adaptive, and context-responsive inquiry (Cameron, 2024).

Originality: To the best of our knowledge, this is the first empirical study to operationalise MMPR in a business and management context. This paper also offers a practical guide for researchers seeking to leverage IMM in MMPR, setting a new standard for methodological rigour and integration in research.

Keywords

Mixed Methods Phenomenological Research, Inter-Methodology Mixing, highly skilled migrants, employment



Economics



Theme 1: MMR and Complexity

Theme 2: AI technologies in MMR

Navigating Disaster Shelter Management in a Polycrisis: Integrated Insights into Organizational Differences and Improvement Strategies

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Yuri Akamatsu

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Tomoko Haraoka

Hiroshima Cosmopolitan University

Itsuro Yoshimi

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Chika Shirai

Hirakata City Public Health Center

Mashiho Suga

Kansai University

Shoko Miyagawa

Keio University

Tai-Young Yi

Natl Res Inst Earth Science & Disaster Resilience

Yuko Amamiya

Chiba Prefectural University of Health Sciences

Hiroko Okuda

National Institute of Public Health

Jun Tomio

National Institute of Public Health

Abstract:

Purpose: In large-scale disasters, various types of shelters emerge, including those officially established by local governments as well as those that arise spontaneously. This study aimed to identify improvement strategies according to different types of management structures.

Design/methodology/approach: A convergent design was employed. An internet-based survey was conducted in March 2026 among monitors registered with the survey company Intage. The survey consisted of quantitative questions, including items on management structures, and qualitative components in the form of open-ended comments on how to improve shelter life and disaster response. The comments were analyzed to identify differences by management structure using two analytical approaches (ChatGPT and Gemini), and the validity of the findings was verified by researchers through direct examination of the raw data.

Findings/Recommendations: A total of 765,912 individuals were asked whether they had experienced staying in a shelter for at least two nights and three days during past disasters. Among them, 3,043 respondents answered affirmatively and were asked further detailed questions. Regarding types of disasters (multiple responses allowed), 79.5% earthquakes and tsunamis, 16.9% reported storm and flood damage, 6.5% nuclear disasters, 2.4% volcanic disasters, and 0.4% others, with fires being the most common among the "other" category. Regarding shelter management structures—specifically the presence and type of leader (multiple responses allowed)—44.7% reported administrative staff, 27.3% residents, and 6.8% reported no leader. The proportion of administrative staff serving as leaders increased with shelter size: 60.5% in shelters with more than 1,000 evacuees, 52.7% in those with more than 100, 50.8% in those with more than 10, and 25.2% in those with 10 or fewer evacuees.

The results of the comment analysis were largely consistent across the two analytical approaches and were confirmed by researchers, although additional points requiring consideration were identified. In shelters led by administrative staff, comments highlighted the need for improvements in environment, facilities, and institutional arrangements, as well as shortages in administrative manpower. In shelters led by residents, comments emphasized mutual support and insufficient assistance from authorities. In shelters without a leader, comments described confusion and the need for discussion among residents.

These findings suggest that management structures, including leadership, are critical. Effective shelter management requires both governmental support in terms of infrastructure and supplies, and community-based mutual assistance closely aligned with daily living needs.

Originality: This study is based on a large-scale survey covering a wide range of disaster experiences.

Keywords:

Disaster; Shelter; Management structure; Leadership; AI; Convergent design



Health Sciences



Theme 1: MMR and Complexity

Theme 2: AI technologies in MMR

Rapid Mixed Methods Research for Timely Action in the Polycrisis

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Hamamatsu University School of Medicine

Abstract:

Purpose: In a polycrisis, some events unfold gradually; however, many—particularly disasters—progress rapidly and require timely, well-coordinated responses. This study aims to clarify the role of rapid mixed methods research (MMR) in disaster settings and to propose rapid MMR as a practical approach for integrating quantitative and qualitative information to support timely action under severe time and information constraints. In such environments, fragmented, incomplete, and rapidly changing information often limits the usefulness of single-method approaches.

Design/methodology/approach: This study presents a conceptual and methodological discussion based on accumulated experience in responding to a wide range of disasters, including earthquakes and hydrometeorological events in Japan. It examines how the integrated use of quantitative and qualitative data can support rapid and effective decision-making in real-world disaster response contexts.

Findings/Recommendations: In disaster settings, rapid MMR should inform decisions on the optimal allocation of resources—personnel, materials, and finances—using information collected either actively or passively, while enabling rapid and efficient data collection and processing through prioritization and purpose-driven use. The ultimate objective is to protect the lives, health, livelihoods, and dignity of affected populations through improved coordination and resource allocation.

The information required consists of needs (objective necessities), demands (subjective perceptions and expectations), and resources (available capacities and assets), each comprising both quantitative and qualitative data. Quantitative data provide an overview of the scale and distribution of needs and resource availability, while qualitative data offer critical insights into the demands of casualties and stakeholders, context-specific needs, emerging issues, and gaps not yet captured in numerical indicators.

Creswell (2020) notes that qualitative data may include expected, surprising/unexpected, and unusual/rare findings. Attention should be paid to surprising/unexpected findings, as these may signal overlooked or rapidly evolving problems requiring immediate action. Unusual/rare findings may involve few cases but require careful, individualized attention. For expected findings, quantitatively actively collected or estimated data are more important than qualitative information, because those in the most severe conditions or environments are often unable to voice their needs.

Analytical strategies should be flexibly applied: explanatory sequential design can interpret inconsistencies in quantitative findings; exploratory sequential design can extend qualitative insights—especially surprising/unexpected findings—into measurable patterns; and convergent design enables real-time integration of multiple data sources to support operational decisions.

The use of artificial intelligence (AI) may support rapid MMR—particularly in processing large volumes of qualitative data—by assisting with data organization, information extraction, and preliminary interpretation. In practice, these processes are often conducted by disaster responders rather than researchers, requiring appropriate oversight and validation. Technologies such as geographic information systems (GIS) can facilitate rapid data collection, visualization, and information sharing across agencies, further strengthening timely and coordinated responses.

To operationalize rapid MMR in disaster contexts, it is important to develop practical frameworks and train personnel capable of integrating diverse data sources under time constraints, with emphasis on adaptability, prioritization, and direct applicability to field decision-making.

Originality: This study situates rapid MMR within a polycrisis context and provides a practice-oriented framework grounded in disaster response experience, explicitly linking methodological integration with real-time, field-level decision-making.

Keywords:

Rapid mixed methods research; Polycrisis; Disaster; Decision-making; Integration



Health Sciences



Theme 1: AI technologies in MMR
Theme 2: Software Application in MMR

Triangulation Using Multiple Artificial Intelligence Systems: Enhancing Trustworthiness and Insight

Toshiyuki Ojima

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Abstract:

Purpose: Artificial intelligence (AI) is increasingly useful for conducting mixed methods research; however, it may also generate inaccurate outputs, including hallucinations. This study aimed to explore practical strategies for improving the trustworthiness of research while utilizing AI. It also discusses similarities between AI use and conflicts of interest (COI), highlighting the need for transparency and accountability in AI-assisted research.

Design/methodology/approach: This paper provides a conceptual and methodological discussion grounded in practical experience of conducting research with AI, informed by mixed methods research frameworks. The discussion draws on interactions with AI tools during data analysis and interpretation, allowing reflection on their strengths and limitations in real-world settings.

Findings and recommendations: AI can be conceptualized in three functional roles: as a delegate (hands), supporting data organization and information extraction; as a collaborator (brain), enabling brainstorming and advanced reasoning; and as a companion (heart), facilitating supportive dialogue and contributing to psychological stability.

In qualitative analysis and the integration of quantitative and qualitative data, AI is particularly useful as a delegate and collaborator. To enhance trustworthiness, triangulation across multiple AI systems (e.g., ChatGPT and Gemini), followed by researcher judgment, is recommended. When outputs are consistent and align with the researcher's interpretation, findings can be considered credible. When discrepancies arise, researchers should assess which interpretation is more valid in light of study objectives.

Qualitative data categorization is time-consuming, and AI's role as a delegate is valuable. However, it is important to ensure that critical data are not overlooked. One approach is to reorganize raw data into several thematic groups (e.g., three to five clusters) and place representative statements at the beginning of each group, supporting transparent categorization and auditability.

For integrating quantitative and qualitative findings, AI as a collaborator can generate multiple interpretations by synthesizing results from both strands. Researchers can then evaluate and select the most valid integrated interpretation, considering alternative explanations and overall coherence.

The use of AI may also be viewed analogously to COI. Collaboration with external entities can enhance research but requires disclosure when financial relationships exceed defined thresholds. Similarly, researchers must remain aware of AI's influence and document its contribution to key analytic steps. By analogy, it may be appropriate to require disclosure when AI use exceeds predefined thresholds based on its contribution, thereby promoting transparency.

Originality: This study proposes a methodological perspective by conceptualizing AI in multiple functional roles and applying triangulation across systems to enhance trustworthiness. It introduces strategies for integrating AI-assisted outputs with researcher judgment, offering a structured approach to balancing efficiency and rigor. The analogy to COI provides a lens for reflecting on responsible AI use, with implications for reporting standards and research governance.

Keywords:

Artificial intelligence; Triangulation; Trustworthiness; Mixed methods research; Qualitative analysis; Integration



Health Sciences



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Inter-Methodology Mixing (I-MM)

Barriers to Remittance Rural Hometown Investing: A Mixed Methods Grounded Theory Using Situational Analysis

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Abstract:

Foreign remittances provide the needs of families with dependents abroad and, by extension, the communities of origin of overseas migrants. Remittances' development potentials differ by community, reflecting the heterogeneity of the international migration-to-local development nexus.

Thus saying, barriers to investing these overseas remittances differ as well. Barriers to rural investing still prevail (Marini & Mooney, 2006), but these may have been reduced given the efforts of local authorities and of financial intermediaries over the years. Yet one may have to account for the heterogeneity of these barriers, which may be more visible and felt in some communities compared to others. Some of these rural residents, including moneyed overseas migrant families, may even carry cognitive responses, behaviors and reasons that shy them away from investing back home.

This interaction between spatial and policy barriers to rural investing, and the individual decisions and financial risk appetites of people (particularly overseas migrants and their households) remains less studied. The situation called rural areas' investment and entrepreneurial barriers reveals an iterative, complex interaction of the actors, institutions, local policies and spatial features of a rural area. Thus, a methodological response warrants the capturing of these micro-to-meso interactions (i.e., family, local community, local policies, geographic features) surrounding rural hometown investing barriers.

Through applying mixed methods to a variant of grounded theory called situational analysis (Clarke, 2005), this paper seeks to determine the individual, spatial and policy barriers to investing remittances in a Philippine rural municipality. Such determination of these barriers will cover migrant families' financial capabilities and relationships (research question 1), spatial barriers (RQ 2) and policy barriers (RQ 3). The paper will end with determining the situational elements, relations, commitments, sites of action and positions surrounding the barriers to remittance rural hometown investing (RQ 4).

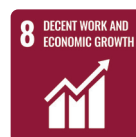
Developed by Adele Clarke (2005), situational analysis is a variant of grounded theory that maps an entire situation of inquiry. In that situation being studied, the researcher will attempt to determine the complexities and power dynamics the situation carries, having both human and non-human elements (Clarke, 2019; Clark, 2021; Flick, 2018). Situational analysis, by default, is a qualitative method given its roots in grounded theory. Yet this paper intends to employ situational analysis as an MMT design in aid of gathered quantitative data (household survey [N=434]) and qualitative data (rapid qualitative inquiry, in aid of documentary analysis [N=88 sets of documents], key informant interviews [N=73], and participant observation). MMT situational analysis will yield a situational map, a social worlds or arenas map, and a positional map to answer the above-mentioned research questions.

Keywords:

Overseas remittances, rural hometown investing, barriers, situational analysis, mixed methods grounded theory (MMGT)



Human Society



Mixed Methods Teaching Strategies for Maritime Researchers

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Abstract:

Mixed methods research integrates both qualitative and quantitative approaches to provide a comprehensive understanding of a complex phenomenon (Ahmed et al., 2024). The complex nature of the maritime sector makes a mixed-methods research design ideal. This is because the maritime sector involves the human factor, with several stakeholders, such as port managers, seafarers, shipping companies, and freight forwarders, to name a few. There is also the quantitative aspect that deals with container throughput, vessel calls, revenue etc. Therefore, a quantitative research design alone and a qualitative research design alone may not necessarily suffice. By combining the strengths of both methodologies, researchers can triangulate data, validate findings, and gain deeper insights into research questions (Ahmed et al., 2024). Furthermore, the significance of the mixed-methods research design is amplified by the transition from traditional ports to smart ports. The impact of such a transition cannot be measured effectively using a quantitative research design only. (Jeevan et al., 2025) supports this notion by stating that their search results reveal a lack of mixed-methods approaches in the digital innovation field, more so, with quantitative methods being dominant. Only three papers from 2011 to 2022 utilized mixed methods in seaport research (Jeevan et al., 2025). Through a Bibliometric systematic literature review, the existing gap in the literature is established. This research seeks practical strategies that will enhance MMR among maritime researchers.



Earth Sciences



Engineering



What can MMR learn from Kaupapa Māori Research Principles?

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Abstract:

Mixed methods researchers are increasingly called to expand their philosophical foundations by engaging meaningfully with non Western and Indigenous worldviews. This paper responds to that call by examining how **kaupapa Māori research principles** can strengthen mixed methods research design and practice. We draw specifically on the Aotearoa New Zealand metaphor of **He Awa Whiria**—the braided river—to illustrate how two distinct knowledge streams can combine to form a more powerful and relational research approach. Originally used to conceptualise the coming together of Māori and Western worldviews, this metaphor can equally be applied to qualitative and quantitative strands in mixed methods research, highlighting the potential for integration where “the whole becomes greater than the sum of the parts”.

The paper begins by situating kaupapa Māori research within the complex historical and political relationship between Māori and non Māori over the last 180 years. Ongoing mistrust of Western research practices can be traced to colonisation, divergent cultural understandings—particularly regarding land, authority, and sovereignty—and the misrepresentation of Māori knowledge within early Western scholarship. This context underscores why Indigenous research paradigms emphasise self determination, relational accountability, and culturally grounded methodologies.

We then outline three approaches to research involving Māori—research involving Māori, Māori centred research, and kaupapa Māori research—distinguished by the degree of Māori involvement and the knowledge each approach generates. Kaupapa Māori research, the most culturally embedded approach, is grounded in a Māori worldview (te ao Māori) and guided by core principles including **mana, rangatiratanga, whakapapa, whanaungatanga, te reo, and tikanga Māori**. These principles provide an ethical, relational, and culturally responsive foundation that can enrich mixed methods design, particularly in contexts involving Indigenous communities.

To illustrate how kaupapa Māori principles can be operationalised, we present two examples. The first is Bishop et al.’s (2009) landmark educational project, a mixed methods study that used kaupapa Māori principles and the IRBLA model (Initiation, Benefits, Representation, Legitimation, Accountability) to co design a transformative professional development programme for secondary teachers. This project positioned Māori students and whānau as knowledge holders, enhanced participant mana, and ensured findings directly benefitted Māori communities.

The second example examines a university wide study conducted during the COVID 19 pandemic, which—while not designed explicitly as kaupapa Māori research—revealed strong alignment with kaupapa Māori principles in practice. High participation rates from Māori students suggested that relational trust (whanaungatanga), clear benefits, and shared purposes supported engagement. Reflection on this project highlights how kaupapa Māori values can (and should) be intentionally embedded in research involving Māori, even when the project is not fully kaupapa Māori in design.

We conclude by arguing that mixed methods research can be substantially strengthened when researchers adopt a **He Awa Whiria** approach informed by kaupapa Māori principles. Doing so enhances relational accountability, fosters more equitable participation, and ensures research design and outcomes are meaningful for Indigenous and non Indigenous communities alike.

Keywords:

Kaupapa Māori research, Indigenous research, Non-Indigenous research.



Multi-Disciplinary



Leveraging AI Capabilities for Sustainable Supply Chains Performance through Digital Transformation: Insights from a Mixed-Method Approach

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Abstract:

Purpose: This paper examines how artificial intelligence capabilities (AICs) influence sustainable supply chain performance in manufacturing firms through exploratory and exploitative digital transformation.

Design/methodology/approach: A mixed-method design was adopted, comprising a quantitative survey of manufacturing supply chain managers (n = 406) analyzed with multi-analytical techniques, followed by qualitative semi-structured interviews to triangulate and enrich the quantitative results.

Findings: The results indicate that AICs enhance firms' digital transformation efforts and, in turn, improve sustainable supply chain performance. Explorative and exploitative digital transformation partially mediate the relationship between AICs and sustainable supply chain performance.

Practical implications: The findings offer guidance to logistics and supply chain managers on developing and deploying AICs to drive digital transformation initiatives that support environmental, social, and economic sustainability outcomes.

Research limitations: The study focuses on manufacturing firms and relies on survey and interview data, which may limit generalizability and highlight the need for further research across other sectors and contexts.

Originality/value: This study provides a nuanced understanding of the mediating roles of explorative and exploitative digital transformation in the AIC–sustainable supply chain performance link, extending the literature on AI-enabled sustainable supply chains and offering actionable insights for practice

Keywords:

AI capabilities; exploitative transformation; explorative transformation; sustainable supply chain; digital transformation.



Commerce



Management



Tourism and
Services



Multi-Disciplinary



Theme 1: Joint Displays and Data Integration

Theme 2: MMR and Complexity

Integrating Patient–Staff Perspectives on Cardiac Knowledge: A Convergent Mixed Methods Study

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Abstract:

Purpose: To address complex, equity relevant gaps in heart health knowledge at the point of acute cardiac care, this study asked: (1) What do newly diagnosed cardiac patients understand about their heart health following hospital education? (2) How do patients and clinical staff perceive the adequacy of that knowledge, and what does their convergence/divergence reveal for secondary prevention? Conducted within acute cardiac services in Aotearoa New Zealand, the study involved newly diagnosed patients and multidisciplinary staff (cardiology, nursing, physiotherapy and rehabilitation) to examine how education is delivered, received, and understood at a critical point in care. Framed within the MMIRA 2026 theme, we position mixed methods as essential for navigating polycrisis challenges: health literacy variability, information overload, and structural inequities in access and outcomes.

Design/methodology/approach: This study used a fixed convergent mixed methods design: quantitative assessment with the CADE QII (multi language adaptations and pilot testing), alongside focus groups and interviews with patients and cardiac multidisciplinary staff. Analyses were conducted separately and then integrated through joint displays and an explicit comparison analysis (confirm/discord/expand) to produce meta inferences. Ethical approvals included Māori consultation and multi site arrangements.

Findings/Recommendations: Quantitatively, the mean CADE QII score was 63.04/93, with relatively stronger performance in exercise and psychosocial domains and weaker performance in nutrition and selected risk factor/medication items. Qualitatively, both groups identified information overload during short hospital stays; patients described a confidence gap when translating exercise guidance into practice, and staff often over estimated patients' dietary knowledge while under estimating patients' disease understanding. Integrated joint displays exposed systematic discordance between measured knowledge and perceived understanding and revealed an underlying pattern that helps explain this relationship: the interplay of information burden, timing, and emotional distress that constrains recall and application. Recommendations include (a) standardised, staged knowledge checks (e.g., teach back), (b) simplified, consistent medication language, (c) culturally responsive, linguistically accessible resources, and (d) prioritising post discharge reinforcement linked to cardiac rehabilitation.

Originality: Methodologically, the study demonstrates how joint displays spanning five knowledge domains (medical condition and medications, risk factors, exercise, nutrition, psychosocial) can identify misalignment between objective scores and stakeholder perceptions, insight that a single method would likely miss. Our integration emphasises equity and inclusion by incorporating multilingual adaptations of the instrument and systematically analysing patient and staff narratives together, producing evidence based design principles for improving secondary prevention education in complex health systems.

Research limitations/implications: Domain level analysis may not capture within subgroup heterogeneity; future mixed methods should focus on sampling under represented groups and extend longitudinally to link integrated knowledge profiles with behavioural and clinical outcomes.

Practical/Social implications: Health services can incorporate MMR informed joint displays into routine quality improvement processes to better align the timing and content of education with patients' capacity to engage, thereby helping to reduce avoidable inequities in self management.



Health Sciences



Theme 1: Joint Displays and Data Integration

Theme 2: MMR Other

Feeling the Force: A Mixed Methods Study of an Innovative Spinal Mobilization Simulator

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Abstract:

Purpose: Physiotherapy students need to develop psychomotor skills for the assessment and treatment of patients with back pain. The technique involves generating and quantifying the force levels on the spine to assess spinal mobility and sustaining oscillations of force for up to two minutes. In response to this challenge, physiotherapy and human-computer interaction academics successfully designed and trialled the SpinalLog (Chacon et al., 2019). SpinalLog 2, the refined portable system, with enhanced force sensor system and software runs from a smartphone. This study aimed to evaluate the SpinalLog 2's effectiveness in facilitating student learning of psychomotor skills in joint mobilisation from the perspective of physiotherapy students.

Methods: This convergent mixed methods study (Creswell & Clark, 2017) within a Physiotherapy program, reports the evaluation of the device for its feasibility and acceptability in facilitating psychomotor skills development in joint mobilisation from a student perspective. Quantitative measure included a 13-item survey. Qualitative data from focus groups explored the experience of the students while using the SpinalLog 2. Integration through narrative occurred through a staged approach and presented using a joint display.

Integration through narrative occurred through a staged approach with stages building and informing each other (Fetters et al., 2013; Plano Clark, 2019). Integration occurred during the analysis of the feasibility findings, using a joint display of the study's quantitative survey results and the qualitative findings (Guetterman et al., 2015; Plano Clark, 2019). The analysis focused on user costs, time-staffing commitments, training-infrastructure requirements, and changes in students' learning experience, performance, attitudes, and behaviour. This comprehensive strategy ensured a direct evaluation of the SpinalLog 2's feasibility and acceptability as a teaching and learning tool and its potential impact.

Findings: From the Physiotherapy cohort (n=118) that were invited to participate, 39 participants (33%) completed the survey and 10 of those participants (8%) participated in the focus groups. The joint display represents the quantitative average of each survey question and exemplary quotations from the focus groups that aimed to explore the students' perceptions of using the device as a learning tool under the deductive themes that are mapped to the survey items.

Originality: This mixed methods study reports the evaluation of the device for its feasibility and acceptability in facilitating psychomotor skills development in joint mobilisation from a student perspective. Our current study has confirmed that the device was found to be a useful and effective way to complement the learning of psychomotor skills in manual therapy. Further studies will explore perspectives of different student cohorts using the SpinalLog 2 as part of their joint mobilisation skills acquisition. The joint display provides a visual representation of the full study and ensures a comprehensive understanding of the study findings.

Keywords

Haptic feedback; technology-enhanced learning; mixed methods; higher education; Physiotherapy



Health Sciences



Maximising student learning through automated individualised feedback on assessment: An explanatory sequential mixed methods study

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Abstract:

Purpose: Personalised feedback on written exams is important for improved student experience and to scaffold effective learning (Giamos et al., 2024). However, its implementation can be labour-intensive, costly, and challenging, especially in subjects with large student cohorts, multiple educators, assessment tasks, and diverse learning outcomes (Williams, 2024). Technology-enhanced feedback can improve the quantity and consistency of personalised student feedback, foster self-learning, while being time- and cost-effective for educators (Van der Kleij et al., 2015). This pilot study aimed to establish the implementation, utility and impact of a technology-enhanced individual feedback system, previously used in a post-graduate medical program. By evaluating its effectiveness in an undergraduate educational setting, we contribute to the growing body of knowledge on innovative assessment and feedback practices.

Methods: We developed, implemented, and evaluated an automated individualised feedback system after a mid-semester test with multiple-choice questions in an undergraduate Capstone subject (Pathology) with 158 students. We describe here the implementation process involved including strategic educational alignment, with the mapping and tagging of test items relevant to subjects' curriculum/knowledge domains and taxonomies. This explanatory sequential mixed methods study (Creswell & Clark, 2017) included usability surveys, staff interviews and a student focus group. Integration through narrative occurred through a staged approach with stages building and informing each other. Integration also occurred during the analysis of the feasibility findings, using a joint display of the study's quantitative survey results and the qualitative findings (Guetterman et al., 2015; Plano Clark, 2019). The analysis focused on user costs, time-staffing commitments, training-infrastructure requirements, and changes in students' learning experience, performance, attitudes, and behaviour. This comprehensive strategy ensured a direct evaluation of the automated feedback system's implementation and impact.

Findings: We issued 316 reports to 158 students. Data analysis is currently under way. Preliminary results show that six participants completed the survey and four participants participated in the focus group. All students (100%) rated reports effective summaries; 80% reported guidance for future learning and 100% increased confidence. Most (75–80%) linked personalised, learning-objective-aligned feedback to improved performance, despite 40% noting interpretive challenges. In a semi-structured interview, the educator shared their insights of their experience, barriers and facilitators of rolling out this automated personalised feedback report.

Originality: Our findings demonstrate that efficient, automated, individualised feedback can be successfully implemented in undergraduate educational settings. This study offers a transferable roadmap for integrating automated individualised feedback into assessment, demonstrating feasibility and pedagogical value in large biomedical cohorts (100% effective summaries; 80% future learning guidance). It derives design principles (item level diagnostics, benchmarking, visualisation) and implementation strategies (data tagging, infrastructure, staff development, LMS integration) for scalable adoption that inform curriculum and assessment designers seeking to embed technology enhanced feedback.

Keywords

Feedback; technology-enhanced learning; mixed methods; higher education; assessment



Health Sciences



Theme 1: MMR and complexity

Theme 2: Data collection and quality in MMR

“Under the Weather...”; using co-design and mixed methods research to capture climate vulnerability for people experiencing homelessness

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Abstract:

Purpose: The intersect between accelerating climate change, affordable housing shortages and rising living costs is a polycrisis that deepens the impacts of homelessness. People experiencing homelessness have increased exposure to weather while also having fewer options, resources and capacity to escape its effects. The current substantial knowledge gap on both weather impacts on people experiencing homelessness and effective interventions is perpetuated by conventional data collection methods inadvertently excluding homeless populations.

The Under The Weather project sought to build ‘ground-up’ evidence about the impacts of climate and weather on people experiencing homelessness in Western Australia. This project utilised a convergent mixed method approach to create co-designed appropriate data collection strategies to capture the impacts of weather on people experiencing homelessness.

Research Methods: The research project was co-designed with people with a lived experience of homelessness and supporting community services. Data collection was trauma-informed and sensitive to participation barriers. Different participation methods were used in line with central values of providing people with choice and agency. Based upon lived experience and service feedback, a parallel databases convergent design (QUAL + QUAN: equal priority) as described by Creswell & Plano Clark (2011) was used. Data collection techniques included surveys for people with lived experience that included both fixed choices and open ended responses (QUAL + QUAN, n=139), a ‘graffiti wall’ with simple question prompt (QUAL, n=34), and temperature monitoring (QUAN, n=8). Iterative modification in response to feedback made qualitative measures dominant within surveys. Surveys could be completed on paper or verbally, giving people the ability to expand their answers beyond a traditional survey response. Homelessness service staff also completed a mixed methods survey (response option + open ended, n=81), provided photos of climate mitigation measures, and shared de-identified case studies of climate impacts. Data was collected concurrently and findings triangulated with publicly available weather data (eg heatwaves).

Findings: The rich findings from this mixed methods research highlights the critical imperative for research taking a ‘ground-up’ approach. Issues, challenges and solutions that emerged in the research data had not yet made it to the published peer research realm, showing the limitations of more conventional approaches to data collection.

The multi-faceted benefits of involving people with a lived experience of homelessness throughout the research process was profound. In Australia, peer worker roles in homelessness are in their infancy and an unanticipated finding of this Under the Weather research is the demonstrable difference it made to have someone ‘who has walked in homeless shoes’ talking with and engaging people in research.

Originality: This research has not only yielded valuable new knowledge about the issue of climate impacts of people experiencing homelessness, but has also demonstrated the immense value of taking a ‘ground-up’ approach to data collection design and implementation. In an era of increasing rhetoric about consumer involvement in healthcare and health research, this project is an example of how this can be attained in population groups with barriers to conventional research involvement.

Keywords:

Participatory research methods, co-design methodology, data triangulation, homelessness, climate change



Health Sciences



A View of the Multifaceted Domain of Teacher Mentoring Through Three Methodological Lenses

Dr Rebecca Tickell

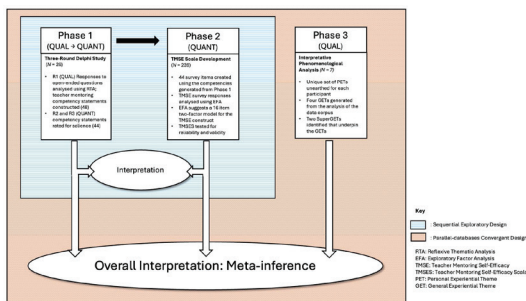
Independent

Abstract:

Purpose: Teacher mentoring is both a role and a process—the doing and the being are inextricably intertwined (Author, 2025). This ontological complexity presents a significant methodological challenge: no single approach can fully illuminate this multifaceted, psychosocial domain. This paper presents the methodological architecture of a UK

doctoral study, arguing that a multiple methods design employing a mixed methods approach is uniquely well-suited to investigate a domain of this kind.

Design/methodology/approach: Adopting a pragmatist paradigm, the study selected the methodology best suited to address specific research questions, enabling movement along a positivist-interpretivist continuum across three distinct phases, with a methodological lens fashioned for each



Phase 1 (QUAL -> QUANT): A Delphi study (Linstone & Turoff, 1975) utilised expert consensus (N = 26) to identify the most salient competencies for effective teacher mentoring. Reflexive Thematic Analysis (RTA; Braun & Clarke, 2022) of initial qualitative data was used to generate competencies for subsequent quantitative rating rounds.

Phase 2 (QUANT): Competencies identified as being important for effective teacher mentoring were used to develop a novel and psychometrically robust scale to measure teacher mentoring self-efficacy (TMSE) beliefs (Author et al., 2024). Exploratory Factor Analysis (EFA) (N = 239) was used to determine the latent factor structure underpinning the TMSE construct.

Phase 3 (QUAL): To shift from the nomothetic to the idiographic, an interpretative phenomenological analysis (IPA) was conducted (Smith et al., 2022). Semi-structured interviews with practicing mentors (N = 7) enabled access to their “lifeworlds.” Analysis elucidated a phenomenological understanding of what it was like to ‘be’ a mentor, both individually and collectively.

Integration is operationalised at both methodological (building Phase 2 items from Phase 1 competencies) and interpretative levels. For example, the parallel and independent findings from the RTA (Phase 1), the EFA (Phase 2), and the IPA (Phase 3) were merged at the overall interpretative level during the final synthesis. Through this combination and comparison meta-inferences were generated, providing a “view of the whole” that is more than the sum of its parts.

Findings/Recommendations: By combining findings across all three phases, strong interrelationships were revealed between the competencies identified in Phase 1, the factor structure of TMSE beliefs emerging from Phase 2, and the experiential themes unearthed through the IPA in Phase 3. Together, these lenses offer a more complete picture of teacher mentoring than prior

single-method studies have provided. The paper reflects on the methodological decisions made at each stage and the interpretive challenges encountered, with recommendations for researchers investigating similarly complex, practice-based educational domains.

Originality: This paper contributes to methodological conversations in educational research by demonstrating how pragmatism and methodological pluralism can operationalise a multiple and mixed methods design to investigate a complex multifaceted psychosocial domain. The unique design presented in this paper offers a replicable model for researchers seeking both breadth and depth, representing one of the first to examine teacher mentoring through quantitative, qualitative, and phenomenological methodologies in combination; this constitutes the study’s primary methodological contribution.



Education



Psychology



Theme 1: MMR and Complexity

Theme 2: Integration in MMR

Opera-singing to support adults living with chemotherapy-related cognitive impairment: A concurrent mixed methods study

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Abstract:

Purpose: Chemotherapy-related cognitive impairment (CRCI) is a complex and multidimensional health condition affecting the cognitive, emotional, and social functioning of individuals living with and beyond cancer (Mayo et al., 2024). In a context of limited proven pharmacological treatment, group-singing interventions have emerged as promising supportive approaches (Fancourt et al., 2016), yet their feasibility and benefits remain insufficiently documented. Mixed methods research is particularly well suited to the evaluation of this complex intervention, as it enables the integration of participant-reported outcomes and in-depth accounts of their experience.

The purpose of this mixed methods study, involving adults living with CRCI, was to examine the feasibility, outcomes and participant-reported experience of Singing to Take Care of Us, a group-singing intervention inspired by the Opéra de Montréal's Impact Program.

Design/methodology/approach: This study employed a concurrent mixed methods design giving equal weight to quantitative (QUAN) and qualitative (QUAL) components (Rana & Chimoriya, 2025). QUAN+QUAL data collected independently were integrated during the interpretation to generate a comprehensive understanding of the intervention's feasibility, its outcomes and participant-reported experience. In 2025, fifteen adults living beyond cancer with cognitive symptoms participated in group-singing sessions delivered in spring and autumn and led by a choir director specialized in opera-based vocal techniques. QUAN data to assess self-reported cognitive function were collected using the PROMIS Cognitive Function Short Form v2 (8 items; 5-point scale) (Henneghan et al., 2023) administered at baseline (T0), mid (T1) and post-intervention (T2). Feasibility indicators included proportion of sessions attended, reasons for absenteeism, retention rate, and engagement. QUAL data were collected through semi-structured interviews and a focus group with a purposive subsample (n = 9) to explore perceived benefits, subjective experience and opportunities for improvement. QUAN data were analyzed descriptively and using Linear Mixed Effects Model (LMM) while QUAL data collected mid-intervention underwent thematic content analysis. A convergent approach was used for integrated analysis, comparing and relating QUAN+QUAL data to identify areas of convergence and complementarity (Onwuegbuzie & Johnson, 2021). The study received Research Ethics Board approval.

Findings/Recommendations: Preliminary findings suggest that the intervention is feasible and well-accepted. High attendance and retention rates support feasibility, while qualitative findings reveal experiences of joy, self-care, social connection, and positive cognitive outcomes. Quantitative results suggest improvements in Cognitive function T-scores between T0 and T2 (mean difference = 4.80, p = 0.004). A T-score difference of 2–6 points is deemed clinically significant (Henneghan et al., 2023). Integration of findings indicates that subjective experience and cognitive measure are closely intertwined.

Originality: This study contributes to advancing mixed methods research by demonstrating the value of a concurrent mixed methods design for evaluating complex survivorship interventions. Participation in up to 24 group-singing sessions grounded in opera techniques appears to be a feasible and meaningful supportive approach for adults living with CRCI. Future mixed methods implementation research should examine scalability, sustainability, and mechanisms of action in cancer survivorship interventions.

Keywords:

mixed methods research; concurrent design; chemotherapy related cognitive impairment; choral singing; complex intervention; cancer survivorship



Health Sciences



Theme 1: Data Collection and Quality in MMR

Theme 2: MMR Research Designs – Innovation and creativity

Designing data collection in Mixed Methods Research: Core dimensions

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Abstract:

Mixed methods research yields greater insights when research logics and phases are tightly integrated. This requires careful planning and a conceptual grasp of data integration strategies. Successful integration hinges on intentional combination and recognizing and utilizing the heterogeneity of components, particularly during sampling, data collection, and analysis. Designing data collection is a core element of mixed methods designs, often requiring a processual, rather than static, planning approach. Yet, design options for data collection are rarely systematized, unlike sampling and analysis. Mixed methods research leverages diverse data types and collection methods from monomethodical approaches, thus, allows for a variety of different approaches and designs. This presentation elucidates key considerations for effectively combining data and data collection in mixed and multimethodological research.

Building on this, we propose six dimensions for designing data collection in mixed and multi-methods research. These are: (1) Types of data required, (2) data origin (research induced and non-research induced), (3) mixing type (intra- and intermethods mixing), (4) reference level of data (makro-, meso-, mikro-level or a mix), (5) priority of data and methods, and (6) temporal aspect in data collection (parallel and sequential designs).

These dimensions provide a framework for structuring the complex planning of mixed methods data collection, emphasizing the need for close integration of research logics and phases, careful planning and a conceptual understanding of integration possibilities during data collection. Intentionality, heterogeneity, and the primacy of the research question guide effective decision-making, allowing for both planned benefits and emergent design flexibility.

Keywords:

data collection, design decisions, data types, research design, integration



Education



Theme 1: Inferences and Meta-inferences

Theme 2: Integration in MMR

Illness Perception among periodontitis patients: Exploratory Sequential Mixed-Methods Design Combining Brief-IPQ and Secondary Analysis of Patient Interviews

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Abstract:

Purpose: Although the high relevance of illness perception to the prevention and successful treatment of periodontitis is known, previous research has failed to develop strategies to correct maladaptive illness perception, particularly regarding the chronic nature and necessary self-management of periodontitis (1). This misalignment can lead to delayed diagnosis and initiation of periodontal treatment, which has been shown to lead to worse treatment outcomes and higher costs (2). Hence, the purpose of the present study is to (a) gain insights into the illness perception of patients with periodontitis in Germany, (b) evaluate which factors are associated with heightened illness perception in patients with periodontal disease, and (c) deduce recommendations for future interventions aiming to increase illness perception in periodontitis patients.

Design/methodology/approach: Our approach employed two strands (one qualitative, one quantitative), enabling us to conduct an exploratory sequential QUAL + quan mixed methods design with independent samples. Qualitative data were collected from 24 patient interviews as part of a publicly funded Randomised-Controlled Trial (RCT) on Periodontitis in Germany and analysed using thematic analysis (3). 596 patients with periodontitis were invited to fill in a validated translation of the Brief Illness Perception Questionnaire (Brief-IPQ) within a separate, publicly funded RCT on periodontitis in Germany (4).

Findings/Recommendations: Thematic analysis of qualitative data led to the identification of four main codes (knowledge/information, teeth status, self-perception, and Oral Health professionals) and 19 subcodes. These codes will be mapped to corresponding Brief-IPQ items to generate valuable inferences on the concrete dimensions of Brief-IPQ illness perceptions items.

Through this triangulation of data, we will be able to supplement the Brief-IPQ item scores with concrete, personal explanations provided by patients. This will allow us to deduce concrete recommendations for future interventions aiming to improve illness perception, oral health literacy and, in turn, outcomes of periodontal therapy.

Originality: By leveraging and triangulating data collected from two separate RCTs, we were able to pragmatically gain deeper insights into patients' inner representations of their disease. This represents a resource-efficient approach to data collection and integrated analysis without increasing response burden to study participants.

Research limitations/implications: For the purpose of this study, the qualitative data have undergone secondary data analysis as they were initially collected for a different research question. This could potentially limit the depth of the performed thematic analysis.

Practical implications: To date, the qualitative data has been analyzed. Quantitative data collection has ended in February 2026. Currently, analysis of quantitative data is underway. Final results of the analysis and mixing are expected in June 2026 and can be presented at MMIRA.

Keywords:

periodontitis; thematic analysis; chronic disease; illness perception; secondary analysis



Health Sciences



Theme 1: Joint Displays and Data Integration

Theme 2: Data Collection and Quality in MMR

A mixed-methods evaluation of primary care workforce for non-communicable disease management in central, western, and northern China

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Abstract:

Purpose: Since the national health reform in 2009, China has been committed to strengthening the primary care workforce by standardizing the cultivation of general practitioners and training of village doctors. The present study aims to evaluate China's current primary care workforce to identify strengths and challenges in providing non-communicable disease (NCD) services.

Methodology: We adopted an embedded mixed-methods design with a primary qualitative component and a supplementary quantitative component, in three selected districts in central, western, and northern China, from late 2021 to March 2022. A survey adapted from World Health Organization service availability and readiness assessment (SARA) was disseminated to leaders of a random half of all PHC facilities of the study sites, to provide descriptive information on primary care workforce quantity. We conducted in-depth interviews and focus group discussions with key stakeholders, including local policy makers, county hospital administrators, PHC providers, and residents living with hypertension and/or diabetes. Interview transcripts were analysed using inductive thematic analysis to further identify specific strengths and challenges in delivering NCD care in primary care.

Findings: A total of 152 PHC facilities were surveyed across all study sites, including 28 in urban locations (18.4%) and 124 rural (81.6%), and 26 interviews and focus group discussions were conducted. The median numbers of general practitioners and specialists in the primary care facilities were 3 (inter-quartile range [IQR]: 0-6.5) and 4 (IQR: 1-9.5) in urban facilities, and 1 (IQR: 0-2) and 0 (IQR: 0-1) in rural facilities, respectively. The median number of public health workers was 7 (IQR: 2-17.5) in urban and 2 (IQR: 2-4) in rural facilities. Among urban facilities, the median numbers of nurses, obstetricians, pharmacists, and laboratory technicians were 5.5 (IQR: 3-13), 0.5 (IQR: 0-1), 1 (IQR: 0-2.5), and 1 (IQR: 0-2.5), respectively, and were 0 (IQR: 0-0) in rural facilities. According to the qualitative results, a major strength of the primary care providers was their closeness and strong bonding with local residents. However, several major weaknesses were also noted. On the supply side, the unsatisfying payment and social welfare, lack of clear career paths, and overloaded work due to expanded public health responsibilities for NCD management, imposed challenges in the attraction and retention for the primary care workforce. On the demand side, the under-qualification and limited clinical capacity of the primary care providers due to lack of standardized training, caused widely reported mistrust from residents, who were inclined to bypassing primary care facilities for most NCD management services.

Implications: China's ongoing commitment to strengthening the primary care workforce is mandated. Further strategic enhancements are needed to address gaps in the quantity and qualifications of primary care providers and the substantial urban-rural disparities.

Originality: This mixed-methods evaluation of China's progress in workforce strengthening was conducted after over a decade since the commencement of China's 2009 national health reform, in study sites of diverse geographic locations, socio-economic development status, and local cultures. The findings was stratified by rural and urban locations, which provided further insights to health inequity.



Health Sciences



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Data Collection and Quality in MMR; Integration in MMR

Quality of Life in Patients with Idiopathic Pulmonary Fibrosis in China: A Mixed Methods Study

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Abstract:

Purpose: Idiopathic pulmonary fibrosis (IPF) is a rare, chronic, and progressive interstitial lung disease that substantially impairs patients' quality of life. Although existing research has mainly focused on disease mechanisms and treatment efficacy, limited attention has been paid to patients' lived experiences, unmet needs, and treatment expectations particularly in China. This research gap limits the development of patient-centered interventions and supportive care strategies. Therefore, this study aims to explore the experiences, unmet needs, treatment expectations and quality of life of patients with IPF in China using a sequential exploratory mixed methods design.

Methodology: A sequential exploratory mixed methods design was used in this study, which was conducted across six regions in China beginning in March 2023. In the qualitative phase, fifty-three participants were recruited from November 2024 to March 2025 to complete in-depth interviews exploring their experiences and unmet needs across different periods following IPF diagnosis. Findings from the qualitative phase informed the development of a structured questionnaire for the subsequent quantitative phase. In the quantitative phase, data were collected from 251 patients with IPF across six regions in China to further investigate quality of life, unmet needs, and treatment expectations. The qualitative phase and quantitative data collection phase have been completed.

Findings: Qualitative findings showed that IPF influenced multiple dimensions of patients' quality of life, including symptoms, sleep, eating habits, physical activity, social participation, psychological well-being, and financial status. Participants also described substantial unmet needs, e.g., delays in diagnosis and limitations in treatment effectiveness. Additionally, patients' treatment expectations extended beyond symptom relief and disease control to include lower side effects, improved tolerability, and greater affordability. Quantitative data will further examine the prevalence and distribution of these concerns across a broader sample.

Originality: This study is among the first in China to use a sequential exploratory mixed methods design in patient-centered rare disease research. It highlights the methodological value of integrating qualitative and quantitative approaches to generate more context-specific evidence and reflects the growing use of mixed methods research in China.

Research implications: This study shows how mixed methods research can support patient-centered approaches by capturing patient views and needs across the intervention development process. This approach is valuable in China where there is an increasing focus on patient-centered and implementation research, but mixed methods research is still limited use in some areas. The findings in this study will inform intervention development, healthcare evaluation, health technology assessment and policy discussions in China.

Practical implications: This study provides a feasible and pragmatic mixed methods approach for the Chinese healthcare context and will help researchers, clinicians, and healthcare providers refine research tools, understand patient priorities, and develop more acceptable and context-appropriate interventions and services.

Social implications: The finding of this study will support a change from disease-focused research to patient-centered care approaches that are more responsive to the needs of individuals, families and wider social contexts. Furthermore, this study emphasizes the social value of mixed methods research in enhancing patient engagement and facilitating more contextually relevant healthcare decision-making processes.

Keywords:

Idiopathic pulmonary fibrosis; Quality of life; Patient experience; Unmet needs; Sequential exploratory mixed methods



Health Sciences



Multi-Disciplinary



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: MMR other

Fluid community-engaged mixed methods research during uncertain times: A healthcare transportation service case study

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Abstract:

Purpose: We present a United States-based case study of designing and piloting a technology-mediated, non-monetary healthcare transportation service during societal and political uncertainty. We offer strategies for prioritizing the needs of the community while balancing the research project's goals, and illustrate how sequential mixed methods research is particularly well-suited to respond to upstream shifts.

Methodology: We conducted a four-stage community-based mixed methods study (2020-2026) to investigate how to facilitate trust in the transportation service. Sztompka's (1999) trust theory informed the study design and transportation features. Data collection techniques included participatory activities (n=30), surveys (n=35) and individual/group interviews (n=78) with riders, drivers and coordinators.

During stages-1 and -2, we worked with three local organizations to iteratively generate trust-centered design features to implement into an existing service exchange for the stage-3 pilot. When initial pilot goals were not met (i.e., 100 rides delivered over 4 months), we added stage-4 interviews to further investigate how mixed methods researchers can respond to upstream shifts.

Throughout our analysis, we created joint displays (Guetterman, et al., 2015) of thematically-analyzed qualitative data, descriptive statistics of the quantitative data and trust theory concepts. Community partners provided insights into each stage's findings and offered direction for pivoting subsequent stages. Our final mixed analysis across all stages examines the influence of upstream shifts on study delivery.

Findings: A non-profit organization for newcomers who coordinated 40+healthcare rides over the 10-month period became central for facilitating rider-driver trust. Community partners and participants shared how the COVID-19 pandemic, executive orders and government shutdowns had negatively impacted feelings of safety, funding resources and delivery of the transportation project.

Our preliminary analysis provides four community-engagement strategies for mixed methods researchers during a time of polycrisis:

1. Being agile with the data collection techniques and stages: The COVID-19 pandemic led us to shift in-person participatory sessions to online, and add health-related safety questions to early-stage data collection. We added stage-4 when the delivery and recruitment goals for the pilot were not met.
2. Recognizing advocacy as a benefit of participation: In response to recent executive orders toward immigrants and refugees, drivers wanted to contribute to a service that was helping newcomers with access to healthcare.
3. Developing trusting, short-term relationships: Changing staff from reduced resources necessitated developing short-term relationships with rotating community champions from existing and new partnered organizations.
4. Reassessing community-centered outcomes: Seventeen people who became members of the organization offering the transportation service provided an unanticipated outcome of promoting social-connectedness within the community.

Originality: Through our presentation on a large 6-year trust-centered mixed methods study we offer alternatives to common community engagement approaches (e.g., developing long-term relationships) (Luger, et al., 2020) that may not be possible during times of polycrisis.

Social and Research Implications: Prior community-engaged research has focused on the local, ethical challenges (Luger, et al., 2020; Mikesell, et al., 2013). Our mixed methods case study targeting healthcare transportation access illustrates how societal and political uncertainty directly impact under-resourced communities—and how sequential mixed methods research is inherently adaptable to these upstream shifts.

Keywords:

community-engaged research, healthcare access, health equity, mixed methods research, transportation, trust



Health Sciences



Information and
Computing Sciences



Theme 1: Inferences and Meta-inferences

Theme 2: MMR Research Designs – Innovation and creativity

Are Australian paramedics safe: A mixed methods study on the safety of paramedics during transportation

Lyle Brewster

Charles Sturt University

John Rae

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Peter Micalos

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Scott Devenish

Griffith University

Abstract:**Purpose:** To examine how individual, organisational, and cultural factors influence paramedic safety practices during patient transportation.**Design/methodology/approach:** A convergent parallel mixed methods design was used. Quantitative data were collected through a national cross-sectional survey of 383 registered Australian paramedics, assessing seatbelt behaviour across three patient scenarios and predictors including policy awareness, education, gender, age, and jurisdiction. Qualitative data were obtained concurrently through four paramedic focus groups and analysed deductively using the Human Factors Analysis and Classification System (HFACS) within the Framework Method. Meta-inferences emerged through joint displays and side-by-side comparison, enabling comparison, convergence, divergence and explanation across datasets.**Findings/Recommendations:** Paramedic seatbelt use was indirectly proportional to increasing patient acuity. Policy awareness, education, gender, and jurisdiction predicted seatbelt wearing behaviour. The HFACS analysis explained these patterns by identifying systemic influences, including cultural conformity, unclear or outdated policies, inadequate driver training, ergonomic barriers, and normalised unsafe practices. Meta-inference findings showed that policy awareness (confirmed) predicted safer behaviour and that education (confirmed) enhances seatbelt use among paramedics.**Originality:** This study makes an original contribution by presenting the first Australian mixed methods integration of paramedic transport safety data. By combining national survey findings with HFACS-informed qualitative analysis, it moves beyond individual compliance to develop a novel systems-based model linking seatbelt use to organisational, cultural, ergonomic, and supervisory conditions.**Research limitations/implications:** This study has limitations. Survey findings relied on self-reported seatbelt use and cannot establish causality. Jurisdictional representation was uneven, with smaller samples in some states and territories. The qualitative component involved a limited number of focus groups, so findings are context-specific and not statistically generalisable, although internally consistent.**Practical implications:** Future research should examine paramedic safety as a systems issue using objective and intervention-focused methods. Observational, longitudinal, and mixed methods studies could evaluate how policy, training, ergonomics, vehicle design, supervision, and safety culture interact in practice to support safer, more sustainable paramedic care during response and transport.**Social implications:** This study shows that paramedic transport safety is socially produced through workplace culture, hierarchy, and design constraints, suggesting that system-level reform may improve workforce wellbeing, equity, psychological safety, and the sustainability of high-quality patient care.**Keywords:**

Paramedic safety; HFACS; seatbelt use; ambulance transport; organisational culture; human factors.



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: AI technologies in MMR

Theme 2: MMR other

Bridging the AI Capability Gap in HR: Evidence from a Cross-National Study

Justyna Bugaj

Kracow University of Economics

Ros Cameron

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Dominika Ohana

Torrens University Australia

Abstract:

Purpose: This international collaborative research project between Poland and Australia, with potential future extension to other countries, addresses the profound transformation of human resource management (HRM) in the context of artificial intelligence (AI). The study aims to identify the current state of AI applications in HR strategies and functions and to delineate the key HR professional capabilities and competencies required to optimise practitioner performance. Key research questions (RQ) include: (RQ1) What AI applications are currently being applied to HR strategies and functions in Poland? (RQ2) What new capabilities and competencies are needed for HR professionals to address digital transformation? (RQ3) How can HR educators and professional bodies build capabilities for current and future HR practitioners?

Design/methodology/approach: The research adopts a sequential exploratory mixed methods design, in which Phase I involves a quantitative online survey of HR professionals in Poland (sample size $n \geq 100$), drawing on instruments validated in Australia (e.g. Nankervis & Cameron, 2023). This survey will be administered via Poland's national HR professional body to map the diffusion of AI across HR functions and assess perceived capability requirements. Phase II will comprise semi-structured interviews with 20-25 senior HR professionals from diverse organisations and industries, recruited through purposive sampling and snowballing. These interviews will provide qualitative depth on experience, challenges, and strategies for capability building in AI-enabled HR environments. Finally, both datasets will be integrated using joint displays and resulting in meta-inference (Younas et al., 2023). The project will be grounded in an integrative theoretical framework that combines algorithmic HRM, digital HRM, competency models, and sociotechnical systems theory (Cameron et al., 2024; Strohmeier, 2020; Ulrich et al., 2012). Comparative analysis with Australia and other countries is planned for later.

Current Status/Recommendations: Preliminary analysis of the literature reveals a persistent capability gap where HR professionals often lack algorithmic literacy, advanced data skills, and the ability to mediate between AI systems and human judgment, despite Polish being ranked among the best languages for AI model training and development (Euronews, 2025). As a work in progress, no definitive findings or recommendations are reported at this stage. The research will map the extent and nature of AI adoption in HR functions in Poland and explore the perceived and required capabilities for HR professionals in digital environments. The next steps include completing data collection, conducting statistical and thematic analyses, and presenting emerging patterns in subsequent phases of the project.

Originality: This research is among the first to systematically integrate AI applications and HR capability development within a cross-national, empirically grounded framework between Poland and Australia. By combining quantitative and qualitative evidence and drawing on recent literature (Cameron et al., 2024; Nankervis & Cameron, 2023; Williams et al., 2024), this study will address critical conceptual and geographical gaps. The project's insights will influence theory, standards, and HR education in the digital era, supporting an evidence-based capability framework for HR staff, organisations, and professional bodies. The cross-national study enables a nuanced understanding of how institutional and cultural contexts influence AI adoption in HR.

Keywords:

Capabilities, AI, AI Applications, HR Professionals, Poland



Commerce



Management



Tourism and
Services



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR Research Design – Innovation and Creativity

Theme 2: MMR and Complexity

Beyond Hiring: A Mixed-Methods Study of Disability Retention and Progression in Australian SMEs

Cindy Choo

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Jo Ingold

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Australian Catholic University

Abstract:

Despite strong policy commitments to disability inclusion, people with disability (PWD) remain underrepresented in sustained and meaningful employment. This gap is particularly evident in Australian small and medium-sized enterprises (SMEs), where informal management practices, limited human resource capacity and owner-manager discretion can shape inclusion outcomes. Research to date has focused primarily on recruitment and labour market entry, with comparatively limited attention to retention and progression among PWD, reflecting the entrenched limitations in the evidence base. Much of the literature has relied on cross-sectional designs, small and heterogeneous samples and analyses that separate policy, organisational practice and employee experience. These limitations have made it difficult to capture the multi-level and relational dynamics that shape longer-term employment trajectories, constraining the use of integrative research designs and reinforcing a focus on more readily measurable outcomes such as employment entry.

This study adopts a pragmatic paradigm and uses an explanatory sequential mixed methods design. It is structured around a scoping review, followed by a quantitative survey of SME decision makers and qualitative interviews with employees with disability. The quantitative phase will identify patterns and organisational and relational factors associated with retention and progression outcomes. The qualitative phase will then explain and deepen these findings through participants' lived experiences of inclusion, support, belonging and progression in Australian SMEs. It uses an integrated, multi-level mixed methods framework spanning institutional structures, organisational practices, workplace relationships and lived experience of PWD. Integration will occur through joint displays and meta inferences across macro, meso and micro levels.

As the survey and interview phases are yet to be conducted, this abstract reports the proposed design and anticipated contribution rather than final findings. The completed scoping review indicates that disability employment research often treats policy, organisational practice and employee experience separately. It also shows that inclusion is commonly studied at the point of hiring, while the longer-term conditions supporting retention and progression remain underexplored. The proposed design responds to this gap by connecting organisational patterns with lived experience through planned integration.

The originality of the study lies in its integrated mixed methods design for examining a complex employment issue. Methodologically, it demonstrates how an explanatory sequential design can be used to connect macro, meso and micro perspectives and to address cross-level fragmentation in disability employment research by examining how institutional structures, organisational practices, relational dynamics and lived experiences shape retention and progression of PWD. Substantively, it aims to develop a relational-capability framework that reconceptualises inclusion as a sustainable, emergent, system-level outcome. By linking methodological innovation with a complex social issue, the study demonstrates how mixed-methods research can generate more integrated and actionable insights for inclusive employment practice and policy.

The study is expected to contribute to mixed methods scholarship by showing how planned integration can generate a more connected account of a complex social issue and offer practical and policy insights into how SMEs, employment service systems and related supports can better enable retention and progression outcomes for PWD.



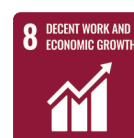
Commerce



Management



Tourism and
Services



Theme 1: Inter-Methodology Mixing (I-MM)

Mixed Methods and Implementation Science for COPD Self-Management: The CoSma Study Protocol

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Abstract:

Background: Chronic Obstructive Pulmonary Disease (COPD) imposes a substantial burden in China, where self-management behaviours, including inhaler adherence, smoking cessation, and pulmonary rehabilitation, remain suboptimal in community primary care. Shared Medical Appointments (SMAs) offer a promising and scalable model for integrating behavioural and organisational change in resource-constrained settings.

Objective: This study aims to develop, assess feasibility, pilot, and evaluate a co-designed, theory-informed SMA-based COPD self-management intervention (CoSma) using a multi-stage mixed methods design.

Methods: Guided by the Medical Research Council (MRC) framework for complex interventions, this multi-stage mixed methods study comprises four sequential stages: (1) longitudinal qualitative co-design theorised through the Behaviour Change Wheel (BCW); (2) a single-arm feasibility study; (3) a small-scale cluster randomised pilot trial across six community health service centres (CHSCs); and (4) a full-scale cluster randomised controlled trial (cRCT) across 18–20 CHSCs in Beijing, enrolling 180–200 COPD patients. A convergent mixed methods approach integrates quantitative outcomes, including health-related quality of life (St. George's Respiratory Questionnaire, SGRQ), inhaler adherence, and lung function, with qualitative data on implementation processes. The RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, Maintenance) guides comprehensive evaluation across both clinical and implementation dimensions.

Discussion: This study illustrates how mixed methods research and implementation science frameworks can be systematically integrated to bridge the gap between evidence-based guidelines and real-world primary care delivery. Findings will generate generalisable, scalable implementation strategies for COPD management in resource-limited settings, with broader implications for group-based self-management models across other chronic diseases.



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: Integration in MMR

Theme 2: MMR and Complexity

Alignment and Fragmentation in Sustainability Transitions: Explaining Coordination through Organisational Narratives and Network Structure

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Abstract:

Sustainability transitions require long-term, deep-structural changes across industries (Geels, 2011). These changes involve multiple organisations that must coordinate despite differing interests and interpretations. Coordination often occurs within inter-organisational networks bringing together public, research, and industry organisations (Provan & Kenis, 2008). Existing research focuses on formal governance and structural properties, offering limited insight into how organisations negotiate strategic change. This study focuses on a network initiative in the timber and construction sector involving approximately 50 organisations from industry, government, and research, and examines organisational narratives as central interpretive processes through which coordination unfolds (Vaara et al., 2016). It investigates how these narratives generate alignment and fragmentation, thereby shaping coordination during sustainability transitions.

This study adopts an explanatory sequential mixed methods case study design to examine organisational narratives within inter-organisational network structures, combining structural and interpretive data (Creswell & Plano Clark, 2018; Yin, 2018). The research is grounded in an inter-organisational network in the timber and construction sector, providing a defined boundary for the analysis. In the first stage, social network analysis (conducted in R) identifies organisational ties and structural positions, establishing the context through which narratives circulate (Provan & Kenis, 2008). These positions inform purposive sampling for the second stage, ensuring representation of central, bridging, and peripheral actors. In the second stage, approximately 20–30 semi-structured interviews examine how organisations interpret sustainability transitions and their roles, with the final sample adjusted to ensure coverage of key network positions and theoretical saturation. Interview data are analysed using thematic analysis. Integration relates organisational narratives to network positions to analyse how variation generates alignment and fragmentation and how these dynamics shape coordination, enabling the integration of structural and interpretive data to examine how narratives flow across network structures and what is transmitted through these relationships (Creswell & Plano Clark, 2018; Williams & Shepherd, 2015).

It is anticipated that variation in organisational narratives across network positions will be associated with differing degrees of alignment and fragmentation, influencing whether coordination is sustained or becomes more difficult to maintain (Vaara et al., 2016; Provan & Kenis, 2008). The study contributes to theory on coordination in inter-organisational networks by showing how organisational narratives, as they vary across network structures, generate alignment and fragmentation as mechanisms that shape coordination. These findings inform practice by providing a framework for understanding multi-actor coordination, supporting stakeholder engagement, and developing strategic roadmaps for sustainability transitions (Geels, 2011).

Furthermore, the study develops an integrated approach to understanding coordination in inter-organisational networks by positioning organisational narratives as the central analytical object and examining how their alignment and fragmentation shape coordination within network structures (Vaara et al., 2016; Provan & Kenis, 2008). Methodologically, it demonstrates how an explanatory sequential mixed methods design integrates structural network analysis and narrative analysis to reveal how narratives circulate through network structures and influence coordination. It moves beyond isolated structural or interpretive explanations by showing how coordination is shaped through narrative dynamics within inter-organisational networks in industry sustainability transitions.

Keywords:

Sustainability transitions, organisational narratives, inter-organisational networks, mixed methods, coordination.



Commerce



Management



Tourism and
Services



Multi-Disciplinary



Theme 1: Inferences and Meta-inferences

Theme 2: Integration in MMR

Advancing Mixed Methods Integration in Early Childhood Research: Examining Young Children's Challenging Behaviors

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Abstract:

Purpose: Understanding young children's challenging behaviors remains a persistent priority in early childhood research and practice, yet prevailing approaches often rely on decontextualized behavioral metrics that inadequately capture the complexity of behavior as it unfolds in naturalistic settings. Quantitative observational methods, while essential for identifying patterns in frequency and duration, often fail to account for the contextual and interpretive dimensions that shape both the occurrence of behavior and adult responses to it (Blair, Fox, & Lentini, 2013; Dunlap et al., 2018). Conversely, qualitative approaches foreground lived experience but may lack systematic linkage to observable behavioral events (Doubet, Ostrosky, & Fulton, 2025). Mixed methods research has been advanced in the field of special education to address these limitations by integrating multiple forms of data to produce more comprehensive understandings. This study presents a mixed methods investigation to better understand why challenging behaviors occur and how they are interpreted by educators in early childhood settings. This study aligns with Quality Education (Goal 4) in ensuring that educators implement best practices to support children who exhibit challenging behaviors in the classroom.

Methodology: This study uses a convergent mixed methods design in which quantitative and qualitative data are collected simultaneously within naturalistic preschool classrooms supporting young children ages 3–6. The quantitative strand employs partial interval time sampling coding to document the occurrence and temporal patterns of challenging behaviors across routines and activities, alongside pre- and post-behavior rating scales completed by educators to capture perceived severity. Concurrently, qualitative data are gathered through structured observational field notes capturing contextual features (e.g., antecedents, interactions, environmental conditions) and through semi-structured teacher interviews exploring interpretations of behavior function, meaning, and significance.

Findings: We anticipate that qualitative data will provide critical context for understanding variability in observed behaviors, while also revealing how educator interpretations are shaped by classroom context and experience. The study highlights the importance of examining both convergence (alignment between observed patterns and educator interpretations), complementarity (contextual elaboration of behavioral trends), and divergence (discrepancies between measured behavior and educator meaning-making) when interpreting challenging behaviors.

Originality: This study advances mixed methods methodology by embedding integration at the point of analysis using joint displays that align interval-coded behavioral data with qualitative observational and interview data. By focusing on concurrent, real-time integration, the study moves beyond parallel analysis toward a more systematic examination of how behavioral events and educator interpretations intersect. This approach provides a transparent and replicable framework for integrating observational and interpretive data in early childhood research. Additionally, this study advocates for the use of mixed methods approaches to provide holistic understanding of young children's challenging behavior in early childhood settings.

Implications: This study contributes to mixed methods scholarship special education field by demonstrating strategies for strengthening analytic integration and enhancing ecological validity. Findings have implications for improving how researchers and educators interpret challenging behaviors, emphasizing the importance of incorporating educator perspectives alongside systematic behavioral data. This work supports the development of more responsive, contextually grounded approaches to understanding and addressing challenging behaviors in early childhood settings.



Education



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Data Collection and Quality in MMR

Spatializing Socioecological Conflicts in Huemul Conservation: A Qualitative GIS Approach in Protected Areas of Chile

Lucaz Gonzalez

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Abstract:

This paper presents preliminary results and part of the methodological design of an ongoing doctoral study on socioecological conflicts related to the conservation of the huemul in three regions of Chile (Ñuble, Los Ríos, and Aysén). Although Geographic Information Systems (GIS) are essential for identifying spatial patterns that inform public policy, their limitations in representing subjective experiences, perceptions, and expectations have been widely discussed (Cope & Elwood, 2009; Jung & Elwood; Pickles, 1995; Schuurman, 1999). As a result, various approaches have been developed to integrate qualitative data into GIS-based spatial analysis and visualization (Boschmann & Cubbon, 2013; Lechner, Owen, Ang & Kemp, 2019; Matthews, Detwiler & Burton, 2006).

Qualitative GIS (QualGIS) is a mixed-method approach that integrates GIS databases with qualitative data from multiple sources to examine and visualize spatial and social patterns. Through the application of QualGIS, this study geolocates the different meanings associated with the huemul according to various stakeholders whose interests and levels of influence differ significantly. To this end, a content analysis was conducted on a sample of texts published in digital media (national and local newspapers, tourism company websites, and governmental and private conservation plans and policies) to represent the different meanings associated with the huemul and economic activities in protected areas according to the type of stakeholder (local communities, public officials, tourism companies, and environmental NGOs). This content was then incorporated into a GIS software database to analyse and visualize how these conflicts are spatially distributed across different regions. Additionally, the paper briefly outlines how qualitative data collected through ethnographic fieldwork will be integrated into the analysis, including go-along interviews (Kusenbach 2003) and participatory mapping to capture the everyday experiences of rural inhabitants (Sletto, Barrera, Lamina, & Pereira, 2021; Roth 2009).

This paper shows how actors involved in the tourism industry and environmental NGOs tend to characterize the huemul as an important part of Chile's natural heritage. Additionally, they highlight the wilderness of the protected areas where the huemul lives as a way to promote regional economic competitiveness in tourism. In contrast, local communities tend to emphasize their sources of subsistence and the importance they place on participating in conservation plans. The issues raised by this paper are particularly relevant for environmental conservation policies, as they often impose conditions that restrict the productive activities of peasant communities. It is therefore necessary to identify areas where different land uses can be reconciled in order to promote community well-being while protecting biodiversity. The paper demonstrates how QualGIS can be useful for spatializing and visualizing information that reveals the socio-ecological conflicts arising from environmental conservation, particularly due to the tensions between conservationist, tourism, and peasant interests.



Anthropology



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: AI technologies in MMR

Theme 2: Software Application in MMR

Using mixed methods to examine teachers' perceptions of integrating language into subject-areas in primary school

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Abstract:

In recent years the integration of content and additional-language instruction has been increasingly used to teach both subject-area content and language. The Content and Language Integrated Learning (CLIL) approach emphasises instructional methods that incorporate additional-language instruction and translanguaging pedagogy into content classes in plurilingual settings. Although CLIL and translanguaging pedagogy have grown in popularity in education programmes worldwide, they remain relatively new within Trinidad and Tobago's bidialectal context. The purpose of this study is to explore primary school teachers' impressions of their students' English language needs and examines how the application of CLIL and translanguaging could address those needs, as well as teachers' willingness to implement these approaches. A multiphase mixed methods convergent parallel design was employed to collect datasets using a concurrent timing sampling procedure. Two self-administered online surveys were used. The first survey, completed by 167 primary teachers (female=153, male=14) teachers, was designed to elicit teachers' perceptions on students' language needs. Findings from survey 1 informed the design of a 30-hour CLIL, translanguaging teacher training workshop for primary teachers and the development of the second survey. A total of 98 teachers (female=89, male=9) participated in the workshop. The second survey, completed by 60 primary teachers (female=55, male=5), further explored teachers' perceptions of the integrating the CLIL and translanguaging approaches after participating in the workshop. Quantitative data from each survey were analysed using numerical methods to calculate frequencies. On the other hand, thematic analysis guided the coding of the qualitative data comprised of open-ended survey responses. AI-assisted coding with manual verification, code-recode checks, and dual coding with adjudication were used to enhance reliability. Integration occurred at methods (connecting Survey 1 to the workshop and Survey 2) and during analysis/interpretation. Findings indicate that most teachers perceive a need to develop students' language skills to communicate effectively in Trinidadian Standard English. Teachers also viewed CLIL and translanguaging as relevant and suitable for addressing the identified language issues and expressed willingness to implement them. Implications include providing hands-on, practice-based professional development to support classroom integration of these approaches and developing bilingual resources and materials tailored to the local context. The presentation concludes by outlining directions for further mixed methods research on CLIL and translanguaging in Trinidad and Tobago's primary schools.



Education



Physical Sciences



Language,
Communication
and Culture



Theme 1: Integration in MMR
Theme 2: Joint Displays and Data Integration

Civic Consciousness in a Children-Centered Community Practice: An MMCBPR Study

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Saori YAMANAKA

Ritsumeikan University, Japan

Abstract:

Purpose: This study re-examines how university students' civic consciousness changes through participation in the Yawata Children's Conference, a children-centered community-building initiative in Kyoto, Japan. Building on a previous convergent mixed methods analysis of the same community-based practice, this study investigates how different student cohorts experience civic learning within a stable participatory context. Because both child participants and university student facilitators change each year, the setting enables cross-cohort comparison of civic learning across repeated implementations of the same community-based practice.

Design/methodology/approach: The study builds on a previous convergent mixed methods design, in which quantitative and qualitative data were collected and analyzed in parallel and then integrated to generate meta-inferences (Creswell & Plano Clark, 2025; Fetterman et al., 2013). Pre- and post-survey data using a civic consciousness scale were combined with focus group interviews. Quantitative results showed three patterns of change: increase, no substantial change, and decrease. Qualitative findings revealed reflective transformations not fully captured by numerical scores. Follow-up interviews with students whose scores decreased showed deeper reflection on community participation, responsibility, and the complexity of supporting children's voices. The present study applies the same survey and post-activity focus group interviews to a new cohort and uses joint displays to compare quantitative changes with qualitative themes of reflection, learning, and civic meaning-making (Guetterman et al., 2015). In 2024, 11 of 15 undergraduate participants completed both the quantitative survey and qualitative interview. In 2025, quantitative and qualitative data collection is ongoing with all 15 undergraduate participants.

Findings/Recommendations: Building on the previous findings, the study is expected to clarify how civic learning is reproduced, modified, or extended across different student cohorts. Joint displays will be used not only as an analytic tool but also as a dialogic resource for sharing findings with students and local stakeholders. The study recommends using integrated findings to support reflective feedback and improve future children-centered community activities.

Originality: The study is positioned within Mixed Methods Community-Based Participatory Research (MMCBPR), which integrates mixed methods research with the collaborative, participatory, and action-oriented principles of community-based participatory research (Chandanabhumma, Agni, & DeJonckheere, 2023). From this perspective, the Yawata Children's Conference is not merely a field for data collection but a participatory setting in which children, university students, and local stakeholders jointly explore community issues and create opportunities for learning. By examining civic learning as a relational process shaped through interactions among diverse actors, this study contributes to mixed methods research on civic education, community-based learning, cross-cohort comparison, and MMCBPR.

Research limitations/implications: Because the study focuses on participants in one community-based practice, its findings should be interpreted in relation to the local context. However, the cross-cohort design offers a useful framework for examining change across repeated implementations of the same participatory practice.

Practical implications: The findings may inform the design of future children-centered community activities and support reflective feedback among university students and community partners.

Social implications: The study highlights how participatory community practices can foster reflective citizenship and collective learning across generations.



Education



Human Society



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Joint Displays and Data Integration

A Mixed Methods Scoping Review of Parental Empowerment Within Early Childhood Intervention Systems

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Abstract:

Background and Purpose: In the context of Early Childhood Development Interventions (ECDI) for children with developmental disabilities (DD), parental empowerment serves as a vital psychological concept associated with the success of family-centered services (Ashcraft et al., 2019; Damen et al., 2021; Koren et al., 1992). However, empirical evidence on how parental empowerment is conceptualized and operationalized in ECDI for young children remains fragmented. This mixed methods scoping review systematically synthesizes the current qualitative and quantitative studies on parental empowerment among parents of children aged 3–6 years involved in ECDI.

Methods: A convergent mixed methods scoping review was conducted, encompassing quantitative and qualitative peer-reviewed articles published over the past decade across PubMed, Embase, CINAHL, Scopus, Web of Science, and PsycINFO. The search strategy used targeted terms for empowerment, parents, children, and developmental disabilities, following the Preferred Reporting Items for Systematic Reviews and Scoping Reviews (PRISMA-ScR) guidelines (Page et al., 2021; Tricco et al., 2018). Two independent, trained reviewers screened the studies to ensure a rigorous selection process, with a third reviewer resolving any disagreements. Data were categorized into quantitative and qualitative strands and analyzed independently prior to integration. Quantitative data were summarized with descriptive statistics and outcome measures to identify factors related to parental empowerment. Meanwhile, thematic analysis was used to synthesize qualitative data on parental experiences and the need for empowerment. The integration of both strands was achieved through joint displays (Guetterman et al., 2015).

Findings: The review synthesized evidence from twelve peer-reviewed articles, including four quantitative, six qualitative, and two mixed methods studies conducted across eight countries (Bagur et al., 2022; Bagur et al., 2022; Cameron, 2018; Carlsson et al., 2016; Kwok & Kwok, 2020; Lee et al., 2024; Lindly et al., 2022; Martinez-Rico et al., 2022; McCarty & Light, 2023; Minnes et al., 2015; O'Neill et al., 2024; Rios & Burke, 2023). Quantitative findings revealed that while parents often reported high empowerment within the family domain, scores were consistently lower in the community subscales. Socio-demographic factors, such as lower educational attainment and smaller household sizes, were significantly associated with diminished empowerment levels. Furthermore, greater parental empowerment was a robust predictor of positive psychological gains and reduced parental distress, whereas a lack of a formal diagnosis for the child was associated with lower community based empowerment. Qualitative synthesis identified four core themes: (1) The struggle cycles of parenting; (2) Customized services integrate with family life; (3) Accessibility barriers create disparities and exclusion; (4) Expanding the service umbrella. The final integration resulted in a joint display highlighting that, while information and parent-provider relationships are key resources, current service systems often fail to address the unmet need for time for emotional processing and streamlined administrative support.

Research limitations/implications: Limitations include reliance on English-language sources, peer-reviewed literature, and a maternalcentric sample. Findings highlight comprehensive experiences of parental empowerment and critical service gaps within ECDI, underscoring the need for systems that intentionally foster parental agency across family and community contexts.

Originality: This study is the first registered mixed methods scoping review of parental empowerment (Registered ID: X X X X X X X X). Its novelty lies in integrating quantitative factors with qualitative lived experiences through joint displays to map systemic barriers against parental agency.



Education



Human Society



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Integration in MMR

National Identity in Australia: Meaning and Representation

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Abstract:

Purpose: This research-in-progress study examines how national identity is understood and represented in Australia by comparing public attitudes and political elite narratives. It asks whether politicians' accounts of Australian identity correspond to wider public views, and where these accounts diverge, simplify, or reframe public understandings of national belonging. The study focuses on citizenship, migration, multiculturalism, national pride, social cohesion, and the boundaries of who is seen as belonging to the nation.

Design/methodology/approach: The study is best understood as a convergent mixed methods design, following established mixed methods typologies. It combines a quantitative survey strand with a qualitative interview strand, which are analysed separately and then integrated at the interpretation stage.

The quantitative strand draws on the Australian Survey of Social Attitudes 2023, whose theme is National Identity and Citizenship. The survey randomly selected at least 5,000 citizens from the electoral roll and expected approximately 1,000 completed questionnaires. The analysis focuses on three outcome blocks: criteria for being "truly Australian", forms of national pride and attachment, and attitudes towards immigration and multicultural belonging. It then examines how these views vary by socio-demographic background, cultural background, perceived economic threat, political ideology, security and order values, party attachment, and media use.

The qualitative strand consists of 25 semi-structured interviews with Australian politicians at the federal, ACT, and NSW levels. These interviews examine how elected representatives define Australian identity, how they interpret public opinion on belonging and migration, and how they connect citizenship, multiculturalism, social cohesion, and national pride to political representation.

The two strands will be integrated through comparative matrices and joint displays. This integration will compare public attitude patterns with elite narratives, allowing the study to develop meta-inferences about where politicians reflect, reinterpret, or depart from wider public understandings of Australian national identity.

Findings/Recommendations: Preliminary interview analysis suggests that Australian politicians often describe national identity in civic and inclusive terms, especially through references to democracy, shared values, multiculturalism, participation, and respect for institutions. At the same time, the interviews reveal tensions around ancestry, British heritage, migration, social cohesion, and the limits of belonging. The survey analysis will make it possible to assess whether these elite narratives correspond to broader public attitudes, or whether public opinion shows more divided and conditional understandings of Australian identity. The roundtable format would be useful for discussing how best to integrate survey and interview findings without reducing one strand to a simple explanation of the other.

Originality: The project contributes to mixed methods research by applying a convergent design to the study of political representation and national identity. Rather than treating public opinion and elite discourse as separate objects of analysis, it uses their relationship as the central point of interpretation. Methodologically, the study shows how survey and interview data can be integrated to examine whether political narratives of the nation align with, translate, or obscure public attitudes.

Research limitations: The study is still in progress. The interview strand is more advanced, while the survey analysis is currently being developed. The paper therefore uses the Australian case to reflect on practical questions of mixed methods integration, especially how to compare population-level attitudes with elite accounts of public opinion and national belonging.

Practical implications: The study helps clarify how ideas of Australian national membership are represented in politics and understood by the public. This is relevant to debates on citizenship, migrant integration, democratic representation, and social cohesion.

Keywords:

national identity, political representation, mixed methods, Australia, United Kingdom, citizenship



Human Society



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR & Complexity

Theme 2: Joint Displays and Data Integration

Using phronesis to integrate “dissonant” findings: Quandaries assessing & sharing outcomes of a student-designed playground

Elizabeth Larson (Corresponding & Presenting Author)

University of Wisconsin-Madison

Abstract:

Background: Intentional design of outdoor public-school spaces can provide wellness-promoting daily activities during recess time that counter challenges to mental and physical well-being often experienced by economically-disadvantaged minority students living in urban environments. Regular opportunities for activities to promote physical/mental health, available at no cost, can serve as a public health intervention but only if they equitably address all students' needs. Working with a middle school staff committed to students' wellness via increasing outdoor options during recess for all ages and genders, we conducted student focus groups to support the redesign of a middle school outdoor space, expanding beyond sports courts preferred by boys. Following the redesign, some (but not all) students' desired features were funded and installed. To assess outcomes of this project, data was gathered for one week each month during the installation phases. Systematic observations were conducted to examine usage of features, and surveys were gathered before/after recess to understand the impact on students' learning engagement, emotional regulation and wellness.

Purpose: First, to characterize changes over time for the group overall, and where possible by age and gender, in outdoor space usage, learning engagement, wellness activity choices, and emotional state regulation (pre-/post-recess) as elements were installed. Second, to provide this data in a stakeholder-friendly format to the middle school stakeholders.

Design and Methods: We gathered observational and survey data (likert scales and open-ended questions) concurrently intending to use a convergent mixed methods analysis. Over 1½ years during the academic year, once monthly for at least 4 days, all children (N=570-623) attending a largely economically-disadvantaged minority (60% & 73% respectively) Midwestern U.S. middle school were sent surveys pre-/post-recess (asking about learning engagement, emotional state regulation & what they did for their wellness outside), and were observed in the outside space using the System for Observing Play and Leisure Activity in Youth (SOPLAY).

Findings: Initial QUAL/QUANT findings appeared dissonant on the surface, especially for girls. We will share our phronesis and steps for “analysis-in-action” to address the arising quandaries (Sakata, 2023; Sanscartier, 2020) as we work toward data integration useful to participants/stakeholders.

Originality: We will illustrate how using phronesis and a crafting approach gives voice to students' perspectives while satisfying administration and staff stakeholders' need for evidence of the impact of redesigning outdoor space on outcomes valued by educators. We will be guided by approaches from Arnott and colleagues (2024), Sakata (2023), Sanscartier (2020) and Younas and colleagues (2023; 2023) to manage, integrate and eventually display our data.

Conclusions and Implications: Embracing “messiness” of integrating multiple streams of data (Sakata, 2023) to produce useful reports for stakeholders requires phronesis--utilizing multiple iterative steps/mis-steps in data transformation, integration and displays.



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Sampling in MMR

BBBEE Policy Implementation and MSME Development in South Africa: A QUAL+quan Mixed Methods Study

Joseph Phosane Mngqibisa

University of Northampton

Abstract:

Purpose: This study evaluates the effectiveness of the Broad-Based Black Economic Empowerment (BBBEE) policy in promoting growth and long-term stability for black-owned micro, small, and medium enterprises (MSMEs) in South Africa. Despite BBBEE's existence for over twenty years, there is limited empirical evidence directly linking BBBEE compliance to enterprise development outcomes, particularly for MSMEs. The research seeks to address this gap by examining whether BBBEE fosters innovation, improves enterprise sustainability, and supports inclusive economic growth among black-owned MSMEs in Gauteng and KwaZulu-Natal from 2015 to 2025. It uses Schumpeter's Innovation Theory, Stakeholder Theory, and the Theory of Change to analyse how policy measures collectively bolster entrepreneurial activity and sustainable enterprise success.

Design/Methodology/Approach: This research employs a convergent mixed-methods design (QUAL+quan), classified according to Creswell and Plano Clark's (2018) typology, and is guided by a pragmatic philosophical approach rooted in abductive reasoning. Qualitative and quantitative components proceed simultaneously and are integrated during interpretation. The qualitative (QUAL) component involves 30–40 purposively sampled participants, including MSME owner-managers, government officials, finance professionals, bankers, fund managers, and enterprise support practitioners. Semi-structured interviews lasting 60–90 minutes explore BBBEE implementation, compliance experiences, and causal mechanisms. Data are analysed using Braun and Clarke's (2021) reflexive thematic analysis in NVivo 14. The quantitative (quan) component surveys 250–300 black-owned MSMEs via stratified random sampling, with at least 204 respondents based on a priori power analysis (G^*Power 3.1; $\beta = .80$, $r^2 = 0.15$, $\alpha = .05$) for hierarchical multiple regression with up to 15 predictors. The survey assesses BBBEE compliance, participation in preferential procurement, enterprise and supplier development (ESD), compliance costs, and five sustainability dimensions. Integration follows the four-procedure framework of Fetters, Curry, and Creswell (2013): side-by-side comparison, joint displays, narrative weaving, and meta-inference development. Meta-inferences, key conclusions drawn from the convergence or divergence between strands, are the main analytical contribution of the study and could not be achieved by either strand alone.

Findings/Recommendations: The study is currently in progress. Its goal is to assess how BBBEE implementation supports black-owned MSMEs by examining development outcomes, identifying institutional factors that either facilitate or obstruct progress, and revealing discrepancies between policy goals and actual practice. The findings will provide evidence-based recommendations to enhance BBBEE strategies, promote enterprise sustainability, and foster inclusive growth.

Originality: The study's originality lies in systematically integrating qualitative mechanistic insights ($n = 30\text{--}40$) with population-level quantitative data ($n = 250\text{--}300$) to assess BBBEE effectiveness beyond simple compliance metrics. The convergent QUAL+quan design and transparent meta-inference methods offer a reproducible framework for thorough policy evaluation in developing countries.

Research Limitations/Implications: Limiting the focus to Gauteng and KwaZulu-Natal may narrow the generalizability of the findings. The cross-sectional design restricts causal inferences, but this limitation is partly mitigated by employing retrospective survey questions and theory-based causal reasoning. Future research should encompass additional provinces and sectors to gain a more thorough understanding.

Practical Implications: Findings will inform policymakers, MSME development agencies, and industry stakeholders on improving BBBEE implementation for more effective, equitable, and sustainable MSME development outcomes.

Social Implications: The study directly contributes to South Africa's transformation agenda by generating evidence to reduce economic inequality and to expand the formal economic participation of historically disadvantaged individuals.

Keywords:

BBBEE; MSME Development; Convergent Mixed Methods; Policy Implementation; Meta-Inference; Economic Transformation



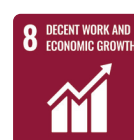
Commerce



Management



Tourism and
Services



Theme 1: MMR other

Theme 2: MMR Research Designs – Innovation and creativity

Is Sustainability Possible? Wellness Interventions for Latino Caregivers in the United States

Nicole M. Montañez Alicea

University of Wisconsin-Madison

Elizabeth Larson

University of Wisconsin-Madison

Abstract:

Purpose: Latino caregivers of individuals with developmental disabilities face barriers to engaging in and sustaining wellness practices, and culturally responsive interventions that address long-term sustainability are limited (Gillette et al., 2014). Sustainability is often treated post hoc rather than embedded in the design of interventions (Kepper et al., 2024; Walugembe et al., 2019). This work-in-progress presentation uses an exploratory sequential mixed-methods lens to examine key quandaries regarding the sustainability of caregiver wellness interventions in the United States. Specifically, it aims to examine: Why are promising interventions not maintained over time? Which design features support sustained engagement? How can sustainability be evaluated longitudinally? With the research questions above, we aim to initiate a conversation among attendees to provide feedback on the presented methodological strategies and the integration of sustainability across phases of the proposed research study intervention design.

Design/methodology/approach: This study uses a four-phase exploratory sequential design (Plano Clark & Ivankova, 2016; Tashakkori & Creswell, 2007). Phase 1 is a scoping review guided by JBI and PRISMA frameworks to synthesize existing interventions and identify sustainability gaps. Phase 2 involves semi-structured interviews with Latino caregivers, program directors, and community leaders, analyzed using reflexive thematic analysis (Braun & Clarke, 2019), to explore culturally grounded definitions of well-being and sustainability strategies. Integration occurs as qualitative findings build into intervention development, informing Phase 3.

Phase 3 pilot-tests a culturally tailored wellness intervention, assessing feasibility (recruitment, retention, adherence), acceptability (Client Satisfaction Questionnaire), and preliminary well-being outcomes (Ryff Psychological Well-being Scale) using descriptive statistics. Phase 4 examines perceived sustainability via focus groups and exit interviews with caregivers and community partners, analyzed deductively using the PRISM framework (Feldstein & Glasgow, 2008) and socioecological principles (Bronfenbrenner, 1979). Integration across phases and strands occurs through embedding and joint displays, producing meta-inferences that inform intervention refinement (Fetters et al., 2013; Moseholm & Fetters, 2017).

Findings/Recommendations: Anticipated outputs include culturally grounded definitions of caregiver well-being, key barriers and facilitators to sustained engagement, and stakeholder-informed intervention components likely to be maintained or adapted. Pilot data will provide preliminary feasibility and acceptability evidence. Integrated findings are expected to elucidate mechanisms supporting sustainability, such as cultural relevance, social support, flexibility, and inform refinement of culturally tailored, scalable interventions.

Originality: This study embeds sustainability as a central construct across all phases rather than a post hoc outcome. By combining evidence synthesis, stakeholder engagement, and pilot testing within an exploratory sequential mixed methods research framework guided by PRISM and socioecological principles, it addresses a critical gap in interventions for Latino caregivers (Arevalo et al., 2023; Rangel et al., 2024; Seguin et al., 2019; Yu et al., 2025). Explicitly positioning sustainability as a design consideration, this work invites discussion on methodological and conceptual approaches to integrating sustainability within mixed methods research, contributing to broader intervention science.

Keywords:

Latino caregivers, developmental disabilities, well-being, movement-based interventions, sustained benefits.



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: Integration in MMR

Theme 2: MMR and Complexity

Enabling Local Energy Communities: Insights from Mixed Methods Research in Poland

Sylwia Mrozowska

University of Gdansk, Poland

Barbara Kijewska

University of Gdansk, Poland

Dobrosław Mańkowski

University of Gdansk, Poland

Marta

University of Gdansk, Poland

Julia Witkowska

University of Gdansk, Poland

Abstract:

Purpose: Energy communities become a central instrument of the European energy transition, promoting decentralised energy production, citizen participation, and local energy resilience. While the growing number of registered energy communities is frequently interpreted as evidence of successful policy implementation, less is known about how local actors transform policy incentives into operational capacity and collective action (Neij, et al., 2025). This study examines municipal readiness for energy community development in Poland, where regulatory changes and financial incentives have spurred rapid growth in the number of formally established energy communities. While registration statistics suggest dynamic growth, emerging evidence indicates that many initiatives remain in their early stages. This raises an important implementation question: what factors enable municipalities to move from formal establishment to operational readiness?

Methodology: This study employs an explanatory sequential design. A survey of 328 municipalities within the service area of a major Polish electricity distribution operator provided quantitative data. This was followed by 40 semi-structured interviews with municipal representatives selected based on survey results. Quantitative and qualitative findings were integrated during interpretation and through metainference (Creswell & Clark, 2017).

Preliminary Findings: Preliminary findings reveal a significant gap between municipal interest in energy communities and the implementation of readiness measures. While local governments widely recognise the potential of energy communities to enhance energy security, local development, and reduce energy costs, qualitative evidence points to substantial challenges in institutional capacity, technical expertise, regulatory uncertainty, and organisational preparedness. The findings suggest that many formally established initiatives should be understood as emerging governance arrangements rather than fully operational energy communities.

Discussion: The paper explores policy implementation and local energy governance, highlighting municipal implementation capacity as a key factor in energy community development. As a work in progress, the study seeks feedback on the emerging conceptual framework and strategies to strengthen integration and metainference.



Economics



Multi-Disciplinary



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: Teaching in MMR

Theme 2: Integration in MMR

Teaching Integration Through a Cross-Faculty Social Enterprise Expo

Dr Juan Carlos Muñoz Carpio

Torrens University Australia

Anne Digby

Torrens University Australia

Abstract:

Purpose: This paper presents a project-based teaching case that explores the impact of experiential learning in higher education through a cross-faculty social enterprise project that supported mixed-methods-informed learning in a real-world context. The project centred on Syaahaar, a Nepali social enterprise linked to Dhulikhel Hospital. Postgraduate Information Systems (MIS) capstone students collaborated with stakeholders to investigate digital and business challenges, develop strategic recommendations and design practical materials for a live public-facing expo. Health science students subsequently enacted the expo in Nepal by demonstrating products, communicating the brand to visitors and collecting visitor survey responses. While the paper foregrounds the educational benefits for MIS students, it recognises the essential role of health science students in translating planning into practice. Preliminary evidence indicates that these experiential learning activities promoted student, motivation, engagement and perceived learning value.

Design/methodology/approach: The submission is positioned as a mixed-methods-informed teaching case rather than a completed mixed-methods study. Two distinct layers of data collection operate within the project. The first comprises data gathered by students as part of their authentic learning tasks, including stakeholder interviews conducted by MIS students and visitor survey responses collected by health science students at the expo. The second layer constitutes facilitator evaluation of the experiential approach. Current evidence includes observations from both facilitators across the MIS capstone and Health Science program, student reflections on the contextual experience and project notes and student feedback. As part of the work-integrated learning initiative, a brief post-project survey of MIS and Health Science students is currently underway. Data collection is still ongoing, with preliminary responses received from Health Science students (QUAN: $n = 13$; QUAL: $n = 13$), while responses from MIS students are still being gathered. The project is therefore presented as an emerging evaluation that integrates multiple sources of educational evidence to explore authentic learning. The educational design is informed by human-centred learning, design thinking and authentic interdisciplinary collaboration, building on prior MIS capstone work focused on digital transformation and iterative problem-solving.

Findings/Recommendations: Preliminary interpretation suggests that the project generated strong authentic learning benefits, enabling students to develop skills in conceptualisation, communication and solution construction while strengthening their connection to real stakeholder needs. Producing outputs for a live international expo deepened students' sense of professional responsibility and accountability in real-world contexts. Health science students provided a critical implementation layer, translating strategic planning into direct public engagement and real-time feedback collection.

Project documentation indicates meaningful development in professional practice, communication, confidence and interdisciplinary collaboration, alongside tangible client outputs including a playbook comprising a strategic plan, a digital transformation roadmap and marketing artefacts. This paper recommends that cross-faculty experiential projects should be intentionally designed to integrate cross faculty collaboration and co-creation for authentic assessment, fostering professional competency and enabling students to engage with complex, real-world scenarios.

Originality: This paper contributes to teaching mixed-methods research (MMR) by showing how multiple forms of evidence can be integrated within a real educational project even when the primary aim is pedagogical practice rather than formal research. It offers a model for using cross-faculty, oriented learning experiences to connect and implementation emerging evaluation in higher education. The conference guidelines explicitly accommodate practice-based and research-in-progress abstracts, which makes this an appropriate fit for abstract-only submission.



Education



Information
and Computing
Sciences



Multi-Disciplinary



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR and Complexity

Theme 2: MMR Other

Assessing Cybersecurity Maturity in Manufacturing SMEs: A NIST CSF Protect Function Approach in Sri Lanka

Dr. Leonie Newnham

Torrens University Australia

Mr. Mohan Vandabona

Torrens University Australia

Dr. Leela Waheed

Torrens University Australia

Abstract:

Purpose: The digitalisation of manufacturing processes associated with Industry 4.0 has reshaped operational environments globally, including in Sri Lanka, where Small and Medium-sized Enterprises (SMEs) play a central economic role (LANKA, 2019; Perez Cuso et al., 2024). While digital adoption enhances productivity, it simultaneously exposes SMEs to escalating cybersecurity risks, particularly in resource constrained developing economies (Kshetri, 2021; Nkwo, 2024). Despite the availability of internationally recognised frameworks such as the NIST Cybersecurity Framework (NIST CSF), limited empirical research has examined cybersecurity maturity in Sri Lankan SMEs. This study addresses this gap by assessing the implementation of the NIST CSF Protect function—covering Identity Management and Access Control, Awareness and Training, Data Security, Information Protection Processes and Procedures, Maintenance, and Protective Technology—within manufacturing SMEs (NIST, 2018; Shaukat et al., 2020).

Design/Methodology/Approach: This study adopts a mixed methods research design, drawing on established methodological principles emphasising integration, complementarity, and the generation of meta inferences (Cameron & Golenko, 2023; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010). A sequential explanatory design is used, where quantitative findings inform qualitative inquiry (Fetters et al., 2013). The quantitative phase employs a structured survey to measure the extent of Protect related control implementation and identify variations across firm size, sub sector, and digital maturity with a sample size of 100 SMEs (Büyükożkan & Güler, 2025). The qualitative phase uses semi structured interviews with SME owners, managers, and IT personnel to explore organisational practices, contextual constraints, leadership perceptions, and decision making processes influencing cybersecurity adoption with a sample size of 20 (Mkhulisi et al., 2023). Integration occurs at the interpretation stage through convergence of findings, expansion of insights, and the development of meta inferences that synthesise quantitative patterns with qualitative explanations (Greene et al., 1989; Johnson et al., 2007). The study is grounded in the Technology–Organization–Environment (TOE) framework (Tornatzky & Fleischer, 1990) to examine how technological readiness, organisational culture, and environmental pressures shape cybersecurity maturity (Bostrom & Heinen, 1977).

Anticipated Contribution: The study is expected to produce a contextualised cybersecurity maturity assessment model tailored to Sri Lankan manufacturing SMEs. It contributes to theory by extending cybersecurity maturity research into a developing country context and by operationalising the NIST CSF Protect function as a practical assessment tool (Kabanda et al., 2018). Methodologically, it advances mixed methods scholarship by demonstrating how integrated quantitative and qualitative evidence can illuminate cybersecurity capability development in resource constrained environments (Creswell & Plano Clark, 2018). Practically, the findings will support SME leaders, policymakers, and industry bodies in designing targeted interventions, capacity building initiatives, and regulatory measures to strengthen cybersecurity resilience (Papathanasiou et al., 2025).

Originality: This research is among the first to systematically assess cybersecurity maturity in Sri Lankan manufacturing SMEs using the NIST CSF Protect function within a mixed methods framework. Its originality lies in integrating an international cybersecurity standard with the TOE framework, socio technical theory, and mixed methods design principles to explain the interplay of technological, organisational, and environmental factors influencing cybersecurity adoption (Dubois, 2022; Cameron & Golenko, 2023). The resulting maturity model and meta inferences contribute novel theoretical, methodological, and practical insights relevant to SME cybersecurity research in developing economies



Commerce



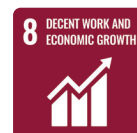
Management



Tourism and
Services



Information
and Computing
Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR and Complexity

Theme 2: MMR Other

From Graduation to Career Progression: A Longitudinal Mixed Methods Study of Women in Information Technology

Dr. Leonie Newnham

Torrens University Australia

Professor Claire Davison

Torrens University Australia

Dr. Ratna Saha

Torrens University Australia

Dr. Leela Waheed

Torrens University Australia

Associate Professor Nandini Sidal

Torrens University Australia

Abstract:

Purpose: This research uses a Longitudinal mixed methods research (MMR) design and examines the career trajectories of women in Australia's Information Technology (IT) industry, focusing on alumni from an Australian university. Although more women are graduating from IT degrees, their participation and progression in the IT workforce remain disproportionately low. Persistent barriers, including gender bias, limited mentorship, and unsupportive workplace cultures, continue to restrict women's retention and advancement. Drawing on Ahuja's (2002) career stage model, expanded by Armstrong et al. (2018), the study investigates three phases of women's IT career development: career choice, persistence, and advancement. It aims to generate insights that can inform curriculum refinement, professional development, workplace practices, and policy reform, fostering more inclusive and sustainable IT career pathways.

Design/methodology/approach: The study adopts a longitudinal MMR design, combining retrospective and prospective elements to capture the evolving nature of women's IT career experiences. Phase 1 retrospectively analyses alumni experiences from 2020-2025 using a survey to collect data, Phase 2 prospectively follows new graduates over a 3-5-year period as they transition into and progress within the IT workforce using surveys and interviews.

This methodological approach draws on principles showing longitudinal mixed methods designs illuminate how complex experiences evolve by integrating quantitative trends with qualitative depth. Such designs uncover patterns, turning points, and contextual factors (Plano-Clark et al., 2014). They generate systematic, repeated insights that allow researchers to trace changes in identity, confidence, workplace conditions, and career progression with greater precision (Schumacher et al., 2021). They are especially effective for examining social phenomena shaped by the interaction between structural conditions and individual agency, making them well-suited to investigating gender inequality in IT (Vogl, 2023).

By combining longitudinal tracking with methodological integration (Cameron & Golenko, 2023), this research provides a comprehensive evidence base that addresses not only what is happening in women's IT careers but also why and how these patterns develop over time.

Anticipated Contribution: The study's findings will inform the development of a "triple helix plus feedback" translational model, integrating education, industry, and government with continuous, evidence-driven feedback loops (Etzkowitz & Leydesdorff, 2000). This model will support improvements in curriculum design, industry engagement strategies, early-career support structures, and policy frameworks to enhance women's participation and advancement.

Based on preliminary insights and anticipated outcomes, the study is expected to recommend:

- Strengthened university-industry partnerships supporting more equitable pathways into IT careers.
- Enhanced mentorship, sponsorship, and professional development opportunities.
- Workplace reforms addressing culture, progression pathways, and organisational accountability.
- Policy mechanisms that set sector standards to guide national strategies for a diverse IT workforce.

Originality: This research is distinctive in its combination of longitudinal scope, mixed methods design, and translational focus. Few studies follow women's IT career trajectories over multiple years while integrating retrospective and prospective data. Its methodological foundation positions it as an unusually comprehensive and powerful investigation into the dynamic processes shaping women's IT careers.



Education



Information
and Computing
Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR and Complexity

Theme 2: Ethical considerations in MMR

Universal Childcare and Equity in Aotearoa New Zealand's Early Childhood Education and Care System

Jeana Nichols

University of Canterbury, New Zealand

Abstract:

My research aims to strengthen Aotearoa New Zealand's early childhood education and care (ECEC) system by addressing barriers to accessibility, affordability, inclusion, and quality. Despite recent policy progress, many low-income families, Māori, and Pasifika communities struggle to access culturally responsive and quality ECEC. National data show these groups participate in ECEC less frequently, contributing to inequities in developmental and well-being outcomes (Ministry of Education, 2022). This study examines how universal childcare policies can close these gaps and ensure equitable access across diverse communities.

This research is grounded in the recognition of ECEC as a foundation for lifelong learning, social development, and societal well-being. The Ministry of Education's Budget 2023 committed \$1.8 billion to expand access to ECEC. The 2025 ECE Funding Review prioritises affordability for disadvantaged families (Ministry of Education, 2025). These efforts align with UNESCO's framing of early education as a human right essential to reducing inequality (UNESCO, 2025). Yet gaps in affordability, access, and workforce capacity persist. Literature across disciplines highlights the limited availability of culturally responsive research to guide ECEC policy. Few studies apply bicultural frameworks, such as Ngā Hau e Whā o Tāwhirimātea, to policy development. This study also draws on Finnish and Swedish models adapted to New Zealand.

I employ a convergent mixed methods design with quantitative and qualitative strands conducted concurrently, analysed independently, and integrated during interpretation. This design supports a comprehensive understanding of both structural patterns and lived experiences within the ECEC system. The quantitative component involves secondary analysis of large-scale administrative data. This includes ECEC participation indicators, Ministry of Education funding datasets, and Integrated Data Infrastructure variables related to socioeconomic status and demographics. I use descriptive statistics to map national trends. I apply inferential techniques, such as regression and multilevel modelling, to examine disparities across ethnicity, socioeconomic status, and region. This helps identify structural factors that shape unequal access.

I collect qualitative data via document analysis and 30–60 semi-structured interviews with ECEC stakeholders including families, Kaiako, providers, and policymakers. I use purposive and maximum-variation sampling for recruitment. I intentionally include Māori and Pasifika voices to ensure the research reflects communities most impacted by inequities. I analyse policy documents, funding reviews, and regulatory frameworks to understand

meanings embedded in policy design. Thematic and content analyses guide interpretation. Consistent consultation with Kaiārahi Māori ensures the research is culturally grounded. I centre the values of whanaungatanga, tiakitanga, and manaakitanga.

I integrate both strands during analysis by comparing quantitative trends with qualitative insights using joint displays and side-by-side interpretation. This identifies convergence, divergence, and complementarity between datasets. Through this process, I develop meta-inferences explaining why gaps persist between policy intentions and practice. These integrated insights generate evidence-based recommendations advancing equity.



Education



Human Society



Multi-Disciplinary



Theme 1: MMR and Complexity

Theme 2: MMR Other

Exploring Migrant Entrepreneurial Pathways: A Comparative Mixed Methods Study of Australia, Italy, and Ireland

Dominika Ohana

Torrens University Australia

Kamila Kowalska

Uniwersytet Gdański, Poland

Rafał Raczyński

Uniwersytet Gdański, Poland

Abstract:

Purpose: This study will advance comparative mixed methods research on Polish migrant entrepreneurship by integrating data from Ireland and Italy, with an upcoming replication in Australia. The research aims to generate a robust descriptive and comparative profile of the Polish diaspora's entrepreneurial trajectories, institutional constraints, support mechanisms, agency and outcomes across distinct migration regimes. Aligned with the UN Sustainable Development Goals, particularly Goal 8 (Decent Work and Economic Growth) and Goal 10 (Reduced Inequalities), the project seeks to inform evidence-based policy and support interventions for migrant entrepreneurs.

Design/methodology/approach: This study employs a complex, multistage, comparative, sequential explanatory mixed methods design spanning three national contexts, involving an initial quantitative phase followed by a qualitative phase to explain or elaborate on the quantitative findings (Creswell & Plano Clark, 2018). Grounded in pragmatism, which provides a philosophical basis for research methods that integrate both qualitative and quantitative approaches (Creswell & Plano Clark, 2018), this study unfolds in three distinct phases. The initial phase involved administering an identical, rigorously validated survey instrument to migrant entrepreneurs in Ireland (n=119) and Italy (n=94), capturing multidimensional data on entrepreneurial pathways, institutional barriers, support mechanisms, skills and socioeconomic outcomes. The forthcoming Australian phase will aim for a sample of over 100 respondents and will replicate this process using the same survey instrument, designed for cross-national comparability (Martín-Fernández et al., 2020).

Following quantitative data collection, phase II involves semi-structured interviews with participants recruited through purposive sampling in Ireland (n=10) and Italy (n=15), targeting 15-20 participants in Australia. The interview protocol, also standardised across sites, is guided by phenomenological principles to elicit rich, first-person accounts of entrepreneurial migrant experience. This phase is designed to deepen, contextualise, and explain quantitative findings (Creswell & Plano Clark, 2018) by enabling participants to articulate how national policy frameworks, local institutions, labour market exclusion, skills, and social networks shape migrants' entrepreneurial action in practice.

Data integration will be achieved at the end of each phase for each country through joint displays and inferences, followed by meta-inference, thereby synthesising quantitative patterns with qualitative insights to generate contextually grounded, transferable knowledge and overarching conclusions (Fetters et al., 2013; Younas et al., 2025).

Originality: To date, no research has systematically compared large samples of Polish migrant entrepreneurs across Ireland, Italy, and Australia using a consistent sequential mixed methods design, although cross-national comparative studies have become more common, especially in migration research. This research fills this gap by presenting the first comparative study of its kind on the Polish diaspora, thereby providing a nuanced understanding of how different welfare and migration regimes facilitate or hinder migrant entrepreneurship and shape migrants' lived experiences in host countries. Previous literature highlights the importance of both structural and agency-related factors in shaping entrepreneurial outcomes (Kowalska, 2024; Kowalska et al., 2024; Kloosterman, 2010).

Research limitations/implications: As this is an ongoing project, the overarching findings are not yet available. However, the methodology is expected to yield rich, policy-relevant insights to inform state and federal policymakers, organisations supporting migrants, and migrant entrepreneurs.

Keywords:

migrant entrepreneurship, mixed methods, Australia, Polish diaspora, comparative research



Commerce



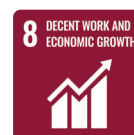
Management

Tourism and
Services

Human Society



Multi-Disciplinary



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: Data Collection and Quality in MMR

Beyond Service Speed: A Mixed-Method Study of Organizational Stressors and Employee Outcomes in Indian QSRs

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Priyanka Bhowmik

Research Assistant

Dr. Gopal Mahapatra

Indian Institute of Management, Bangalore

Abstract:

Purpose: The study aims to examine how organizational stressors within the Indian Quick Service Restaurant (QSR) industry contribute to employee depression and intention to quit. Drawing upon the Job Demands–Resources (JD-R) Model, the study investigates the impact of supervisor bottom-line mentality (BLM), work intensity, and illegitimate tasks on frontline employees' emotional exhaustion and perceptions of mechanistic organizational dehumanization. The study further seeks to understand how these psychological and organizational experiences collectively influence employees' intention to quit and depression within highly standardized and efficiency driven QSR environments.

Design/methodology/approach: The study adopts a sequential exploratory mixed-method design. The purpose of using this mixed method is development where the "results from one method help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions" (Greene et al., 1989, p. 259). The qualitative phase employs hybrid thematic analysis to explore from both extant literature and frontline employees' lived experiences (n=18) to identify key themes within QSR settings. Insights derived from this phase subsequently inform the quantitative stage of the study. The quantitative phase utilizes a survey-based research design (n=312) to empirically examine the theoretical model concerning relationships among supervisor bottom-line mentality, work intensity, illegitimate tasks, emotional exhaustion, mechanistic organizational dehumanization, depression, and intention to quit among frontline QSR employees in India. The study accords equal status to both qualitative and quantitative study (QUAL -> QUAN).

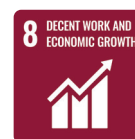
Findings/recommendations: The study proposes that excessive workplace demands significantly contribute to emotional exhaustion and perceptions of organizational dehumanization among Indian QSR employees. These experiences are expected to increase employees' vulnerability to depression and strengthen their intention to quit the organization.

Originality: The study contributes to hospitality and organizational behaviour literature by integrating organizational, psychological stressors and withdrawal outcomes among the Indian QSR employees within a unified framework. It further advances the limited mixed-method research within QSR workforce literature by combining qualitative insights with quantitative validation. Additionally, the study extends the application of the Job Demands–Resources Model to the Indian QSR context by incorporating mechanistic organizational dehumanization and other critical employee outcomes.

Research implications: The study offers practical insights for Indian QSR organizations seeking to improve employee well-being, and reduce workforce instability by helping them identify workplace practices that intensify emotional strain and employee disengagement. By promoting supportive leadership, reducing unnecessary work demands, and designing healthier work systems, QSR organizations may reduce employee turnover, and foster more sustainable people-management practices in high-pressure service environments. The findings may also encourage policymakers and industry stakeholders to recognize mental well-being as an essential component of sustainable employment within the hospitality industry, thereby urging them to balance operational efficiency with employee psychological well-being.



Human Society



Theme 1: Joint Displays and Data Integration

Theme 2: Inferences and Meta-inferences

Exploration for a knowledge translation model in public dissemination of Health Evidence: A Mixed-method Study

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Abstract:

Background: Translating high-quality medical research into accessible public health information is critical, particularly amidst digital information overload¹. Bridging this critical knowledge-to-action gap is of paramount importance for empowering communities and improving overall health literacy. In China, while evidence-based medicine (EBM) production has accelerated, public dissemination of Cochrane evidence faces profound linguistic, professional, and systemic barriers. Evaluating the Cochrane Evidence Dissemination Competition, an unique nationwide public dissemination practice, provides a real-world paradigm to identify the capabilities required and barriers faced by medical professionals during active digital knowledge translation (KT).

Purpose: This study aims to explore and comprehensively evaluate this innovative, competition-based KT model to inform future public health communication strategies, explicitly focusing on the lived experiences and operational capability deficits of evidence disseminators—the front-line practitioners who serve as the actual executors of public dissemination.

Methods: An explanatory sequential mixed-methods design was employed to evaluate the third Cochrane Evidence Dissemination Competition. The quantitative phase assessed participation metrics, submission formats (n=94), and 7-day social media dissemination effects on WeChat, alongside a structured online survey of 173 participants measuring EBM experience and perceived barriers. The subsequent qualitative phase involved in-depth, semi-structured interviews with 14 purposively selected participants. Integration of the disparate datasets was achieved through a structured joint display underpinned by the Capability, Opportunity, and Motivation Behavior (COM-B) model, juxtaposing statistical frequencies with rich thematic narratives to generate elaborative, relational, and explanatory meta-inferences.

Results: Quantitative analysis demonstrated high intrinsic motivation for EBM dissemination, with 60.7% citing personal skills development. However, significant capability barriers emerged: only 12.9% of medical participants could independently comprehend original English Cochrane evidence (Figure 1). Submissions heavily favored static text-graphic formats (85.1%) over highly engaging short videos (14.9%) (Figure 2). Qualitative thematic analysis identified three core domains: Evidence Translation, Evidence Dissemination, and Audience Reach (Figure 3, Table 1). The mixed-methods integration generated a critical explanatory meta-inference: the overwhelming reliance on text-graphic formats is not driven by perceived audience preference, but directly caused by the disseminators' severe clinical time constraints and a profound lack of technical multimedia skills (Table 2). Furthermore, relational meta-inferences highlighted that severe linguistic and methodological bottlenecks force isolated medical professionals into complex translation tasks entirely outside their core competencies.

Conclusions: The competition-based KT model is a highly effective, scalable strategy for mobilizing evidence disseminators. However, to optimize digital evidence dissemination and mitigate health misinformation, it is imperative to establish dedicated multidisciplinary KT teams, ethically integrate artificial intelligence tools for content processing, and implement integrated digital health communication frameworks to bridge the identified execution gaps.

Originality: Pioneering in Health Sciences, this research strongly aligns with the UN SDG of Good Health and Well-being by radically shifting the KT focus to the evidence disseminators. Methodologically, it advances the field through the innovative application of joint displays, systematically integrating datasets to construct powerful explanatory and predictive meta-inferences. This unprecedented mixed-methods framework effectively exposes critical operational execution gaps, redefining capacity-building in digital public health communication.



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: Integration in MMR
Theme 2: Inter-Methodology Mixing (I-MM)

The Change of Willingness to Communicate and the Relationship During Sojourn: Integrating Study Abroad Social Interaction Questionnaire and Multiple Interviews

Mari Suzuki
 Waseda University

Abstract:

This case study in progress employs the convergent mixed method design to investigate the relationship between the change of sojourners' WTC and the change of interpersonal relationship they had during study abroad experience. The research questions to be addressed are RQ1. What statistical relationship between the sojourners' WTC and the interpersonal relationship can be found? (Quan.) RQ2. How do the sojourners change WTC and interpersonal relationship with others? (Qual.)

The previous survey studies with pre-post design showed that willingness to communicate (WTC), which is one of the antecedents for L2 use (MacIntyre et al., 1998), increased significantly (D'Amico, 2010; Yashima & Zenuk-Nishide, 2008). Furthermore, it has been found that the relationship with the interlocutor influences one's WTC (Kang, 2005). However, due to the limitation of methodology employed in the past studies, it has not been found how the WTC change during the sojourn in relation to the interpersonal relationship the sojourners had, even though WTC is affected by interlocutors.

Data collection methods are as follows; As for the quantitative part, the presenter conducts a questionnaire survey to 100 Japanese university students who studied abroad in the past. The presenter employs two questionnaires; WTC questionnaire developed by McCroskey (1992) and Study Abroad Social Interaction Questionnaire (SASIQ) developed by Dewey et al. (2013). WTC questionnaire describes the numerical level of one's WTC in multiple situations, consisted of 20 items and SASIQ can show the broadness and the closeness a sojourner feels toward others, and the community they belong to during study abroad.

For the qualitative part of this study, two Japanese university students who is studying abroad now are invited. The presenter conducts multiple interviews and distributes monthly diaries. The content analysis was conducted to the interviews to initiate themes and codes. The data of the diaries are used as supplementary to initiate the interview questions and for the presenter to understand the phenomenon deeply.

The quantitative and qualitative parts of this study will complement their findings each other; the quantitative part unveils the linear relationship between WTC and the interpersonal relationship during the sojourn by drawing a statistical model. The qualitative part reveals both the process of the change and the reason why there is the relationship. These findings have not been addressed by the previous studies, however the mixed method study enables it.

So far, in this case study, the presenter has completed the qualitative part of this study for the two participants. The content analysis shows that the change of WTC can be connected with their relationship with other people during sojourn.

In this 10 minute roundtable session, the finding of the qualitative part will be briefly shown followed by the questions open for the floor to discuss the study design; 1. to what extent these 100 students in the quantitative part, who studied abroad before are compatible to the above two students in the qualitative part, who joined this study while their sojourn. 2. If so, which statistical analysis would be suitable for the quantitative part.



Education



Language,
Communication
and Culture



Psychology



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR and complexity

Theme 2: Data collection and quality in MMR

Bridging the cancer evidence gap to enhance prevention and early intervention and to reduce premature mortality among people experiencing homelessness

Dr Jocelyn Tan

University of Notre Dame Australia

Professor Lisa Wood

University of Notre Dame Australia

Dr Matthew Tuson

University of Notre Dame Australia

Abstract:

Purpose: People experiencing homelessness are largely invisible in cancer data and not targeted by Australian interventions. Yet this population has a high prevalence of cancer risk factors (eg 78% smoke), and faces barriers to preventive and primary care for early cancer identification. This research aimed to address cancer-related evidence gaps for people experiencing homelessness to improve prevention, earlier intervention, and reduce cancer mortality.

Methodological approach: This project utilised an exploratory sequential mixed method approach. To ensure consumer-led and trauma-informed methods and interpretation, advisors include people with co-occurrent lived experience of cancer and homelessness. Qualitative research was conducted first via semi-structured interviews with people with lived experience (n~10) and healthcare workers (n~15). Interviews explore barriers to screening, diagnosis, and treatment, and identifies improvement areas. Findings from the qualitative phase will be used to develop a thematic framework to inform quantitative analyses including identify key variables and outcomes of interest. Quantitative data comprise linked hospital, death registry, coronial, and primary care data for ~14,000 people who have experienced homelessness in Perth, Western Australia. Analyses will examine cancer prevalence and type, time between diagnosis and treatment, and preventable deaths. Content analysis of primary care health records will explore screening engagement, follow-up, diagnosis, and treatment. Findings will be triangulated to inform discussions with cancer programs and services to reduce access barriers.

Findings: Qualitative data thematic analysis has identified key barriers to cancer screening, timely diagnoses and treatment engagement and helped to inform quantitative analysis. Preliminary quantitative findings and triangulated responses are expected by the time of the MMIRA conference.

Originality: The paucity of research on homelessness and cancer contributes to its invisibility in data and health responses, with existing work being quantitative or narrowly focused. This study is novel in its mixed methods approach, combining lived experience narratives, service provider perspectives and linked administrative health data to enables cancer journeys and service access among people experiencing homelessness. These data synergies strengthen the relevance of findings for addressing policy and practice gaps to reduce cancer vulnerability for people without a home.



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: Inter-Methodology Mixing (I-MM)

Theme 2: MMR Research Designs – Innovation and creativity

Flex-Place Arrangements and Work-Family Balance: A Mixed-Method Enquiry

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College of Business and Law, Adelaide University

Gnei Rushna Preena

College of Business and Law, Adelaide University

Emeritus Professor Marie Wilson

College of Business and Law, Adelaide University

Abstract:

Purpose: People experiencing homelessness are largely invisible in cancer data and not targeted by Australian interventions. Yet this population has a high prevalence of cancer risk factors (eg 78% smoke), and faces barriers to preventive and primary care for early cancer identification. This research aimed to address cancer-related evidence gaps for people experiencing homelessness to improve prevention, earlier intervention, and reduce cancer mortality.

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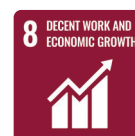
Commerce



Management



Tourism and
Services



Theme 1: Data Collection and Quality in MMR

Theme 2: MMR other

Advancing understanding of mixed methods research in genetic counselling: a focused mapping review and synthesis

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Dr Kennedy Borle

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Dr Lucinda Freeman

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Abstract:

Purpose: Genetic counselling is a clinical communication process that aims to support the education and adaption of individuals and families to genetic information (Resta, 2006). As a research discipline, genetic counselling is concerned with clinical and psychosocial outcomes, patient and family experiences and acceptability, communication processes, decision-making, and real-world implementation of genetic counselling delivery, making the field well suited to the use of mixed methods inquiry (Creswell & Plano Clark, 2018). Strategic use of mixed methods could strengthen the genetic counselling evidence base, support translation of research findings into practice, and enhance the visibility and competitiveness of genetic counselling research within broader health research funding and policy contexts (Borle & Austin, 2025). Despite the potential insights, mixed methods approaches are not widely utilised within genetic counselling research (Borle & Austin, 2025), constraining the field's ability to generate implementation-relevant evidence and represents a missed opportunity for genetic counselling researchers (Skivington, 2021).

The purpose of this review is to formally examine how mixed methods inquiry has been utilised within genetic counselling research. We seek to describe the extent and characteristics of mixed methods approaches, including the purpose, sequence and integration approaches used in genetic counselling research. We aim to identify methodological trends, and opportunities to strengthen genetic counselling research through the intentional and rigorous use of mixed methods approaches. Specifically, our review question is how is mixed methods methodology conceptualised, designed, and applied in genetic counselling research as a healthcare intervention?

Design: We selected a focused mapping and synthesis review to enable a modern snapshot of current mixed methods approaches in genetic counselling research (Bradbury-Jones et al, 2017). A focused search strategy retrieved articles describing mixed methods approaches in genetic counselling research. We searched three relevant journals between 2020 – 2026: Journal of Genetic Counselling, European Journal of Human Genetics, and Genetics in Medicine. All articles will be independently screened by two reviewers. Pre-defined data items, including the mixed methods characteristics, will be extracted from eligible articles. Data will be narratively synthesised and supplemented with tables and figures to summarise common characteristics. We will compare data between different genetic counselling areas of clinical practice.

Findings: The review question will be answered through the synthesis of data relevant to the mixed methods approaches in each article, including the overarching mixed methods design, the presence and purpose of data integration, and rationale for the mixed methods approach. We will describe any differences seen between clinical practice areas.

The findings of this review will be discussed in relation to best practice as set out by leaders in the application of mixed methods research (Creswell & Plano Clark, 2018). The discussion will culminate in a set of provisional recommendations for genetic counselling researchers wishing to utilise mixed methods approaches to enhance the quality and rigour of their work, improve the genetic counselling field's use of mixed methods research, and ultimately support evidence translation into clinical practice.

Originality: This abstract reports original work that has not been published previously and is not currently under consideration for publication.

Keywords:

genetic counselling; genetic counselling; health care delivery; health care intervention; mixed methods



Health Sciences



ROUNDTABLE FORMAT FOR RESEARCH IN PROGRESS

Theme 1: MMR Research Designs, Innovation and creativity

Theme 2: Inter-methodology mixing (I-MM)

Intersecting mixed methods, user experience (UX) design, and best language translation practices to create person-centered digital health

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Abstract:

Purpose: We aim to describe a multi-stage, complex mixed methods design protocol that intersects with user experience (UX) design and best practices in language translation. To illustrate this approach, we will describe a protocol for the development and usability testing of Mi salud, mi decisión, a Spanish version of My Health, My Choice (an English-language digital contraceptive decision tool).

Study design: We are conducting a 3-stage mixed methods study that starts with a qualitative translation phase, proceeds to tool prototyping via an iterative convergent mixed methods phase, and ends with quantitative testing of the tool. Throughout the entire study, we intersect key principles and procedures from user experience (UX) design and evidence-based language translation. In Stage 1 (qualitative translation), our 8-person bilingual team of native Spanish speakers and professional translators completed English to Spanish translation of all educational content of the My Health, My Choice tool. Informed by the Participatory and Iterative Process Framework for Language Adaptation (PIPFALA) and guidelines from the European Organization for Research and Treatment of Cancer (EORTC), the translation process involved: 1) preparation; 2) forward translations; 3) synthesis of translations; 4) back translation; 5) consensus (harmonizing) of translations; and 6) reviewing and proofreading. To create Mi salud, mi decisión, we proceeded with "internationalization", a technical process that involves migration of written Spanish content into the tool's administrative platform and ensuring the tool's original features and conditional logic rules are preserved. In Stage 2 (prototyping), we will conduct an iterative convergent study and integrate quantitative data and qualitative data in successive cycles; the mixed methods interpretations will then inform subsequent revisions to the tool's written content and features. We will recruit 15-20 Spanish-speaking individuals who desire contraceptive decision support and purposefully sample for participant variations in reading level and Spanish dialect (e.g. Puerto Rican, Mexican, Cuban). Participants will electronically complete the Spanish System Usability Scale (SUS), a quantitative 10-item validated survey of usability metrics. Qualitative data will be collected via "think aloud" cognitive interviews with trained qualitative researchers while participants navigate the tool in real-time via virtual teleconference or in-person. We anticipate needing 3 cycles with 5-7 participants each cycle to develop a ready-to-pilot Mi salud, mi decisión tool. In Stage 3 (pilot testing), we will recruit and enroll approximately 50 Spanish-speaking individuals who desire contraceptive decision support through tailored recruitment messages via local community groups, an academic research website, and social media. The primary goal of the pilot is to ensure that Mi salud, mi decisión is usable and acceptable to a more diverse group of users across the United States in preparation for future clinical trial testing. All participants will be asked to use the Mi salud, mi decisión tool and complete a brief demographic survey and the 10-item Spanish SUS scale (primary outcome).

Expected Findings: By the end of this 3-stage complex mixed methods study, we expect that the Mi salud, mi decisión will be a highly usable, culturally acceptable, and linguistically acceptable contraceptive decision tool for Spanish speakers. We anticipate that Mi salud, mi decisión will be ready for efficacy testing in a large cluster randomized controlled trial.

Originality: This study describes an innovative, intersected mixed methods approach that leverages the principles and procedures of User Experience (UX) and best practices in language translation. This complex mixed methods design is an example of a hybrid approach that can be widely adapted to develop and test digital health tools in different languages.

Keywords:

Mixed methods, user experience, contraception, health communication, language translation.



Biomedical and
Clinical Sciences



Health Sciences



Language,
Communication
and Culture



Psychology



Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: MMR Other

The impact of leader's temporal resilience responses on team time performance: A mixed-method study

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Abstract:

Purpose: Requirement instability, i.e., unpredictable changes in project specifications driven by shifting client demands, technological advances, and market dynamics (Morgeson et al., 2025), poses a pervasive threat to the timely delivery of R&D projects, yet scholarly understanding of how and when such instability undermines team time performance remains fragmented (e.g., Bstieler, 2005; Colicev et al., 2023; Floricel et al., 2016; Stockstrom & Herstatt, 2008). By integrating temporal resilience theory (Pérez-Nordtvedt & Harrison, 2024) with temporal leadership and boundary management literatures, this study develops and tests an integrated model explaining how R&D team leaders' temporal resilience responses mitigate the negative impact of requirement instability on team time performance, with intra-team temporal conflict, i.e., disagreements among members regarding task priorities, work pacing, and time allocation (Santos et al., 2016), as a critical mediating mechanism. We adopt an exploratory sequential mixed methods design, in which qualitative findings from Study 1 inform the conceptual development and measurement refinement subsequently tested in Study 2.

Methodology and Findings: In Study 1, we conducted semi-structured interviews with 15 R&D team leaders to explore the content and sequence of their temporal resilience responses. We identified two core response types—absorbing (filtering non-essential demand changes) and adjusting (coordinating internal workflows and external stakeholders)—and uncovered an emergent “absorbing-before-adjusting” sequence. Furthermore, we decomposed adjusting responses into internal (e.g., scheduling, resource allocation) and external (e.g., negotiation, boundary spanning) dimensions, reflecting the dual focus inherent in team leadership roles. These qualitative insights directly informed the development of hypotheses and the adaptation of measurement instruments in Study 2.

In Study 2, we tested the resulting moderated mediation model using multi-wave, multi-source data from 63 R&D teams. Results show that requirement instability increases intra-team temporal conflict, which in turn impairs team time performance. Notably, team leaders' absorbing responses weaken the positive relationship between requirement instability and temporal conflict, while adjusting responses attenuate the negative effect of temporal conflict on time performance.

Data integration occurred at the interpretation stage, where qualitative findings were used to explain and contextualize the quantitative moderation effects, thereby enhancing the validity of the overall conclusions. This integration reveals that the two responses operate sequentially rather than simultaneously—a pattern that could not be captured by quantitative methods alone.

Originality: Theoretically, this study extends temporal resilience theory by contextualizing absorbing and adjusting responses, further decomposing adjusting responses into internal and external dimensions, and identifying a sequential response pattern. Moreover, it reconciles prior empirical inconsistencies by revealing temporal conflict as the pivotal mediating mechanism linking requirement instability to team time performance. Furthermore, it demonstrates how leaders dynamically combine internal and external activities to build team temporal resilience under conditions of disruption.

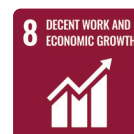
Methodologically, this study contributes to mixed methods research in organizational studies by demonstrating how an exploratory sequential design can be leveraged to refine and extend nascent theory. The integration of inductive qualitative inquiry with deductive quantitative testing not only strengthens construct validity but also reveals processual dynamics (e.g., response sequencing) that remain opaque when using either approach in isolation.

Keywords:

Temporal resilience; requirement instability; team temporal leadership; team temporal conflict; mixed-methods



Multi-Disciplinary



Navigating complexity to conduct an international study of women with ADHD and the power of podcasts

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Abstract:

Purpose: This study aimed to address current research gaps regarding women with ADHD and gain insights into the role of podcasts in health literacy and support.

Design/Methodology: This international, cross-sector study involved neurodivergent participants and researchers and employed an explanatory sequential mixed-methods design within the transformative paradigm. Primary data collection methods included a survey (n=424) with some participants choosing to expand on survey responses and conduct 90-minute interviews (n=29) or submit reflective journals in a mode of narrative choice (video, text, audio: n=7). A relational and dialogic approach within the research team was required to accommodate one another and participants, and the study design addressed significant ethical, organizational, and perceptual barriers.

Findings: The number of voluntary participants far exceeded expectations and challenged existing perceptions about impost of research on vulnerable populations. The study design allowed us to 1) identify the effect of podcast listening on women listeners with ADHD, and 2) learn how media and podcasts influenced their lives as women with ADHD. Women reported that podcast engagement promoted knowledge about ADHD, created connection, and supported overall thriving. Women trusted and valued podcasts as a source for health information. We also found that we needed to account for neurodivergence in the study implementation.

Implications: The study design highlighted that neurodivergent participants valued being able to contribute to research, and that conversations about adjustments for them and within the research team were informative as the study progressed. For women with ADHD, podcasts can educate, empower, and shift how they relate to their own diagnosis, complementing rather than replacing clinical guidance. Podcasts can act as a supplemental intervention, and deliver empathy, validation, and community. Women with ADHD are historically overlooked, underdiagnosed, and misdiagnosed. This kind of connection can be transformative.

Contributions/Originality/Value: This first-of-its-kind study broadens understanding of how women with ADHD navigate a world not built for them, and podcasts hosted by and for women with ADHD can shape health literacy, self-perception, and thriving.



Health Sciences



Language,
Communication
and Culture



Evaluating the Effectiveness of Professional Development in Evidence-Based Decision-Making: A Quasi-Experimental Mixed Methods Study using Protocol Analysis

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Abstract:

Purpose: Purpose: This paper examines methodology employed when investigating the impact of evidence-based decision-making (EBDM) professional development in leaders in the child welfare sector in Australia. The challenge in this investigation was to determine how to examine the differences in thinking by the participants of an EBDM professional development course in professional practice, using a quasi-experimental mixed methods approach. A prevalence study by Leppens, Chatteur and Perkins in 2023 determined that the three-method mix was the most popular in mixed methods research (MMR) in the field of design, which places emphasis on process and changes in thinking. Protocol analysis arose out of this study as a popular approach in the design field but is seldom used in business and management studies. Protocol analysis was therefore a logical choice to employ as part of the MMR mix. Used in conjunction with the pre and post-tests and insightful quotes, the changes in thinking in professional practice can be determined.

Research Design: A quasi-experimental MMR design was applied. This approach employs an intervention group and a control, with pre and post-tests undertaken by all participants. This was paired with the qualitative protocol analysis, in which the two groups also undertook “think aloud” exercises before the intervention. The intervention group then undertook an eight-month course in evidence-based decision-making. Both groups then completed a post-test and “think aloud”. The “think aloud” exercises will then be evaluated using protocol analysis to determine the frequency of evidence-based thinking in both sets of participants before and after the training.

Preliminary Findings: A comparison of the pre and post-tests will be investigated to determine differences in the scores and insightful quotes uttered during the “think aloud” exercises will be reported.

Originality: This research adds a valuable MMR method from design research into business and management studies.

Keywords:

Protocol analysis, design research, business and management research, mixed methods research, evidence-based decision-making



Commerce



Management



Tourism and
Services



Utilization Status and Decision-making Mechanisms of Fertility Preservation for Young Early-Stage Breast Cancer Patients

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Abstract:

Purpose: As breast cancer (BC) trends younger, fertility preservation (FP) during BC treatment is increasingly critical, yet its real-world application in China remains under-characterized. This study examined: (1)FP utilization; (2)influencing factors and decision-making mechanisms; (3)reproductive effectiveness; and (4)oncologic safety in young early-stage BC patients.

Methodology: A mixed-method study using a sequential explanatory design was conducted. Quantitatively, a cohort study using 9-year data from 18.19 million Chinese was conducted. Analysis included binary logistic regression, Bayesian logistic regression incorporating prior knowledge from a systematic review and meta-analysis, Cox models, and Fine-Gray competing risk models. Qualitatively, we surveyed clinicians and patients using questionnaires and semi-structured interviews. We adopted a hybrid coding approach combining top-down and bottom-up strategies, with the Colaizzi 7-step analysis method used to develop a theoretical framework.

Findings: Among 1541 eligible patients, 68 (4.41%) received FP, exclusively via GnRHa. Adoption correlated with younger age and higher socioeconomic status. Two patients undergoing FP achieved pregnancy, compared to 49 who conceived without FP. FP was significantly related to better fertility outcomes (OR=0.50 for Low Apgar score and Low birth weight) without increasing relapse or mortality risks. Qualitative results revealed a “survival-first, fertility-second” hierarchy, where decisions were guided by clinician expertise but constrained by relapse fears, low fertility desire, high cost, and limited systemic support.

Implications: Although proven safe, GnRHa-based FP remained underutilized while more pregnancies occurred among those who forwent it. A paradigm shift is needed to integrate FP into survivorship care, requiring coordinated efforts in education, clinical pathways, and policies.

Contributions: This study provides the first large-scale, real-world evidence of FP utilization in China, bridging population-level patterns with in-depth qualitative insights to address systemic barriers in oncofertility.



Health Sciences



Correlating Resonance: A Mixed Methods Framework for Frame Analysis in Contested Policy Spaces

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Abstract:

Purpose: Contested policy spaces — food security, climate adaptation, healthcare reform, Indigenous policy — persist as wicked problems partly because stakeholders interpret evidence through incompatible frames of reference. Traditional frame analysis offers rich interpretive insight but does not scale to modern policy consultations involving hundreds of submissions. Computational text analysis scales readily but typically reduces meaning to word co-occurrence. This paper introduces correlating resonance, a mixed methods framework that operationalises frame theory for large policy corpora, and reports its deployment as a multi-phase web application powered by large language model (LLM) assisted coding.

Implications: The framework enables mixed methods researchers and policy analysts to systematically map frame plurality, distinguishing three conceptual roles: core differentiating concepts that anchor incompatible frames, core bridging concepts that enable coordination, and boundary concepts that travel across communities while carrying divergent meanings. Operationalising these distinctions supports policy designs that accommodate legitimate normative plurality rather than forcing synthetic consensus, and offers researchers a reproducible workflow preserving interpretive depth at computational scale.

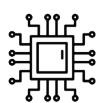
Contributions/Originality/Value: The framework contributes three original elements to mixed methods research: a three-phase saturation protocol for inductive typology development at corpus scale; an LLM-assisted coding architecture that returns auditable document-term matrices while preserving researcher judgement throughout; and an integration of configurational analysis (multiple correspondence analysis, block seriation) with a visual reference standard — the stingray diagram — that makes frame structure interpretable for policy audiences. Application to 188 submissions to Australia's 2022–23 Food Security Inquiry confirms the framework identifies structured frame plurality invisible to topic modelling and infeasible at scale through traditional thematic analysis.



Environmental
Sciences



Human Society



Information
and Computing
Sciences



Multi-Disciplinary



Theme 1: Integration in MMR

Theme 2: MMR and Complexity

Theme 3: Paradigms and MMR

Explaining Behavioural Discordance in Nutritional Label Use - A Fully-Integrated Pragmatic Explanatory Mixed-Method Study

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Abstract:

Purpose: To examine the knowledge–practice gap in nutritional label use among migrant populations and to generate a multi-level understanding of behavioral barriers using a mixed-methods approach grounded in pragmatism.

Methodology: This study adopted a fully integrated explanatory sequential mixed-methods design (quan → QUAL) within a pragmatic paradigm, enabling complementary use of quantitative and qualitative approaches to address behavioral complexity. A community-based survey was conducted among 102 migrant Tamil participants in South Kolkata, India assessing knowledge and label-checking practices. Multivariable logistic regression identified factors associated with knowledge and behavior. The qualitative phase employed Maximum variance sampling, selecting different individuals exhibiting a knowledge–practice gap. In-depth interviews were conducted using a semi-structured guide developed from quantitative findings. Data were analyzed using thematic analysis. Integration was achieved through connecting, building and joint display, enabling meta-inference generation.

Findings: Despite adequate knowledge among a subset of participants, consistent label-checking practices remained limited, demonstrating a knowledge–practice gap. Education was significantly associated with both knowledge and practice. Qualitative findings revealed interconnected barriers across individual (language, perceived risk), social (children's influence, time constraints), and product-level (marketing, label design) domains. Integrated analysis showed how this multi-level factors collectively constrain behavioral translation of knowledge into practice.

Implications: Findings highlight the need for interventions that move beyond knowledge dissemination to address structural and behavioral constraints, including simplified front-of-pack labeling, literacy - sensitive communication, regulation of marketing practices, and child-focused interventions.

Contribution: This study contributes to mixed-methods research by conceptualizing the knowledge–practice gap as behavioral discordance and demonstrating how pragmatic, integration-driven explanatory sequential designs can generate actionable, multi-level insights in public health nutrition.

Keywords:

Nutritional label, FOPL, Pragmatism, Explanatory-Sequential, Behavioral determinants, Migrants



Biomedical and
Clinical Sciences



Health Sciences



Psychology



Are You Considering Artificial Intelligence in Mixed Methods Research? An Introduction and Decision Points

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University of Michigan

Melissa DeJonckheere, PhD

University of Michigan

Abstract:

Purpose: Artificial intelligence (AI) has shown potential for use in quantitative analysis and qualitative analysis, processing large amounts of text data. However, little scholarship has addressed AI for mixed methods research beyond the qualitative and quantitative uses. The purpose of this methodological paper is to present a neutral summary of decision points for educational researchers considering the use of AI in mixed methods research. After a brief review of types of AI, this presentation will focus on the considerations for AI in mixed methods integrative analysis, selecting an AI model, writing, ethics, and verification. In addition, we will discuss an example use case of AI from an in progress mixed methods explanatory sequential study.

Implications: Little guidance is available for mixed methods researchers in considering and using AI technology, such as large language models (LLMs). This paper provides key questions for researchers along with an example of the application of LLMs for integrative analysis.

Contribution: The unique contribution of this paper is the guidance on considerations for using AI in mixed methods research. Although demonstrations of AI for qualitative analysis are available and rapidly growing, there are few examples of AI for integrative analysis, as we will present.



Health Sciences



Using Participatory Mixed Methods Designs to Understand Multi-Tiered Systems of Support: A Conceptual Paper

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University of Minnesota

Bonnie K. Nastasi

Tulane University

Kris Varjas

Georgia State University

Abstract:

Multi-Tiered Systems of Support (MTSS) is a framework used by educators in several nations to provide universal and targeted support for students who need assistance with academic progress and behavior. However, MTSS comes with several challenges, including ensuring meaningful involvement among key participants, establishing data-informed decision-making among school personnel, adopting evidence-based interventions, and aligning MTSS ideas with local culture and contexts (e.g., accounting for a district's current practice, competing initiatives, budgets, staff buy-in and skill sets, scheduling, and administrative support). Indeed, these challenges have led some countries (e.g., Finland, Australia, Great Britain) to overhaul their MTSS approaches, and several variants (e.g., I-MTSS, MTSS-B) are being introduced in the U.S. Fortunately, participatory research can address local cultural and contextual factors that both facilitate and hinder effective MTSS implementation and change. This conceptual paper outlines a synergistic, participatory mixed methods framework, the Participatory Culture-Specific Intervention Model (PCSIM). PCSIM provides a 10-stage process guiding researchers and school personnel through: (a) establishing existing research, practice, and policy, (b) learning the local context and culture, (c) forming partnerships, (d) specifying goals and problems to address, (e) conducting formative research, (f) developing a local, culture-specific theory, (g) developing a culturally-relevant program design, (h) further adaptation of an MTSS approach, (i) guiding subsequent implementation, and (j) building capacity and translating findings to new contexts. This model is typically used by researchers to develop, implement, and evaluate MTSS practices. PCSIM can also enhance understanding of the generalizability and transferability of MTSS research findings through joint displays and integrated (i.e., quantitative and qualitative) perspectives on transferability, probabilistic statements, and translation.

Keywords:

multi-tiered systems of support, participatory research, mixed methods, generalization, transferability, Participatory Culture-Specific Intervention Model



Education



Identifiability, Participation, and Data Sufficiency in Opt-in Mixed Methods GenAI Research

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Dr Anna Gubinskaya

Affiliation: Project Manager, Learning Design and Development, Open Polytechnic, Lower Hutt, New Zealand

Abstract:

Purpose: This paper proposes a framework that explains how the identifiability of qualitative digital trace data, specifically generative AI (GenAI) chat logs linked to student IDs, shapes participation and data sufficiency in opt-in mixed methods research on GenAI learning tools. The framework draws on a completed mixed-methods GenAI assistant trial (May-July 2025) in an open and distance flexible learning (ODFL) environment.

In the anchor case, the learners were invited to participate in a series of research engagements with progressively more identifiable data components. Engagement clearly demonstrated a funnel with increasing identifiability of data, leading to lower participation and participants explicitly stating the necessity to disclose their digital trace as a limitation.

The paper establishes patterns and trade-offs between participants' identifiability and quality of data by suggesting a framework that models relationships between research parameters around participants' data, such as Identifiability, Participation, and Data Sufficiency.

Implications and contribution/originality: The proposed framework introduces Identifiability as both a parameter of data collection and a mediating tool between ethical governance and methodological quality in generative AI research. It highlights the need to consider trade-offs between analytic depth and participation, and outlines design strategies to increase participation and ensure adequate data. For example, data minimisation, tiered consent, responsible oversight, use of guardrails, and guided prompt scaffolding.

This paper contributes a framework for mixed methods research in the space of GenAI tools by illustrating how identifiability affects participation and data sufficiency, including the usefulness of trace data.



Education



Leveraging 'Qualitative Informed Mixed Methods' in Education Policy Research to Map Processes and Outcomes

Na Lor

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Shengying Li

Teachers College, Columbia University

Abstract:

Mixed-methods approaches are budding in education policy research, but as Hesse-Biber (2010) points out, mixed-methods studies typically include analysis of qualitative data in the latter sequences of research design, while prioritizing quantitative approaches in the former sequence. As such, the underlying theoretical perspectives and philosophical stances that undergird the rationale for qualitative inquiry are often left out in the design and implementation of mixed-methods studies, resulting in the treatment of qualitative inquiry as a mechanistic tool while failing to consider the ontological and philosophical stances that undergird the rationale for qualitative research: to attend to power, to challenge positivism, and to produce knowledge informed by human subjects. In the current study, we showcase the explanatory power of leveraging qualitative methods first in education policy research by providing an illustrative case of qualitative informed mixed-methods that combines in-depth interviews ($N = 21$) and Latent Class Analysis ($N = 784$) to investigate college Ethnic Studies (ES) course requirements. Given ongoing debate surrounding ES and the need for greater policy knowledge, we rely on qualitative methods to, first, obtain a theoretical understanding of how undergraduate students experience ES toward theory development. Informed by student narratives and stories, we deploy quantitative methods, secondly, to test emergent qualitative patterns and trends, recovering ES latent classes and examining their relationship to Critical Consciousness (Deimer et al., 2022; Frisby and Deimer, 2024) as a distal outcome. By linking statistical evidence to the voices of participants, we are better able to explain: (a) When does requiring ES "work"? (b) For whom? (c) And under what conditions? We argue if the strengths of qualitative methodologies lie in the particularities rather than generalizabilities, then qualitative informed mixed-methods creates the unique conditions for integration of mixed-methods findings across multiple nodes and axes, holding immense explanatory power toward a better understanding of policy processes and policy outcomes.



Education



Mixed Methods Insights into Ethnic Studies: A Qualitative Informed Latent Class Analysis

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Teachers College, Columbia University

Shengying Li

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Abstract:

As Ethnic Studies (ES) is being mandated as a university requirement, this qualitative informed mixed-methods study combines interviews and latent class analysis to explore course conditions and classroom contexts that lead to more or less “Transformative” ES experiences. Using an exploratory mixed-methods design, we begin by conducting in depth interviews with undergraduate students who are required to complete 3 credits of ES. Based on our analyses of white students and students of color ($N = 21$), we find each group experiences ES requirements differently. Specifically, white students walk away from the ES with three types of meaning making experiences: (1a) Rejective, (2a) Performative, and (3a) Transformative; whereas students of color describe their ES experiences as (1b) Confirming, (2b) Expansive, (3b) Transformative, or (4b) Conflicting. Informed by these findings, we conduct parallel-process LCA analyses of survey data ($N = 784$) to examine the extent to which our typologies are supported by statistical analyses. In alignment with the qualitative results, we find 3 latent classes among white students and 4 latent classes among students of color, where class membership is derived from binary indicators capturing variation in ES curricular focus. By further relying on critical consciousness as a distal outcome, we find that the effect of ES participation on critical consciousness is more notable for white students, measured by the White Critical Consciousness Index (WhiCCI), than students of color, measured by Short Critical Consciousness (ShoCCS). Interestingly, we find that for students of color, the relationship between ES and ShoCC is strengthened in cases where ES participation also mitigates ethnic identity conflict, measured by the Ethno Cultural Identity Conflict (ECIC) scale. We argue requiring ES benefits both white students and students of color; meanwhile, measuring ES curricular contents prior to assessing ES policy impact will better inform ES policy and implementation.



Education



Design of the Flourish Movement Mixed Methods Action Learning Intervention

Dr John Molineux
Deakin University

Abstract:

Purpose: The purpose of this paper is to describe a context-specific intervention involving mixed methods design that incorporates a number of innovations to meet the needs of a participant-initiated well-being intervention project which led to an ongoing well-being intervention program for school leaders/principals.

Design/methodology: The design linked a participatory action research approach to design with a context-specific action learning-based multi-modal intervention using multiple quantitative and qualitative methods, including surveys, a diary study, interviews and evaluations. The intervention consisted of four whole-day workshops spread over 12 months. A total of 618 participants completed all aspects of the research in 42 groups.

Findings: Paired sample t-tests showed significantly improved results for outcome measures including work-family balance and well-being. Consistent positive outcomes were achieved across the 42 groups. Evaluative comments from participants detailed the impact of the change, providing confirmation of change.

Implications: The study outcomes have implications for future intervention programs. It shows that involving participants in the design of an intervention program helps ensure context-specific content, and that alignment of methods and processes to the design can produce positive outcomes for participants.

Contributions/originality/value: Key contributions relate to the use of action research process in designing an intervention program with mixed methods research methods. It also shows how diary study data can be reported to individual participants as a catalyst for interview discussions.



Commerce



Management



Tourism and
Services



Education



Psychology



Person-environment fit as a HRM strategy for attracting managers to rural and remote health services

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Abstract:

Purpose: Globally, multifaceted HRM strategies are required to improve health workforce sustainability amid global health workforce shortages (WHO, 2023). To better understand the strategies human resource (HR) practitioners are utilising, this study focuses on human resource management (HRM) practices for person-environment fit to attract managers to RR health services in northern Australia.

Design/Methodology: In this concurrent nested design mixed methods study, online recruitment advertisements and YouTube recruitment videos are analysed using joint displays to identify the extent to which recruitment advertisements contribute to creating realistic job previews (RJPs) for candidates to self-assess person-environment fit for the RR environment. Joint displays are used in data analysis and to integrate the findings for research translation.

Findings: The study found when the RJPs utilised in recruitment advertising are considered alongside person-environment fit there is evidence that some employers are providing RJPs to get the right person-fit for the job, organisation and community. In contrast, many continue to use persuasive advertising to promote an aspirational lifestyle. Notable changes include an increase in advertisements seeking candidates with experience working in RR environments.

Implications: Both providing RJPs and overselling the location come with risks. HR practitioners need to mitigate the impacts of employees who are not the right fit for the remote communities in which they are placed.

Contributions/Originality/Value: Joint displays are traditionally used to juxtaposition data from difference sources (Bazeley, 2019; Guetterman et al., 2021). In this study, joint displays are used for data analysis which helped to position qualitative and quantitative data from different sources relevant to each of the emergent themes (Bustamante, 2019). By integrating the findings in this way there was opportunity to generate new insights (Guetterman et al., 2021) that may not have emerged in a qualitative study alone. The integrated findings are presented in an illustrative joint display.



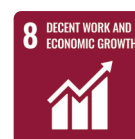
Commerce



Management



Tourism and
Services



Inference in Qualitative Research as a Lever for Robust Meta-Inferences in an Age of Polycrisis

Professor A. Mehdi Riazi

Hamad Bin Khalifa University & Macquarie University

Abstract:

Meta-inference is an integrated conclusion drawn from qualitative and quantitative strands in mixed-methods research (MMR). Onwuegbuzie and Johnson (2006) define meta-inference as a defining feature of MMR. This position is further elaborated in recent typologies and worked examples (e.g., Younas et al., 2023, 2025). Although integration procedures such as merging, connecting, and joint displays are well established in the MMR literature (see, e.g., Fetter et al., 2013; McCrudden et al., 2021), the literature is less explicit about a prior question: what, exactly, is being inferred within each strand, and how do those strand inferences warrant the eventual meta-inference? Drawing on Morse's (2006) "validity chain," this paper argues that qualitative inference is not merely an internal indicator of rigor; it is a primary determinant of the depth, credibility, and practical usefulness of meta-inferences in polycrisis times and situations.

The paper first conceptualizes qualitative inference as a multi-level inferential argument that spans data generation, analytic procedure (coding/categorization), theme development, theoretical explanation, and judgments of transferability (Miller & Fredericks, 2003; Morse, 2006). It then reframes meta-inference as the integration of inferential claims and warrants (not simply the juxtaposition of results and themes), drawing on the idea of Morse's (2006) inferential "validity chain" in qualitative inquiry. Building on process models and typologies of meta-inference in MMR (e.g., Schoonenboom, 2022; Younas et al., 2023, 2025), the paper proposes a multi-layered framework specifying how qualitative inference strengthens meta-inference at five levels: (1) design, (2) sampling and data construction, (3) analysis, (4) integrative representation, and (5) evaluation and legitimation.

To operationalize the framework, the paper introduces a practical device for researchers, supervisors, and reviewers: pre-specifying meta-inferential targets (the intended types of integrated claims) and using inference-to-inference joint displays that make strand warrants explicit. The paper concludes with implications for designing, conducting, reporting, and evaluating mixed methods research on polycrisis-related topics.

Keywords:

polycrisis; qualitative inference; meta-inference; mixed methods research; integration; warrants; trustworthiness



Education



Language,
Communication
and Culture



Multi-Disciplinary



Reframing Holistic Formations through God-Centered Programs in Higher Education

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Abstract:

This study examined the effectiveness of God-centered programs in fostering holistic formation among students at Dr. Yanga's Colleges, Inc. (DYCI), a faith-based higher education institution in the Philippines. Anchored on the institutional core values of Magis, Sapientia, Paraya, and Humilitas, the research integrated the PROSPER Framework and Transformational Learning Theory to explain how spiritual formation contributes to students' well-being and personal development. A convergent mixed-methods design was employed. Quantitative data were gathered through a validated Likert-scale survey administered to 303 students, while qualitative insights were obtained through focus group discussions with 12 purposely selected students drawn from all colleges. Descriptive statistics, Spearman's rank-order correlation, and Kruskal-Wallis tests were used for quantitative analysis, while Braun and Clarke's reflexive thematic analysis guided qualitative interpretation. Findings revealed consistently high levels of holistic formation across all four institutional dimensions. A statistically significant but weak positive relationship emerged between participation in God-centered programs and holistic formation ($p = 0.195$, $p < .001$), suggesting that meaningful engagement, rather than mere participation, influences developmental outcomes. Students with five or more semesters of sustained participation exhibited significantly higher formation levels than those with shorter engagement. Qualitative findings showed that transformation occurred gradually through reflective experiences, relational engagement, and internalization of institutional values. All four dimensions also demonstrated strong positive relationships with the PROSPER domains. The study concludes that sustained, meaningful participation in faith-based formation programs promotes transformative, holistic development and supports integrating positive psychology and spiritual formation frameworks in higher education.

Keywords:

god-centered, magis, sapientia, paraya, humilitas, holistic formation



Education



Philosophy and
Religious Studies



Evaluating an AI-Assisted Record Card (ERiK) for Clinical Note Efficiency, Accuracy and Educational feedback: A Mixed-Methods Pilot Study for Physiotherapy Education

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Abstract:

Purpose: Artificial intelligence (AI) in clinical notetaking may reduce documentation time, practitioner burnout and improve student learning outcomes and autonomy. However, AI presents risks of hallucinations, inaccuracy and data privacy concerns. We aim to evaluate the usability, accuracy and educational value of an AI-assisted record card, ERiK.

Methods: A mixed method pilot study was conducted within an entry-to-practice physiotherapy program. Using ERiK, a secure, web-based application built on the ChatGPT-4.0 model, student participants completed three scripted, and one unscripted simulated interviews using both ERiK and manual notetaking. ERiK, and an educator provided feedback on student-performance. Time metrics, documentation accuracy and completeness, students' perspectives on user experience (usability), and feedback quality were evaluated.

Findings: Eight physiotherapy students participated. Mean normalised review times did not differ significantly between students reviewing ERiK-generated notes (0.41, 95%CI 0.33–0.49) and manual notes (0.43, 95%CI 0.30–0.56; $p = 0.78$). ERiK-generated notes achieved higher mean accuracy scores (28.4 vs 23.3/31; $p = 0.03$) and fewer critical errors (omitted/ incorrectly documented critical items). Participants reported high satisfaction across usability domains (means $\geq 4.0/5$), particularly for efficiency, reduced cognitive load, and detail capture. Students highlighted perceived benefits in learning efficiency, ERiK's feedback quality, with minor concerns about over-reliance on AI and technical reliability. The overarching themes were 1) efficiency and cognitive relief; 2) learning enhancement through feedback; 3) risks and over-reliance; and 4) usability and interface experience.

Contributions: ERiK enhanced student note accuracy and completeness, reducing students' cognitive load without compromising consultation efficiency. Participants perceived ERiK's feedback as comparable to educator input. Hence, AI-assisted feedback can complement educator feedback, to foster efficient, accurate, and reflective learning.

Keywords

Artificial Intelligence (AI), Cognitive load, Accuracy, Educational feedback, Natural language processing, clinical documentation.



Health Sciences



Applying a Multilevel Mixed Methods Research Design to develop a model of Bereaved Organisational Support

Dr Leesa Taylor

Torrens University Australia (PhD completed 2025)

Abstract:

Purpose: The purpose of this research is to explore the organisational support for a bereaved employee after the significant loss of a child or partner. This study explores the effect of grief on both employees and organizations, which is an under-researched area of study

Design/Methodology: This study uses an exploratory sequential multilevel mixed-method research (ML-MMR) design, which applies a quantitative measure in the form of an exploratory survey grounded in qualitative data from in-depth and semi-structured interviews. The design incorporates three phases grounded in the critical realism paradigm. The study draws on organisational support theory and thanatology to develop a conceptual framework to guide the study.

Findings: This study found that Australian workplaces lack the policies and practices to be able to support bereaved employees after this type of loss. The consequences for the employee may include a negative impact on their financial well-being, career, and job security, as well as an increased risk of physical and psychosocial harm. The study found that the consequences may impact not only the employee but also the employer and clients of the organisation and offers a Model of Bereaved Organisational Support (BOS) as a practical framework for supporting a bereaved employee.

Implications Contributions/Originality/Value: This study provides evidence for the need to address the misalignment associated with the current support for a bereaved employee compared to their reality. A key theoretical and practical contribution of this study is the development of a model of BOS. This model provides an evidence-based framework that highlights the way forward for improvements that could reduce the potential distress that a workplace could cause a bereaved employee and the negative outcomes for the organisation. The methodological contribution of this study includes the unique approach to combining two fields of study and exploring the phenomenon using an innovative design.



Multi-Disciplinary



Preparing Smart Technology Capable Project Management Graduates: A MMR Study of the Australian Higher Education Sector

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Abstract:

To succeed in today's creative, innovative and digital-driven disruptive environments, project managers require digital smart technology capabilities in addition to soft skills to successfully deliver projects. Effective project management (PM) tertiary education and training is imperative to producing graduates who can excel in these environments. It is crucial to embed PM digital smart technology capability in Higher Education (HE) PM curricula through an integrated, smart, connected and personalised learning model. This research aims to explore and identify Australian HE PM curricula that deliver digitally smart technology capability to PM graduates.

A three-phase sequential exploratory mixed method research (MMR) design will be employed for this study. Phase I comprises a secondary data scan and content analysis of current HE PM qualifications and curricula across Australian universities. This phase also involves analysis of relevant PM professional body, digital authority, and industry consulting frameworks and PM competency models to determine the digital smart technology capabilities outlined for project managers. Empirical semi-structured interviews with HE PM academics from across Australian universities (n= 18) will be conducted in Phase II to obtain insights into current best practices and methods in the delivery of key digital teaching capabilities in HE PM education. In Phase III, an online survey of HE PM alumni from Torrens University Australia and two other Australian universities will provide data on the PM job search activities graduates engage in after graduation and whether their PM degrees equipped them with the necessary digital skillsets to be job-ready. Additionally, an online questionnaire will also be conducted with PM practitioners to provide further understanding of the smart technology skillsets required to succeed in contemporary PM practice.

It is envisaged that the integrated findings (inferences) from these phases will facilitate the development of a comprehensive Project Management Higher Education (PMHE) framework to guide the delivery of smart technology capabilities and graduate attributes in HE PM education.



Education



Integrating Scoping Review, Interviews, and Grey Influence Analysis to Investigate Online Student Engagement

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Abstract:

This study contributes to ongoing discussions on analytical techniques for mixed methods research (MMR) by demonstrating how qualitative, review-based, and structured expert-derived evidence can be integrated within a sequential mixed methods design. The substantive focus of the study is online student engagement and satisfaction in higher education; however, its main contribution lies in its methodological design and integration strategy. The study consists of three connected phases. Phase 1 involved a scoping review to map the post-COVID literature and identify key constructs, barriers, and theoretical foundations related to online student engagement and satisfaction. Phase 2 involved semi-structured interviews with online students to explore how these constructs are experienced, interpreted, and negotiated in practice. Phase 3 involved structured educator ratings informed by Grey Influence Analysis (GINA) to examine the relative influence and interdependence of the factors identified and refined in the earlier phases.

The methodological value of the study lies in how integration was operationalized. Rather than treating the review and interview findings as stand-alone qualitative outputs, the study carried the emergent constructs into a structured analytical phase. This enabled the transformation of conceptually rich but context-sensitive themes into a more system-oriented and mathematically examinable representation of the phenomenon. In doing so, the study illustrates how analytical techniques such as GINA can support deeper mixed methods integration, move beyond descriptive thematic outputs, and generate more explanatory and practically useful insight from complex social phenomena.



Education



Exploratory Sequential Mixed Methods for Tool Development: Assessing Universal Health Care Competencies in Mentor-facilitated Environments

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Abstract:

Higher education institutions (HEIs) in the Philippines are expected to teach Universal Health Care (UHC) competencies within an outcomes-based education (OBE) paradigm (CHED, 2025) where assessment is used not only for summative but formative and metacognitive purposes (CHED, 2014). Mentor-facilitated learning environments affect individuals' emotions, behavior, attitude, self-confidence, and self-esteem positively (Eby et al., 2008; Kowtko & Watts, 2008) facilitating learning. Students use constructive feedback from mentors to strengthen their learning and reflections (Columbia University, Center for Teaching and Learning, n.d.). However, no existing tool specifically measures UHC competencies of students within this mentor-facilitated learning environment. This study aims to develop this tool, ensuring validity and reliability, through exploratory sequential mixed methods. The resulting tool will serve as evidence of how integration of quantitative and qualitative data is essential to ensuring rigor in establishing validity of assessment instruments. It will contribute to enhancing the use of mixed methods research in tool development and assessment.

Following Boateng's comprehensive framework for scale development, a multi-method, collection and analysis of qualitative then quantitative data will be conducted. The item development (Phase 1) and scale development and evaluation phases (Phase 2) will involve seven steps. Step 1: identification of domains and item development through a workshop with experts to create a pool of items. The WHO UHC competency framework domains (people-centeredness, decision-making, communication, collaboration, evidence-informed practice, and personal conduct) will be used to guide the conceptualization and definition of the initial item pool. Steps 2 and 3: content validation followed by pre-testing. Step 4: further item reduction involving exploratory factor analysis (EFA) to refine tool dimensions. Steps 5, 6, and 7: testing dimensionality through confirmatory factor analysis (CFA, internal consistency, and tool utilization. The resulting validated tool may be used by mentors in providing useful feedback to improve student performance.



Health Sciences



Theme 1: Integration in MMR

Theme 2: MMR and Complexity

Teaching Art on a Cart: Mixed Methods Examination of NYC Public School Art Educators' Well-Being

Edward Iverson

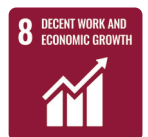
Affiliation: Teachers College, Columbia University

Abstract:

This explanatory sequential mixed methods study investigates how teaching art on a cart, in which art educators travel between classrooms instead of using a dedicated art classroom, impacts the well-being of New York City (NYC) Public School art educators. Understanding of how access to instructional space relates to art educators' well-being is limited, as both cart-based teaching and art educators' well-being are underexplored in the literature. This study draws on and extends teacher subjective well-being theory (Renshaw et al., 2015) by developing a deeper understanding of how and why classroom conditions shape art educators' well-being. Phase 1 consists of a cross-sectional web-based survey of approximately 200 elementary and secondary NYC Public School art educators. The survey instrument gathers data on teachers' demographics, their experiences teaching on a cart and in dedicated classrooms, and their scores on the Teacher Subjective Well-Being Questionnaire (TSWQ). Descriptive statistics and chi-square tests of independence explore associations between well-being and classroom conditions. Phase 2 employs a multiple case study of six purposefully selected teachers (cart and dedicated classrooms) representing low, medium, and high well-being scores. Semi-structured Zoom interviews and photographs of teaching spaces provide rich qualitative data, analyzed inductively through thematic analysis. Integration occurs as survey findings inform case selection, interview protocols, and joint displays of results. This study contributes the first systematic, mixed methods examination of art on a cart teaching and offers evidence-informed strategies that art educators can employ to support their well-being amid shifting space and class-size policies.



Education



Updating the Good Reporting Guideline for Mixed Methods Research

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Abstract:

Goal and objective of the research: The goal of the research is to develop a guideline and checklist to improve consistency, transparency, and quality of reporting on studies that use mixed methods in health services research.

The specific objectives of the research are to: 1) examine the extent of literature on methods used in mixed methods studies and identify relevant reporting quality criteria for inclusion in the guidelines; and 2) using the results of objective 1, prioritize the components of the updated guideline.

Research methods. Data collection and analysis procedures: The research is conducted in two phases including a review of literature on quality reporting in mixed methods literature followed by rounds of surveys and a consensus meeting to finalize the new guideline.

In Phase 1: we are using the literature review approach because the intention is to summarize existing literature such as prevalence, methodological, and scoping reviews of mixed methods as well as reviews and discussion papers about quality reporting criteria from a wide range of disciplines.

We will include any review and discussion paper regardless of 1) the discipline or field that has examined the methodological quality of research studies and 2) the publication language. A librarian with expertise in knowledge synthesis developed a structured search strategy, including the subject, quality, reporting, and review. The search strategy was peer-reviewed by the research group.

A narrative of the findings will be the main data analysis approach. This phase will help to identify additional components of methods reporting which could be added to the updated guideline.

In Phase 2: we will use a consensus-building processes. This crucial in developing a reporting guidelines. We will conduct this process over three rounds. An international, interdisciplinary, and diverse group of patients, funders, policymakers, researchers, and journal editors with experience/expertise will be invited to participate in the process. For all three rounds, a threshold of 70% agreement will be applied for each guideline item to indicate a consensus among the expert participants. That is, at least 70% of participants must mostly or entirely agree with the inclusion or exclusion of the particular item as part of the guideline.

Furthermore, we will adopt an integrated knowledge translation (iKT) approach including a panel of e.g., patient partners with experience with mixed methods studies, researchers, journal editors, and funders.

Theoretical and/or practical significance of the research in relation to established knowledge in the field: The guideline will improve the consistency, transparency, and quality of reporting of mixed methods studies by researchers and multiple knowledge users in policy and practice and across different disciplines. Peer reviewers and journal editors will also use the guideline to improve the review of manuscripts.

We will disseminate the findings through local, national and international conferences (e.g., the Mixed Methods International Research Association conference 2026) and publications in journals (e.g., Journal of Mixed Methods research). We shall produce at least three manuscripts and make presentations in at least three conferences.

Ultimately, the guideline will increase the clarity and credibility of findings from mixed method studies, thereby improving their potential transferability to practice, and advancing the methodology as a whole. In turn, this will facilitate more efficient use of new results in health services research and bring better returns on research investments.



Health Sciences



ICT Adoption and Career Support for Japanese Language Teachers: A Mixed Methods Analysis

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Dr Jihyun YOON

Chuo University

Dr Kaoru FUJIMOTO

Musashino University

Abstract:

This study investigates how Japanese language teachers perceive and adopt information and communication technology (ICT) in the context of ongoing digital transformation (DX) and explores implications for career support. Integrating Language Teacher Cognition Research with the Technology Acceptance Model (TAM), the study examines the roles of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) in shaping technology adoption behaviors.

Data were collected from 23 part-time Japanese language teachers drawn from diverse regions across Japan through seven online focus group interviews (FGIs). A mixed-methods approach was employed. Quantitative morphological and cluster analyses of interview transcripts classified participants into four groups, which were subsequently

interpreted through qualitative narrative analysis using the TAM framework.

The findings identify four patterns of ICT acceptance. Group 1 demonstrated organizational adaptation-type acceptance, driven by institutional policy, reflecting high PU but only moderate PEOU. Group 2 exhibited conflictual acceptance, characterized by high PU alongside low PEOU, resulting in psychological strain and attitudinal ambivalence. Group 3 exhibited obligatory acceptance, in which ICT adoption was driven by institutional compliance rather than intrinsic motivation. Group 4 displayed innovation-oriented adoption, characterized by exceptionally high PU alongside variable PEOU stemming from persistent technical anxiety.

A key finding across all groups was that high PU alone does not guarantee stable ICT adoption; rather, PEOU and emotional factors function as critical mediating variables. Qualitative analysis further revealed that teachers construct personal meaning from ICT experiences through narrative, connecting these experiences to their evolving professional identities, a finding consistent with Career Construction Theory (Savickas, 2002).

These results suggest that effective support for Japanese language teachers in the era of digital transformation should extend beyond technical skill training to encompass reflective, narrative-based practices that promote self-efficacy, peer learning, and career adaptability.



Education



Language,
Communication
and Culture



Exchange Rate and Poverty in a Developing Country

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University of South Africa

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Abstract:

The negative impact of poverty worldwide has made it a focus of both developed and developing countries alike. Exchange rate fluctuations can also affect the stability of a local economy. This study investigates how exchange rates affect poverty in Nigeria. Both quantitative and qualitative data will be employed for the study. The quantitative data which were obtained from secondary sources were analysed using the Autoregressive Distributed Lag method and Johansen Cointegration were used to analyse the data spanning from 1980 to 2022. Semi Structured interview will be employed to collect the qualitative data. Explanatory sequential design will be used to triangulate the findings of the quantitative and qualitative analysis. The result from the quantitative analysis shows a significant positive link between poverty and the exchange rate as well as one-period-lagged values of poverty. The study suggests stabilising the currency rate and giving priority to improving the lives of the nation's underprivileged.



Exploring the Lived Experiences and Motivations Behind the Migration of Sub-Saharan African Professionals

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Data Lead Africa

Saratiel Wedzerai Musvoto

University of South Africa

Abstract:

Improvement in transportation and information communication technology over time is turning the world into a global village making available information on job opportunities across national boundaries and facilitating the ease of migration. The aim of the study is to of Sub-Saharan African professionals to other countries. The study adopts qualitative and quantitative approach. An exploratory sequential design is adopted for the study. The qualitative data was obtained through a semi structured interview, while the quantitative data was obtained using questionnaires. The proposed sample size for the qualitative study is 20 while the actual size will be determined by the point of saturation. Meanwhile the proposed sample size for the quantitative study is 384. Findings from the qualitative analysis indicated that bad economic conditions and security challenges were the major push factors while functional societies and better job opportunities were the major pull factors spurring professionals to migrate. Meanwhile findings from the quantitative analysis indicated that safety and security, followed by good infrastructure, better basic standard of living and availability of high paying jobs. The study recommends developing countries should ensure a better economic climate as well as safety and security to improve the living experiences of resident professionals.



Human Society



Multi-Disciplinary



Balancing Human and Artificial Intelligence in Learning and Assessment Design: An Exploratory Study of AI-Aware Pedagogy

Dr Nazrul Islam Pramanik

Torrens University Australia

Dr Ali Ahsan

Torrens University Australia

Abstract:

The rapid integration of generative artificial intelligence (AI) in higher education is reshaping learning and assessment design, offering new opportunities for efficiency and support while raising concerns about academic integrity, over-reliance, and the erosion of higher-order human capabilities. This study examines how learning and assessment can be intentionally designed to balance Human Intelligence (HI) and Artificial Intelligence (AI), particularly generative AI, in higher education contexts.

The study adopts a qualitative-dominant exploratory embedded mixed methods design, combining qualitative multiple-case analysis with a complementary survey strand, based on approximately nine educator interviews and 150 student survey responses. The qualitative and quantitative strands are integrated at the interpretation stage to generate meta-inferences. Three cases are explored across institutional, classroom, and assessment levels: (1) perspectives from a Generative AI Assessment Working Group, (2) a classroom-based Agile AI learning activity, and (3) an AI-aware, time-constrained in-class assessment. Student perceptions are captured through a brief survey focusing on engagement, confidence, learning, and awareness of AI's role.

The study is guided by an HI-AI conceptual framework in which HI encompasses higher-order cognitive, ethical, and relational capacities, while AI is positioned as a generative and assistive resource. The framework conceptualises HI-AI balance as an intentional design process where roles are strategically distributed between human and artificial agents.

Preliminary findings suggest three emerging principles. First, intentional constraint supports sustained human cognitive engagement by limiting over-reliance on AI. Second, human judgement remains central to meaningful assessment, particularly in tasks requiring ethical reasoning and contextual interpretation. Third, AI is most effective as an accelerator of learning when used to support, rather than replace, human intellectual processes.

This study contributes to AI in education by demonstrating how qualitative and quantitative strands can be integrated to generate meta-inferences that inform AI-aware pedagogical design.



Education



Human Society



Information
and Computing
Sciences



A mixed-method modified Delphi approach to develop Decision-Support Indicators for Biochar-Based Concrete via a multistakeholder study

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Abstract:

Sustainability transitions in the built environment require decision-making under conditions of technical uncertainty, regulatory complexity, and heterogeneous stakeholder priorities. In such contexts, acceptable performance thresholds for emerging materials are not purely technical benchmarks but are socially negotiated across professional groups. This research-in-progress paper presents a multi-stakeholder, mixed-method modified Delphi framework designed to develop a decision-support indicator system for biochar-based concrete blocks in non-structural building applications.

An integrated quantitative-qualitative design is used to gather expert opinion on key performance requirements for biochar-based cementitious building materials. Tailored questionnaires will be administered to engineers, contractors, manufacturers, regulators, and sustainability experts through multiple Delphi waves to collect their opinions on quantitative performance indicators (for example, mechanical physical durability, and dimensional accuracy, covering measures such as compressive strength, thermal conductivity, freeze–thaw resistance, and elevated-temperature strength loss) and qualitative indicators (that capture adoption-relevant considerations across performance priorities, regulatory context, sustainability trade-offs, and implementation feasibility).

Following each quantitative wave, iterative qualitative phases are conducted to explore rationales, clarify interpretations, and refine indicator definitions. Consensus is assessed using structured convergence metrics, including $\geq 70\%$ agreement thresholds, supported by medians and dispersion measures. This integrated quantitative-qualitative design enables not only the measurement of convergence but also the interpretation of how and why acceptable thresholds are constructed across actor groups.

The study contributes methodologically by showing how a modified Delphi can combine quantitative consensus measures with qualitative interpretation to better understand how acceptable performance thresholds are defined. Rather than only measuring agreement among experts, the approach explains how different stakeholder groups negotiate and justify what counts as acceptable in complex sustainability contexts. The expected outcome is a prioritised, stakeholder-informed indicator framework and a transferable methodological model for evaluating contested performance criteria in sustainable construction innovation.

Keywords:

Mixed-method; modified Delphi; multi-stakeholder approach; quantitative indicators; qualitative indicators; decision-support framework



Commerce



Management



Tourism and
Services



Engineering



Environmental
Sciences



Multi-Disciplinary



Theme 1: AI technologies in MMR

Theme 2: Inferences and Meta-inferences

Convergences and Complexities: Comparing Human-Led and AI-Facilitated Mixed Methods Meta-Inferences

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Abstract:

Meta-inferences—integrated conclusions drawn from various data sets and findings of a mixed methods study—are central to the rigor and value of mixed methods research. Although the mixed methods literature offers conceptual guidance on drawing meta-inferences and identifies different types of meta-inferences, the specific steps through which researchers arrive at meta-inferences often remain implicit, experience-based, and difficult to articulate or teach. Recent developments in generative artificial intelligence (AI) suggest new possibilities for supporting integration processes; however, little empirical work has examined how AI-supported meta-inferences compare with those developed through human-led reasoning.

This research-in-progress study examines similarities and differences between human-led and AI-led meta-inference processes and outputs using the same mixed methods dataset. We will use two parallel approaches that both aim to identify meta-inferences from two published mixed methods studies. First, a human-led process will be conducted by a mixed methods methodologist. Second, an AI-assisted process will be implemented.

The resulting meta-inferences will be compared in terms of coherence, traceability to source inferences, transparency of reasoning, alignment with study purpose and design, and treatment of discrepant findings. In addition, the study will examine AI-generated explanations of how integration decisions were made, with the aim of making meta-inferential reasoning more explicit.

This study seeks to provide practical guidance on specific steps for human-led integration and recommendations for prompting AI-assisted integration processes.



Education

Moving from Exposure to Engagement: How Graduate Students Develop Interest in Mixed Methods Research

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Cheryl A. Poth

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Abstract:

There is limited guidance on how to initially engage and sustain graduate students' interest in mixed methods research over time. Given the exponential increase in use of mixed methods research across disciplines (Morgan, 2022; Gierus et al., 2025), there is a pressing need to clarify the processes that contribute to the development of interest in mixed methods research methodology to support graduate students as they begin to navigate a changing world.

Drawing on a novel conceptual framework, my dissertation generates empirical evidence to support the intentional promotion of interest in mixed methods alongside qualitative and quantitative methodologies within graduate research curricula. My study is guided by Hidi and Renninger's (2006) Interest Theory, which offers the opportunity to advance our developmental understanding of how students' interest may emerge over time and how to empirically assess the processes unfolding in real-world course learning environments.

To explore the complex phenomena of interest in mixed methods, my methodology is guided by an overarching mixed methods research question: How do graduate students develop

an interest in mixed methods research methodology, and what impacts that development? To address this research question, I use a three-phase mixed methods design to develop a comprehensive picture of theoretical and empirical evidence of interest development in mixed methods. My integration strategy builds across each phase to inform later research decisions and to merge insights from each phase to develop meta-inferences of interest.

I anticipate that my dissertation research will generate empirical evidence identifying the contributions and influences that spark and sustain interest in mixed methods research, which could inform teaching and curriculum design across diverse graduate contexts. Further, I anticipate that my dissertation will provide a roadmap for intentionally supporting interest in mixed methods research methodology.



Education



Psychology



How CEO Attention Shapes Firm Innovation in Turbulence

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Mengge Li

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Abstract:

In this research-in-progress study, we examine how CEO attentional breadth and attentional uniqueness shape firm innovation outcomes under turbulent environmental conditions and how industry dynamism moderates these relationships. Building on the Attention-Based View and dynamic capabilities theory, we analyse a 12-year unbalanced panel of 1,036 firm-year observations from 166 U.S. software and IT services firms (2010–2021). CEO attention is measured via computational text analysis of earnings call transcripts, and innovation, exploration, and exploitation outcomes are captured using patent-based indicators, which we relate through OLS regressions with firm-clustered standard errors, year fixed effects, and curvilinear and interaction terms for attention and industry dynamism. Preliminary results show that attentional breadth is positively associated with overall innovation volume but negatively associated with exploratory innovation, indicating a trade-off between generating more innovations and entering new technological domains, while attentional uniqueness displays inverted U-shaped relationships with innovation and exploitation, with moderate uniqueness yielding the highest outcomes. Industry dynamism weakens the negative effect of breadth on exploration and amplifies the inverted U-shaped effects of uniqueness, suggesting that moderate distinctiveness in CEO focus is particularly beneficial in highly dynamic environments. We interpret these findings as positioning CEO attention as a dynamic sensing capability whose effectiveness depends on both its configuration and environmental conditions. In the qualitative follow-up phase, we will conduct approximately 20–25 semi-structured interviews with CEOs, top management team members, and innovation leaders from a purposive sub-sample of firms representing contrasting attention–innovation profiles, complemented by internal and public documents, to explain how executives practically organise and negotiate attention in turbulent contexts. Together, the integrated quantitative and qualitative strands aim to advance mixed methods research on strategic leadership, responsible management, and sustainable innovation.



Commerce



Management



Tourism and
Services



Developing Competency Indicators For Clinical Trial Drug Administrators: An Exploratory Sequential Mixed-Methods Study

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Jiaying Wang

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Abstract:

Objective: To systematically construct a preliminary competency evaluation indicator system for drug administrators in clinical trials using a mixed-methods approach, laying the foundation for subsequent Delphi expert consultation.

Methods: Guided by the competency onion model, an exploratory sequential mixed-methods design was employed, following the pathway of “multi-source evidence integration—qualitative interpretation—integrated construction.” In Phase I (literature review), bibliometric analysis using VOSviewer and content analysis using NVivo were conducted on academic literature, evaluation tools, and policy documents (inception to September 30, 2025) to form a literature-derived indicator pool. In Phase II (qualitative study), semi-structured interviews with 15 senior experts were analyzed using three-level grounded theory coding to validate and enrich the indicator pool. In Phase III (integration), findings from both phases were triangulated and synthesized to form the preliminary indicator system. Quality was ensured through inter-coder consistency and theoretical saturation testing.

Results: Bibliometric analysis of 34 articles identified 85 keywords (417 occurrences), with “job competency” as the core theme (link strength 65). Content analysis of 16 evaluation tools and 8 policy documents extracted 56 indicators. Interviews with 15 experts generated 1,041 reference points and 162 initial concepts, distilled into 59 indicators (inter-coder consistency $R=0.93$; theoretical saturation achieved). After integration, 48 literature-derived indicators were retained, 10 interview-derived indicators were added, and 1 overlapping indicator was merged. The 10 interview-derived indicators reflected four tacit competency types (resilience, principled integrity, forward-looking, and improvement-oriented), enriching the onion model's middle and core layers. The existing evidence base was found to be fragmented, synthesizing sparse literature, operational regulations, and undocumented expert knowledge. The final indicator pool comprised 6 primary dimensions and 59 secondary indicators: personal qualifications, professionalism, professional knowledge, drug management skills, quality assurance and risk control capabilities, and communication and comprehensive abilities.

Conclusion: This exploratory sequential mixed-methods study successfully integrated quantitative textual evidence with qualitative practical insights to construct a competency indicator pool for drug administrators in clinical trials. The framework demonstrates scientific rigor, systematic structure, and practical relevance, providing a foundation for Delphi expert consultation and formal evaluation system development.

Keywords:

mixed-methods research; clinical trials; drug administrator; competency indicators



Biomedical and
Clinical Sciences



Developing a Theoretical Model of Rumination in Inflammatory Bowel Disease: Evidence Synthesis and Qualitative Inquiry

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Yi Zhou

School of Nursing, Zhejiang Chinese Medical University, Hangzhou, China

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Abstract:

Existing posttraumatic growth models identify rumination as a core mechanism in posttraumatic growth. However, these models are largely grounded in acute trauma and may not adequately capture the chronic, recurrent, and uncertain nature of inflammatory bowel disease (IBD). This study aimed to develop a theoretical model of rumination in patients with IBD.

A sequential explanatory mixed methods design was employed. Guided by Tedeschi's posttraumatic growth model, the quantitative strand synthesised seven eligible studies examining the transition from intrusive to deliberate rumination in chronic illness to generate a preliminary model. The qualitative strand then refined and extended this model through a descriptive qualitative study with 14 adults with IBD recruited using purposive maximum-variation sampling. Semi-structured interviews were analysed using directed content analysis.

The quantitative strand indicated that intrusive rumination may gradually develop into deliberate rumination. The preliminary model comprised four interrelated components: intrusive rumination, cognitive adjustment, social support, and deliberate rumination. The qualitative strand further refined the model into six components specific to IBD: intrusive rumination, negative emotion regulation, cognitive adjustment, actively facing the illness, drawing strength, and deliberate rumination. Integration of the quantitative and qualitative strands yielded the meta-inference that rumination in IBD is a dynamic, staged process in which distress-driven intrusive rumination may progressively develop into deliberate meaning-making through emotional regulation, cognitive adjustment, active illness management, and the mobilisation of internal and external resources.

The proposed model extends rumination theory from acute trauma to the context of chronic illness and provides a theory-informed foundation for assessment and intervention development to promote posttraumatic growth in IBD care.

Keywords:

mixed methods research; sequential explanatory design; rumination; inflammatory bowel disease



Psychology



Developing a Theoretical Model of Rumination in Inflammatory Bowel Disease: Evidence Synthesis and Qualitative Inquiry

DEVELOPING A THEORETICAL MODEL OF RUMINATION IN INFLAMMATORY BOWEL DISEASE: EVIDENCE SYNTHESIS AND QUALITATIVE INQUIRY

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BACKGROUND

Existing posttraumatic growth (PTG) models identify rumination as a core mechanism. However, these are largely grounded in acute trauma and may not adequately capture the chronic, recurrent, and uncertain nature of inflammatory bowel disease (IBD). This study aims to develop a theoretical model of rumination in patients with IBD.



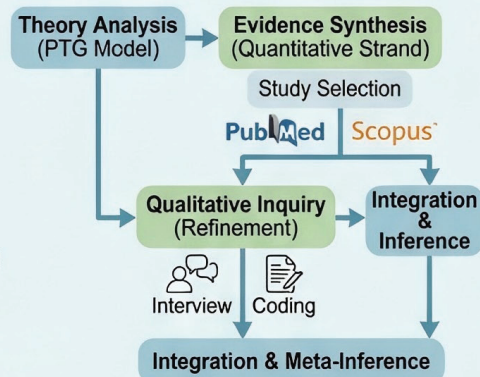
METHODOLOGY

A sequential explanatory mixed methods design was employed.

Guided by Tedeschi's posttraumatic growth model.

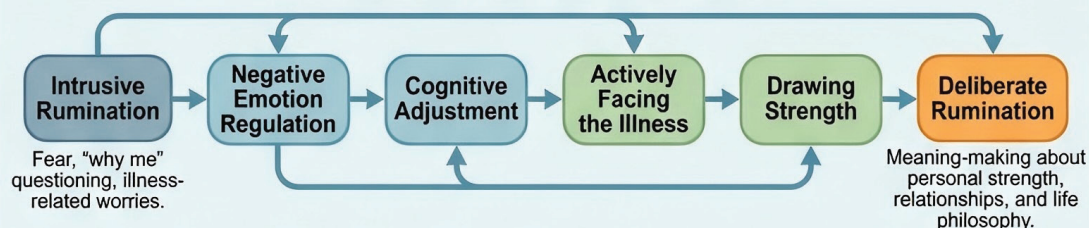
Quantitative Strand: Synthesized seven eligible studies on the transition from intrusive to deliberate rumination in chronic illness, creating a preliminary model.

Qualitative Strand: Refined and extended the model through a descriptive qualitative study with 14 adults with IBD (purposive maximum-variation sampling). Semi-structured interviews analyzed using directed content analysis.



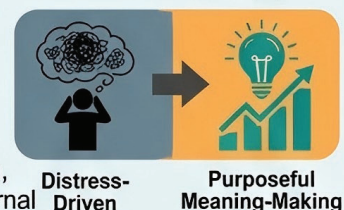
KEY FINDINGS

The Refined IBD Rumination Model



Quantitative strand: Intrusive rumination gradually develops into deliberate rumination (4-component model). Qualitative strand refined by refined it into 6 specific components for IBD.

Integration (Meta-Inference): Rumination in IBD is a dynamic, staged process moving from distress-driven intrusive thoughts towards deliberate meaning-making, aided by emotional regulation, cognitive adjustment, active illness management, and internal/external



PRACTICAL OR THEORETICAL IMPLICATIONS

- Extends rumination theory from acute trauma to chronic illness context.
- Provides a theory-informed foundation for clinical assessment and intervention development to promote posttraumatic growth (PTG) in IBD care.



Theme 1: Integration in MMR

Theme 2: MMR Research Designs – Innovation and Creativity

CBT-Based Urinary Self-Management for Older Men with Overactive Bladder: A Mixed-Methods Randomized Controlled Trial Protocol

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Abstract:

Introduction:

- Overactive bladder (OAB) significantly affects older men's health and quality of life (QOL).
- Behavioral therapy is recommended, but programs tailored to men and addressing psychological aspects are limited.
- Evidence from cognitive behavioral treatment (CBT)-based interventions mainly comes from studies in women, with few randomized controlled trials (RCTs) focusing on men.
- OAB symptoms result from complex interactions among organic factors, voiding habits, and psychological elements.
- Quantitative outcomes alone cannot explain why and how behavioral change occurs, highlighting the need for mixed-methods evaluation.

Purpose: To explore participants' psychological and behavioral change processes during a CBT-integrated urinary self-management program and to integrate quantitative and qualitative data to deepen understanding of health outcomes (urinary frequency, QOL, and self-efficacy) among older men with OAB.

Expected Outcomes:

1. As the first RCT, it provides evidence regarding improvements in symptoms, QOL, and self-efficacy for older men with OAB.
2. Integrating quantitative and qualitative data, it enables a comprehensive understanding of both "what improved" and "why/how these changes occurred" in a CBT-integrated urinary self-management program.

Practical Implications: This study contributes to the development of a clinically applicable, evidence based nursing intervention program for older men with OAB.



Health Sciences



CBT-Based Urinary Self-Management for Older Men with Overactive Bladder: A Mixed-Methods Randomized Controlled Trial Protocol

CBT-Based Urinary Self-Management for Older Men with Overactive Bladder: A Mixed-Methods Randomized Controlled Trial Protocol

Kazuo Ishikawa, Tomoko Kamei, Graduate School of Nursing Science St. Luke's International University



1 INTRODUCTION

- Overactive bladder (OAB) significantly affects older men's health and quality of life (QOL).
- Behavioral therapy is recommended, but programs tailored to men and addressing psychological aspects are limited.
- Evidence from cognitive behavioral treatment (CBT)-based interventions mainly comes from studies in women, with few randomized controlled trials (RCTs) focusing on men.
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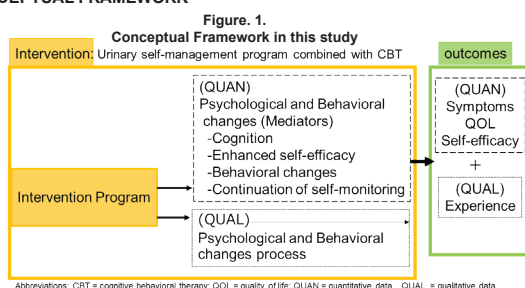
2 PURPOSE

To explore participants' psychological and behavioral change processes during a CBT-integrated urinary self-management program and to integrate quantitative and qualitative data to deepen understanding of health outcomes (urinary frequency, QOL, and self-efficacy) among older men with OAB.

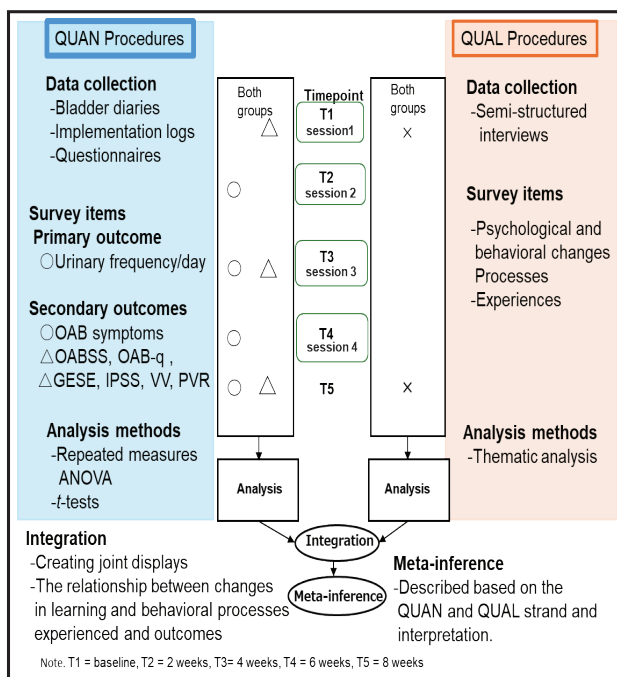
3 MMR RESEARCH QUESTIONS

How are differences in quantitative health outcomes between the CBT-based urinary self-management group and the usual care group explained by participants' psychological and behavioral change processes identified through qualitative data?

4 CONCEPTUAL FRAMEWORK



6 Procedural diagram of the mixed-methods design with data collection and convergent timing



7 EXPECTED OUTCOMES

- As the first RCT, it provides evidence regarding improvements in symptoms, QOL, and self-efficacy for older men with OAB.
- Integrating quantitative and qualitative data, it enables a comprehensive understanding of both "what improved" and "why/how these changes occurred in a CBT-integrated urinary self-management program.

5 METHODS

1. Design

A convergent parallel mixed methods RCT

2. Participants

Inclusion criteria

- Men aged ≥60 years diagnosed with and treated for OAB
- Cognitively intact
- Capable of walking independently

Exclusion Criteria

- Neurogenic bladder
- Prostate surgery
- Urinary tract infection

3. Intervention group:

CBT-based urinary self-management program

Control group:

usual care

INTERVENTION PROGRAM

CBT-based urinary self-management program

- Contents
 - Education
 - Cognitive restructuring
 - Goal setting
 - Self-monitoring
 - Behavioral therapy
- Periods: 8 weeks
- Methods: 4 individual sessions using the workbook
- Homework



Table 1. Data source table for this study

Quantitative data	Timepoint				
	T1	T2	T3	T4	T5
Primary Outcome					
Urinary frequency/day		×	×	×	×
Secondary Outcome					
OAB symptoms					
Nocturnal urinary frequency		×	×	×	×
Urinary incontinence episodes		×	×	×	×
Urinary urgency episodes		×	×	×	×
OABSS	×		×		×
IPSS	×		×		×
OAB-q	×		×		×
GESE	×		×		×
VV	×		×		×
Adverse Events					
PVR	×	×	×	×	×
Qualitative data					
Experience and process	×				×

Note: T1 = baseline, T2 = 2 weeks, T3 = 4 weeks, T4 = 6 weeks, T5 = 8 weeks.
Abbreviations: OABSS = overactive symptom score; IPSS = international prostate symptom score; VV = voided volume during the void; OAB-q = overactive bladder questionnaire; GESE = general self-efficacy Sscale; PFME = pelvic floor muscle exercise; PVR = postvoid residual volume

8 PRACTICAL IMPLICATIONS

This study contributes to the development of a clinically applicable, evidence-based nursing intervention program for older men with OAB.

9 REFERENCES



Theme 1: Integration in MMR

Theme 2: MMR and Complexity

Developing a Nursing & Midwifery Informatics Mixed-Methods Research Program

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Monash Health, Deakin University and Monash University

Abstract:

As the largest healthcare workforce, nurses and midwives are vital to providing high-quality patient care. The Nursing and Midwifery Informatics team are experienced clinicians working at the intersection of clinical care and digital health technologies. Their work supports end-users by ensuring the implementation and use of any digital health technologies are assessed and support nurses' and midwives' work, workflows and patient care. The opportunity to develop the Nursing and Midwifery Informatics Research Program came with the establishment of a speciality Informatics Nurse Research Consultant role within this team. The specialty research program needs to consider the complex healthcare environment, yet be rigorous and pragmatic. Nursing and Midwifery Informatics research provides comprehensive understanding of the multi-factorial components that affect clinicians and the healthcare environment. Mixed-Methods research was chosen as it provides the suitable integration of data points to explore digital health technologies including data from systems, quality outcomes, user experiences and contextual factors including barriers and enablers. Development of a Nursing and Midwifery Informatics Research Program included developing two research design principles: 1. Mixed-methods is first choice for all projects to inform comprehensive understanding of complex issues and healthcare context with breadth and depth of data, and 2. Ensure multi-disciplinary input and co-design with end-users and/or consumers. A five step guide was also developed to support research project design from ideation through to evaluation. The principles and guide ensure appropriate project scoping, framework use and selection, co-design with end-users and consumers, and mixed-methods data collection and integration that strengthens data interpretation and supports understanding of how digital health technologies can impact nurses and midwives, their work and workflows.



Health Sciences



Developing a Nursing & Midwifery Informatics Mixed-Methods Research Program

Developing a Nursing & Midwifery Informatics Mixed-Methods Research Program

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Program Development

- Monash Health is Victoria's largest public healthcare organisation and provides over 3.8 million episodes of care each year
- The Nursing and Midwifery Informatics team's Research Nurse Consultant develops and undertakes various research projects related to digital health technologies and nursing research across the organisation
- Nursing and Midwifery Informatics research supports understanding of the complex work and workflows in healthcare
- Informatics research design principles and a 5 step guide was developed to **inform rigorous and pragmatic research projects that ensures the benefits and/or evaluation of projects is achievable, appropriate and addresses the gap in practice**

Example mixed-methods projects



Updating nursing handover page within Electronic Medical Record



Trialling Distress Thermometer tool on non-oncology patients



General Medical ward Nurses' use of Care Plans within Electronic Medical Record



Trialling virtual huddles for clinical handover

Principles and Steps to guide research project design from ideation to evaluation

Informatics Research Design Principles

- Mixed-methods is first choice for all projects to **inform comprehensive understanding of complex issues and healthcare context with breadth and depth of data**
- Ensure multi-disciplinary input and co-design with end-users and/or consumers



1. Identifying Opportunities for Improvement

- What is the gap: Identify need, variation in clinical practice
- Link to patient outcomes, safety, experience or efficiency
- Align with professional and organisational priorities and context



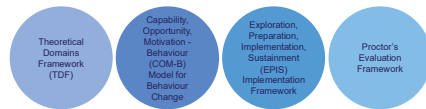
2. Project Scoping & Research Question Development

- Define project scope with clear, focused research question
- Review of current literature
- Consideration of feasibility, resources, and impact (Health, Knowledge, Social and/or Economic)
- Utilise resources (e.g. Department of Clinical Informatics Change & Transformation Manager, Monash Health Library, Monash Health Research Support Services)



3. Framework Use & Selection

- Application of appropriate framework to inform and guide research
- Supports success by guiding planning, implementation and evaluation



Example frameworks



4. Co-Design with End-Users and Consumers

- Early and ongoing engagement with clinicians, consumers and any other stakeholders
- Informed co-design to ensure appropriate and collaborative decision-making
- Utilisation of organisation-wide working groups and consumers



5. Data Collection, Analysis & Evaluation

- Mixed-methods design dependent on research question:
 - Convergent Parallel
 - Explanatory Sequential
 - Exploratory Sequential
- When possible, data collection to utilise existing measures or data points (↓ burden on participants)
- Include both system data and experiences, contextual factors and enablers and barriers
- Quantitative Data
e.g. Organisation-wide Electronic Medical Record system
Survey data (use pre-existing tools where possible)
 - Descriptive and Inferential Statistics
- Qualitative Data
e.g. Interviews or focus groups, free-text comments
 - Content or Reflexive Thematic Analysis
- Integration of Quantitative and Qualitative Data
 - ❖ Used to validate findings, strengthens interpretation, understanding, and relevance
 - ❖ Concurrent interpretation and triangulation most often used

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Bridging the Gap Between Health and QOL: A Convergent Mixed Methods Study on Vulnerable Older Adults in Disaster Shelters

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Abstract:

Purpose: This study investigates the structural mismatch between evacuees' perceived needs and healthcare providers' professional priorities in disaster shelters.

Design/methodology/approach: A convergent mixed methods design was employed. The quantitative phase (n=3,043) analyzed survey data from general disaster survivors to identify statistical patterns in perceived needs. The qualitative phase (n=2) involved semi-structured interviews with healthcare professionals (a visiting nurse and a dietitian) to explore clinical decision-making logic. Data from both strands were integrated through triangulation to identify convergences and divergences between survivor needs and professional priorities.

Findings: The quantitative results revealed a substantial demand for privacy (e.g., changing rooms: 48.3%) and quality-of-life (QOL) elements (e.g., leisure goods: 24.1%). Triangulation with qualitative insights demonstrated that while survivors prioritize these life-oriented needs, healthcare professionals focus on biomedical risks such as dehydration and refeeding syndrome. Neglecting QOL needs was found to trigger self-imposed fluid restriction, thereby increasing clinical risks.

Practical Implications: To address this, we propose two strategies: (1) the "Integrated Inlet-Outlet Package," a waterless hygiene system linking oral care with discreet waste management to preserve dignity and health simultaneously; and (2) "Pre-processing" strategies at logistics hubs to reduce on-site workload.

Originality/value: These findings suggest that shelter management must shift from purely medical interventions to holistic, life-oriented support. This study demonstrates how mixed methods can elucidate the mechanism by which QOL-oriented care functions as essential preventive medicine in disaster contexts.



Health Sciences



Multi-Disciplinary



Bridging the Gap Between Health and QOL: A Convergent Mixed Methods Study on Vulnerable Older Adults in Disaster Shelters

Bridging the Gap Between Health and QOL in Disaster Shelters: A Convergent Mixed Methods Study

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Introduction

Disaster shelters prioritize immediate survival. However, prolonged life in resource-limited settings introduces challenges to dignity and health. Evidence suggests a structural mismatch between evacuee needs and professional priorities.

Research Question

What creates the mismatch between quality-of-life (QOL) needs and clinical priorities?

Mixed Methods Integration

Strategy: A side-by-side comparison through triangulation was employed to identify convergences and divergences between survivor needs and professional priorities.

The Identified Structural Mismatch revealed that while survivors focus on the continuity of daily life, healthcare providers operate under a biomedical risk-centered logic.

Integration (Key Contribution) A structural mismatch was identified:

Focus Area	Evacuees (Quantitative n=3,043)	Providers (Qualitative n=2)
Primary Need	Privacy & Dignity (e.g., Changing rooms: 48.3%)	Medical Safety & Clinical Priorities
Social Aspect	Social Interaction & Cultural Engagement	Risk Prevention & Nutritional Control
Core Values	Daily Life Continuity	Physiological Stabilization

Results

Quantitative Findings

High demand for **privacy** (changing rooms: 48.3%)
Demand for **QOL elements** (leisure: 24.1%)
Lower prioritisation of food and basic survival needs (context-dependent stabilisation)
→ Evacuees emphasised **living conditions, dignity, and social life**

Qualitative Findings

- ◆ Dehydration prevention
- ◆ Refeeding syndrome
- ◆ Clinical prioritization

Professionals prioritised **medical risk management**
Dehydration prevention
Refeeding syndrome
Decision-making driven by **clinical safety and resource constraints**
→ Focus on **biomedical outcomes over daily life context**

Proposed Strategies

1. Integrated Inlet-Outlet Package

- **Inlet:** waterless oral care
- **Outlet:** discreet waste management
- Maintains hygiene, dignity, and fluid intake simultaneously

2. Pre-processing Strategy

- Pre-cut food and prepared supplies at logistics hubs
- Reduces workload on-site
- Enables professionals to focus on adaptive care

Implications

- Shift from **medically centred care** → **life-oriented support**
- QOL interventions function as **preventive medicine**
- Professional **social capital** is critical for implementation
- Applicable to ageing disaster-prone societies

Conclusion

Mixed methods integration revealed that neglecting QOL needs can directly generate medical risks. Disaster shelter management must incorporate life-based health models that address both clinical and social determinants of health.

Methods

A Convergent Mixed Methods Design was used to triangulate big-data trends with clinical insights.

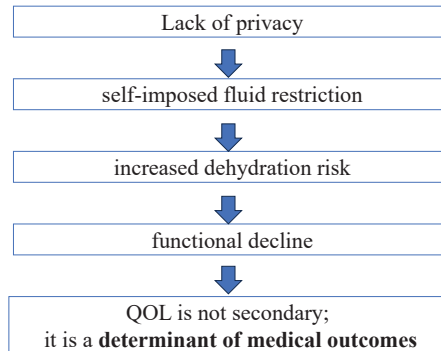
Quantitative phase: n=3,043

Internet-based survey of disaster survivors across Japan.
Analyzed perceived needs using descriptive statistics.

Qualitative phase: n=2

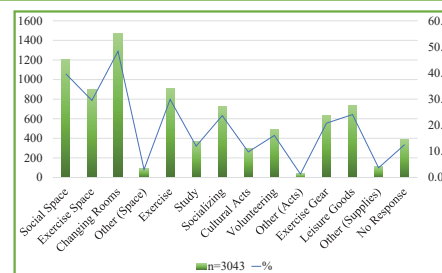
Semi-structured interviews with **Visiting Nurse** and **Registered Dietitian** regarding clinical decision-making during crises.

Mixed Methods Integration: The Mechanism of Health Decline



Providers (medical focus)

Prioritization of Living Environment and QOL Support Among Evacuees



Oral care set
Integrated Inlet-Outlet Package



contact (ResearchGate)

Tools for systematic reviews of multiple research designs, including mixed methods: the measurement properties

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Abstract:

Systematic reviews are crucial for developing evidence-based practice. Building evidence involves not only quantitative, but also qualitative and mixed methods research. Tools for assessing methodological quality or risk of bias in primary studies with multiple research designs, such as mixed methods are valuable when the systematic review aims to encompass a diverse set of real-world challenges, but remain limited. This study aimed to identify these tools and evaluate their measurement properties. Research questions are to identify the available tools for assessing the methodological quality or risk of bias in primary studies that employ a range of research designs, including mixed methods, for systematic reviews. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 statement, the Scopus, MEDLINE, CINAHL, PsycINFO, ERIC, and ProQuest databases were searched. Inclusion criteria were tools that assess the methodological quality of primary studies using multiple designs and studies that required measurement properties. The Consensus-based Standards for the Selection of Health Measurement Instruments guidelines were used to evaluate the measurement properties, and the results are descriptively summarized. This review was registered in PROSPERO (CRD42021238210). The reliability and validity of Mixed Methods Appraisal Tool (MMAT) and Quality Assessment with Diverse Studies (QuADS) were confirmed in eight studies. Both tools are available only in English. Development, content validity, and reliability have been reported for both tools. The MMAT clearly distinguishes appraisal items by study design and qualitative, quantitative, and mixed methods, making it suitable for mixed-methods studies. Whereas, QuADS employs a universal appraisal framework, although its effective application often requires input from qualitative, quantitative, and mixed-methods experts. MMAT is more suitable when systematic reviews employ mixed-method studies. Owing to the nascent nature of this field, further development is essential.



Health Sciences



Tools for systematic reviews of multiple research designs, including mixed methods: the measurement properties

Tools for systematic reviews of multiple research designs, including mixed methods: the measurement properties

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BACKGROUND & AIM

- Systematic reviews are crucial for developing evidence-based practice. Building evidence involves not only quantitative, but also qualitative and mixed methods research.
- Tools for assessing methodological quality or risk of bias in primary studies with multiple research designs, such as mixed methods are valuable when the systematic review aims encompass a diverse set of real-world challenges, but remain limited.
- This study aimed to identify these tools and evaluate their measurement properties.**

METHODS

- Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 statement, the Scopus, MEDLINE, CINAHL, PsycINFO, ERIC, and ProQuest databases were searched.
- Inclusion criteria were tools that assess the methodological quality of primary studies using multiple designs and studies that required measurement properties.
- The Consensus-based Standards for the Selection of Health Measurement Instruments guidelines were used to evaluate the measurement properties, and the results are descriptively summarized.
- This review was registered in PROSPERO (CRD42021238210).

RESULT A: Tools and Measurement Property Evaluation

Tool	Author (year)	Development	Content validity	Structural validity	Criterion validity	Hypotheses testing for construct validity	Reliability	Internal consistency	Measurement error	Responsiveness	Comments
MMAT	Pluye, P., et al. (2009)	Adequate	NA	NA	NA	NA	NA	NA	NA	NA	The tool was developed based on a literature review.
	Pace, R., et al. (2012)	NA	NA	NA	NA	NA	Very good	NA	NA	NA	Reliability was tested on Intra-class correlation and degree of agreement.
	Souto, R. Q., et al. (2015)	NA	NA	NA	NA	NA	Very good	NA	NA	NA	Verification of the agreement of older versions of tool was conducted. The form of report was a short communication.
	Hong, Quan Nha (2018)	Very good	Very good	NA	NA	NA	NA	NA	NA	NA	The revision process is also well described from 2011 to 2018 version. This is PhD dissertation.
	Hong, Q. N., et al. (2018)	NA	Very good	NA	NA	NA	NA	NA	NA	NA	The usability of the tool was tested.
	Hong, Q. N., et al. (2019)	NA	Very good	NA	NA	NA	NA	NA	NA	NA	To improve the 2011 version, the Delphi method was used.
QuADS	Sirriyeh, R., et al. (2012)	Adequate	Very good	NA	NA	NA	Adequate	NA	NA	NA	This was a pilot study with small sample size.
	Harrison, Reema et al. (2021)	Adequate	Very good	NA	NA	NA	Very good	NA	NA	NA	The agreement of the evaluation among various disciplines researchers is verified. The reliability and validity were analyzed using previous reported numerous studies.

RESULT B: Tool Information

Tool	Items	How to use/When to use	Burden in use
MMAT	It is not scored. A total of 27 items: 2 screening items, then divided into 5 study designs: Responding are 'Yes', 'No' or 'Can't tell' 1. 5 items for qualitative studies 2. 5 items for quantitative randomized controlled trials 3. 5 items for quantitative non randomized 4. 5 items for quantitative descriptive studies 5. 5 items for mixed methods studies	How to use: Experience and training are needed. Research team need to agree on evaluation results. At least two reviewers evaluate independently. The algorithm will identify the items to be evaluated according to the study design. A detail description of the procedure is provided. When to use: Mixed methods studies were included for SRs.	An average of 14 minutes is required per paper. There is no cost to use, and tool is available online (Hong et al., 2021).
QuADS	There are 13 items. The rubric evaluation is used. Index; a 4-point scale from 0 to 3 is used to establish scores, but there is no cutoff value to determine the quality of the study. 1. Theoretical or conceptual underpinning to the research 2. Statement of research aims 3. Clear description of research setting and target population 4. The study design is appropriate to address the stated research aims 5. Appropriate sampling to address the research aims 6. Rationale for choice of data collection tools 7. The format and content of data collection tool is appropriate to address the stated research aims 8. Description of data collection procedure 9. Recruitment data provided 10. Justification for analytic method selected 11. The method of analysis was appropriate to answer the research aims 12. Evidence that the research stakeholders have been considered in research design or conduct 13. Strengths and limitations critically discussed	How to use: Experience and training are needed. Quantity and quality research team are needed. A detail description of the procedure is provided. When to use: Quantitative and qualitative research teams were involved for SRs. Expert of mixed methods research might be needed.	The time required is not listed. This paper includes tool, and is no cost to use, and tools is available as open access (Harrison et al., 2021).

IMPLICATIONS

- These tools are valuable when the SR aims encompass a diverse set of real-world challenges.
- The reliability and validity of Mixed Methods Appraisal Tool (MMAT) and Quality Assessment with Diverse Studies (QuADS) were confirmed in eight studies.
- The MMAT clearly distinguishes appraisal items by study design and qualitative, quantitative, and mixed methods, making it suitable for mixed-methods studies.
- QuADS employs a universal appraisal framework, although its effective application often requires input from qualitative, quantitative, and mixed-methods experts.
- Furthermore, their translation into languages other than English has made these tools more accessible to a wider range of researchers.

Conflict of Interests

The founders had no role in the study design, data collection and analysis, decision to publish, or preparation of the manuscript. Although the first author is a member of the board of directors for Japan Society for mixed Methods Research, the society had no role in the study design, data collection and analysis, decision to publish, or preparation of the manuscript.

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We appreciate assistance with the search strategy from Prof. Hisako Kakai and Ms. Michiko Abe, Aoyama Gakuin University. We would also like to thank Editage (www.editage.com) for English language editing. Reference manager software is EndNote V21 (Clarivate Analytics, PA, USA).

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Theme 1: MMR Research Designs – Innovation and creativity

Theme 2: MMR and complexity

Process evaluation of the FITTEST Study: a mixed methods research design

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Abstract:

Background: Frailty is a common, clinically recognisable state characterised by reduced physiological reserve and heightened vulnerability to health stressors. Affecting over 10% of community dwelling older Australian adults, frailty contributes to increased risks of hospitalisation, functional decline, need for care, and mortality. FITTEST, designed to reduce the burden of frailty and address implementation evidence gaps, is a multicentre hybrid study that evaluates two models of delivering a six month frailty intervention, incorporating strength training, nutrition and medicines optimisation, and social connectedness.

Methods: A convergent mixed methods, post design process evaluation, informed by the UK Medical Research Council guidance for process evaluation of complex interventions, examines intervention activities, participant responses, and context. Contributors are FITTEST participants, their support persons, and intervention deliverers. Quantitative data are drawn from routine trial records and an all-participant post-intervention survey. Qualitative data will be collected via semi-structured interviews. A heterogeneous purposive sample of participants and convenience samples of support persons and deliverers will be interviewed. Quantitative data will be summarised descriptively. Participant interviews will be analysed using the Qualitative Analysis Guide of Leuven, while qualitative data from support persons and practitioners will be analysed using a thematic codebook. All qualitative data will be mapped to the Theoretical Domains Framework. Data integration and interpretation will employ joint display and meta-inference.

Expected Outcomes: The evaluation will identify what was delivered during FITTEST by quantifying intervention dose, fidelity, and adaptation. Participant experiences and contextual factors shaping engagement and implementation will be illuminated. Findings will inform interpretation of the trial's effectiveness and cost effectiveness outcomes.

Implications: This process evaluation will assess a novel complex frailty intervention to inform its refinement and implementation. Key insights gained from the evaluation may guide the development and delivery of services, guidelines, and policy, promoting the scale-up of effective frailty interventions in an ageing Australia.



Health Sciences



Process evaluation of the FITTEST Study: a mixed methods research design

Process evaluation of the FITTEST Study: a mixed methods research design



FITTEST Study
AFN 21-01

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Introduction

Frailty is a clinically recognisable state marked by **reduced physiological reserve** and **increased vulnerability** to stressors. It affects **10% or more** of community-dwelling **older people** and is associated with falls, hospitalisation, functional decline, care needs, and mortality. (World Health Organization, 2017)

Modelling suggests 11% of the Australian population aged 65 and over is **currently frail**, and **predicts growth in the frail population**, compelling the design of programs to **reduce frailty** prevalence and strategies to **manage increased demand** for health and care services. (Taylor et al., 2019)

Frailty is modifiable with **multicomponent interventions** targeting sarcopenia, inappropriate medicines use, and social isolation demonstrating effectiveness.

Reducing the **burden of frailty** is hindered by **delayed recognition of both frailty and the need for early intervention** and a lack of context-specific data to inform practice and policy. **The FITTEST study was designed to help address these evidence gaps.**

The FITTEST Study: an Australian multicentre hybrid effectiveness-implementation trial to reduce frailty.

FITTEST tests two delivery models, supervised and self-directed, of a six-month multicomponent frailty intervention incorporating:

- weight-based training
- nutrition and medicines optimisation
- social connectedness.



The supervised model, the experimental arm of the trial, with direct health practitioner support, will be compared with the self-directed model, the active control arm of the trial, which is navigated independently online.

FITTEST's primary aim is to evaluate whether each model produces measurable **improvement in frailty** (Frailty Index) at six months. Assessing changes in other health outcomes (e.g. **quality of life**), comparing **cost-effectiveness**, and conducting this **process evaluation** are additional aims.



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Australian Frailty Network

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Australian Frailty Network

FITTEST's Process evaluation

A mixed-methods, multistakeholder, post-design process evaluation is embedded within the study to describe what occurred during the trial. The process evaluation is informed by the UK Medical Research Council guidance (MRC Guide) for evaluating complex interventions. (Moore et al., 2015)

Methods

Our transdisciplinary team draws on the MRC Guide to evaluate three focal processes:

1. intervention activities
2. participant responses
3. intervention context.

Our Research Questions

Focus 1: What dose of the intervention, in either model, did participants receive? How did delivery vary across sites, practitioners, and time (intervention fidelity/adaptation)?

Focus 2: What participant behaviour changes and goal achievement occurred? Was the intervention acceptable, and how did this differ between models?

Focus 3: What individual and contextual factors enabled or impeded participation or intervention delivery?

Exploring these questions will enable us to answer which features of these processes help explain intervention outcomes.

Data collection

The evaluation uses quantitative and qualitative data collected from:

- trial records
- Participants (community-dwelling older adults)
- Participant support persons
- Intervention deliverers (practitioners, supervised arm).

Older adult participants (both arms):

- Intervention dose will be quantified using case records documenting supervised sessions and website analytics of viewed pages (all participants have access to the purpose-built FITTEST website).



Intervention deliverers:

- Routine trial monitoring records will be used to quantify intervention fidelity and adaptation (supervised arm only).
- **All participants** are invited to complete a questionnaire at six months.
- The questionnaire assesses participant goals, website use, intervention beliefs, and quantifies acceptability using a validated Theoretical Framework of Acceptability (TFA) instrument. (Sekhon et al., 2022)
- Semi-structured interviews with a heterogeneous purposive sample of participants will explore **intervention experiences**.

Participants and support persons:

- Interviews (described above) will also explore participant perspectives on the barriers and enablers to intervention engagement.



Intervention deliverers:

- Semi-structured interviews with a convenience sample of intervention deliverers will examine contextual influences on the implementation of the supervised model (and intervention adaptation and fidelity).



Data Analysis

Dose, adaptation, fidelity and TFA-based acceptability will be summarised with descriptive statistics.

- Participant data will undergo inductive analysis using the Qualitative Analysis Guide of Leuven method (Dierckx De Casterlé et al., 2012), followed by deductive mapping using the Theoretical Domains Framework (TDF). (Cane et al., 2012)



- Support person and intervention deliverer data will undergo codebook thematic analysis informed by the TDF (both cohorts) and the Consolidated Framework for Implementation Research (intervention deliverers only). (Damschroder et al., 2022)

Integration

- Joint display and meta-inference will be used to integrate qualitative and quantitative findings to identify the constructs that matter for behaviour change.

Expected Outcomes

The process evaluation is expected to:

- Clarify **what was delivered** during FITTEST, quantifying intervention dose, fidelity, and adaptation.
- Describe participant responses, **behavioural pathways**, and **unintended consequences**.
- Identify **contextual influences** shaping engagement and delivery.
- Provide insights that will help interpret trial effectiveness and cost-effectiveness outcomes and **improve the intervention**.

Implications

This process evaluation offers:

- **comprehensive assessment of a novel complex frailty intervention in Australia**
- **findings to inform the refinement of multicomponent frailty interventions for older Australians**
- **illumination of the conditions required for successful implementation.**

The insights are expected to guide service delivery, policy, and future guideline development, supporting the scalability of effective frailty interventions in an ageing Australia.

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THE UNIVERSITY OF QUEENSLAND AUSTRALIA



Australian Frailty Network

Promoting Emotional Awareness and Coping Skills through the Heart Character Diary: A Mixed-Methods Case Study

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Abstract:

Children with emotional regulation difficulties often struggle to develop effective coping strategies and emotional awareness. While externalising emotions through tools like diaries is suggested to be effective, the underlying mechanisms and their impact on the child-caregiver relationship remain unclear. This study employed a mixed-methods case study with an explanatory sequential design.

The participant was a fourth-grade girl (Child A). Quantitative data included pre- and post-intervention scores from a stress-coping questionnaire and the frequency of emotions recorded in the "Heart Character Diary". Qualitative data were gathered through semi-structured post-intervention interviews with Child A and her mother to explore their perceptions of change.

Quantitative findings showed changes in coping strategies, specifically a decrease in "desire for support" and an enhancement in "problem-solving strategies". Diary records revealed a notable reduction in negative emotions in the latter half of the practice. However, qualitative analysis uncovered a critical discordance between datasets: Child A perceived no personal change, instead attributing improvements to her surroundings (e.g., family members becoming "nicer"), whereas her mother observed functional gains in the child's ability to verbalize the "event-emotion-thought" sequence.

The integration of data suggests that externalising emotions increased objectivity and promoted autonomous problem-solving. Crucially, the diary practice facilitated a "positive interactional shift" between mother and child. Driven by the mother's active engagement and self-reflection, her approach may have changed subconsciously, which the child perceived as an environmental improvement. These findings underscore the necessity of structured feedback and reflection to bridge the gap between ingrained changes and espoused beliefs. Furthermore, the reduction in negative emotions requires ongoing consideration regarding potential over-adaptation.



Education



Psychology



Promoting Emotional Awareness and Coping Skills through the Heart Character Diary: A Mixed-Methods Case Study

Promoting Emotional Awareness and Coping Skills through the Heart Character Diary — A Mixed-Methods Case Study —

Ayaka Takahashi (Faculty of Education, Okayama University JAPAN)
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Purpose and Research Questions

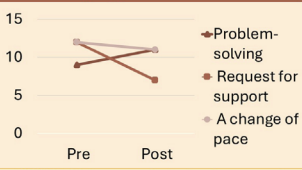
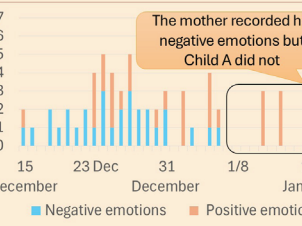
Practices that support children in externalising and reflecting on their emotions, such as emotion diaries, have been suggested to enhance emotional awareness and coping. However, it remains unclear how such practices influence coping strategies, emotional awareness in daily life, and the role of surrounding adults, particularly in children with emotional regulation difficulties.

- **RQ1:** How does the use of the Heart Character Diary influence the frequency and types of stress coping strategies and emotional awareness over time?
- **RQ2:** How do the child and her mother perceive and make sense of changes in her emotions and coping through the diary practice?

Methodology

- **Participant:** Child A (Grade 4, Girl)
- **Procedure:** Child A recorded her daily emotions on the diary (Heart Character Diary) using characters from the Kokoro Chara Zukan (Heart Character Guide) (Ikegaya & Kurihara, 2020), followed by a review at the end of each session. Her mother also kept a parallel record of A's emotional states.
- **Design:** Mixed-methods case study (explanatory sequential design)
- **Data Collection:** Pre- and post-intervention data included a stress coping questionnaire (Komatsu & Hakoda, 2012) and the types and frequency of emotions recorded in the diary. Semi-structured post-interviews were conducted with Child A and her mother.

Key Findings

Perspectives	Stress Coping and Emotional Changes	Post-Intervention Interview	Integrative Interpretation
Changes in stress coping strategies	 • Child A: A decrease in desire for support and an improvement in problem-solving strategies • From a mother's perspective: Problem-solving improved by one point	[Child A] • Not sure about the change (at initial interview) • My older sister has become nicer • I've started playing with my dad more • My relationship with my younger brother hasn't changed [Mother's perspective] • Child A's ability to avoid unpleasant situations has improved • Child A spent more time getting on well with her older sister	• Externalising emotions may have increased objectivity and promoted more autonomous problem-solving. • While the mother reported changes in coping strategies and daily life, in a follow-up interview with the client, she did not feel she had changed much herself; rather, she perceived that it was her surroundings that had changed. It may be effective to provide feedback on changes in her coping strategies or to create opportunities for reflection.
Changes in emotional awareness in daily life	 • In the latter half, a reduction in negative emotions was observed only in Child A. • Inter-rater agreement between child A and her mother: 69% for negative emotions, 91% for positive emotions	[Child A] • It became easier to recognise the 'happy' character (positive emotions) • She does not seem to recall many instances of discussing the diary with her mother [Mother's perspective] • Child A's feelings such as irritation no longer linger • Child A has started talking about the sequence of "events → emotion → thoughts" • (The mother herself) makes light-hearted comments such as, "Oh, there's a bit of that coming out now, isn't there?" • (The mother herself) notices things like, "She (Child A) was quite calm today," when she hasn't made a record	• In the latter half of the Heart Character Diary practice, Child A's own records showed a decrease in negative emotions. A decrease was also observed in the mother's records, although the number of negative and positive emotions recorded was roughly equal compared to A's own entries. It is possible that Child A attempted to regulate their negative emotions through the diary. • The mother's approach to her daughter may have changed subconsciously as a result of both keeping the diary.

Practical Implications

- Changes were observed in Child A's stress coping strategies before and after keeping the Heart Character diary.
- While attention to and awareness of positive emotions were promoted, negative emotions decreased in the latter half.
- As Child A did not perceive any changes during the initial interview, it may be effective to provide feedback on changes in her coping strategies or to create opportunities for reflection.
- The diary practice may have facilitated a positive interactional shift between mother and child (i.e., her engagement with the child through the diary, and the promotion of her own reflection).
- Regarding the factors behind the reduction in negative emotions, it is necessary to carefully consider whether this might be a case of over-adaptation.

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Theme 1: MMR other

Theme 2: Inter-Methodology Mixing (I-MM)

Mixed-Methods Development of Competency Indicators for Drug Administrators

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Abstract:

Objective: To systematically construct a preliminary competency evaluation indicator system for drug administrators in clinical trials using a mixed-methods approach, laying the foundation for subsequent Delphi expert consultation.

Methods: Guided by the competency onion model, an exploratory sequential mixed-methods design was employed, following the pathway of "multi-source evidence integration—qualitative interpretation—integrated construction." In Phase I (literature review), bibliometric analysis using VOSviewer and content analysis using NVivo were conducted on academic literature, evaluation tools, and policy documents (inception to September 30, 2025) to form a literature-derived indicator pool. In Phase II (qualitative study), semi-structured interviews with 15 senior experts were analyzed using three-level grounded theory coding to validate and enrich the indicator pool. In Phase III (integration), findings from both phases were triangulated and synthesized to form the preliminary indicator system. Quality was ensured through inter-coder consistency and theoretical saturation testing.

Results: Bibliometric analysis of 34 articles identified 85 keywords (417 occurrences), with "job competency" as the core theme (link strength 65). Content analysis of 16 evaluation tools and 8 policy documents extracted 58 indicators. Interviews with 15 experts generated 1,045 reference points and 165 initial concepts, distilled into 61 indicators (inter-coder consistency $R=0.93$; theoretical saturation achieved). After integration, 52 literature-derived indicators were retained, 10 interview-derived indicators were added, and 1 overlapping indicator was merged. The final indicator pool comprised 6 primary dimensions and 61 secondary indicators: personal qualifications, professionalism, professional knowledge, drug management skills, data and documentation quality assurance, and communication and comprehensive abilities.

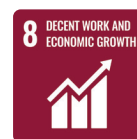
Conclusion: This exploratory sequential mixed-methods study successfully integrated quantitative textual evidence with qualitative practical insights to construct a competency indicator pool for drug administrators in clinical trials. The framework demonstrates scientific rigor, systematic structure, and practical relevance, providing a foundation for Delphi expert consultation and formal evaluation system development.

Keywords:

mixed-methods research; clinical trials; drug administrator; competency indicators



Biomedical and
Clinical Sciences



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To systematically construct a preliminary framework for a competency evaluation indicator system for drug administrators in clinical trials using a mixed-methods approach, laying the foundation for subsequent Delphi expert consultation.

Guided by the competency onion model, an exploratory sequential mixed-methods design was employed, following the research pathway of “multi-source evidence integration—qualitative interpretation—integrated construction.” The study was conducted in three phases. Phase I (Literature Review): A systematic search of domestic and international databases (inception to September 30, 2025) was performed. Bibliometric analysis using VOSviewer was applied to identify core competency elements through keyword co-occurrence and cluster analysis. Concurrently, content analysis using NVivo was conducted on industry evaluation tools and policy documents to extract key indicators from practice standards and regulatory requirements. The results were then compared, merged, and integrated to form a literature-derived indicator pool. Phase II (Qualitative Study): Semi-structured interviews were conducted with 15 senior experts to capture tacit knowledge and practical experience. Interview data were analyzed using three-level coding based on grounded theory (open, axial, and selective coding) to validate, supplement, and expand the literature-derived indicators. Phase III (Integration): The research team employed triangulation and comparative synthesis to integrate the quantitative textual analysis with qualitative interview findings, forming a preliminary competency evaluation indicator system. Quality control measures included inter-coder consistency testing and theoretical saturation testing to enhance credibility, rigor, and integration validity.

The exploratory sequential mixed-methods design facilitated systematic integration of literature-based evidence and practical expertise. Bibliometric analysis included 34 academic articles, yielding 85 valid keywords with 417 total occurrences; "job competency" was the core theme with a link strength of 65. Content analysis included 16 evaluation tools and 8 policy documents, extracting 58 indicators. After integration, a literature-derived indicator pool was formed. In the qualitative phase, semi-structured interviews with 15 experts generated 1,045 reference points and 165 initial concepts, which were distilled into 61 indicators. The inter-coder consistency coefficient was $R=0.93$, indicating high consistency, and theoretical saturation was achieved. After integrating both phases, 52 literature-derived indicators were retained, 10 interview-derived indicators were added, and 1 overlapping indicator was merged. The final indicator pool comprised 6 primary dimensions and 61 secondary indicators: personal qualifications, professionalism, professional knowledge, drug management skills, data and documentation quality assurance, and communication and comprehensive abilities. The mixed-methods design not only systematically identified explicit competency elements but also uncovered practical competency requirements not fully addressed in the literature.

Using an exploratory sequential mixed-methods design, this study integrated bibliometric analysis, content analysis, semi-structured interviews, and grounded theory to systematically combine quantitative textual evidence with qualitative practical insights. The resulting competency indicator pool reflects theoretical foundations, policy guidelines, industry standards, and key practical management experiences, demonstrating scientific rigor, systematic structure, and practical relevance. It provides a methodological and content foundation for subsequent Delphi expert consultation, indicator refinement, and formal evaluation system development.

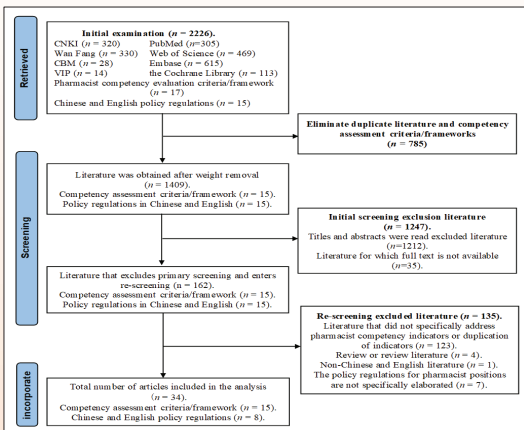


Figure 1. Literature screening process

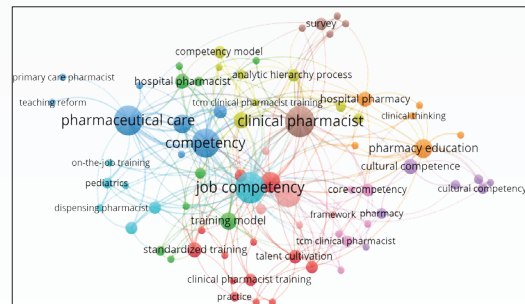


Fig. 2 Keyword co-occurrence network diagram

Summary of semi-structured interviews on the competencies of drug administrators in drug clinical trials						
Gender		Education		Years of drug clinical...		
				5-10years		
Female	Male	Master's degree		Undergraduate	10-15years	15-20years
Age		position		The nature of the work unit		
				Associate Senior	Specialty hospital	
40-50years old	50-60years old	<40years old	Senior	Intermediate	General hospital	

Fig 3 Basic information from experts



Fig. 4 Vocabulary cloud diagram



Fig.5 Coding development process diagram

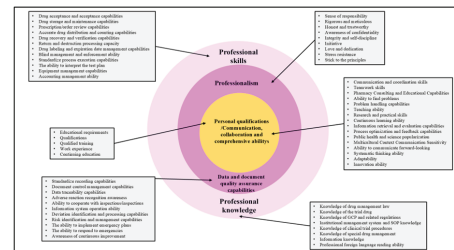


Fig.6 Onion model of drug clinical trial drug administrator job competencies

Posttraumatic Growth in Inflammatory Bowel Disease: An Integrative Systematic Review

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Abstract:

Purpose: A diagnosis of inflammatory bowel disease (IBD) is a distressing and life-altering experience; however, it may also facilitate posttraumatic growth (PTG). Existing evidence on PTG in IBD remains fragmented, particularly regarding its manifestations, influencing factors, and intervention strategies. This study aimed to systematically synthesise and integrate current evidence to provide a comprehensive understanding of PTG among individuals with IBD.

Methodology: A systematic search was conducted across seven electronic databases, supplemented by manual screening of reference lists. Studies with diverse research designs, including qualitative, quantitative, and mixed-methods studies, were included. Methodological quality was assessed using the Mixed Methods Appraisal Tool (MMAT, 2018). An integrative approach was adopted to synthesise findings across different evidence types, guided by the affective–cognitive processing model.

Findings: A total of 20 studies met the inclusion criteria. Overall, PTG levels among individuals with IBD were reported to be low to moderate. PTG manifestations aligned with the five domains proposed by Tedeschi and Calhoun, while also demonstrating IBD-specific features such as enhanced disease management capacity and increased altruistic behaviours. Influencing factors were categorised into four domains: individual characteristics (e.g., age, marital status, disease activity), illness-related cognitions (e.g., illness perception and stigma), coping processes (e.g., coping efficacy, emotional expression, and self-disclosure), and emotional states (e.g., depression and distress). Evidence regarding effective interventions to promote PTG remains limited. Future research should focus on developing theory-driven interventions and clarifying the mechanisms linking cognitive appraisal to PTG.

Originality: This study provides the first integrative synthesis of PTG in individuals with IBD by combining qualitative, quantitative, and mixed-methods evidence. It extends existing knowledge by identifying both general and disease-specific manifestations of PTG and offers a theoretically grounded framework for understanding its underlying mechanisms.

Keywords:

inflammatory bowel disease; posttraumatic growth; integrative review; mixed evidence synthesis; positive psychology



Biomedical and
Clinical Sciences



Posttraumatic Growth in Inflammatory Bowel Disease: An Integrative Systematic Review

Posttraumatic Growth in Inflammatory Bowel Disease: An Integrative Systematic Review

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1 BACKGROUND / PROBLEM

- Inflammatory Bowel Disease (IBD) significantly impacts psychological well-being. 
- However, some individuals may experience **Posttraumatic Growth** (PTG) – positive psychological changes following adversity.
- **Aim of the Review:** To systematically integrate evidence on the levels, manifestations, influencing factors, and interventions related to PTG in individuals with IBD. 

2 METHODS

- **Databases Searched:**  
7 electronic databases + manual reference screening
- **Study Types Included:** Qualitative, Quantitative, Mixed-Methods
- **Quality Appraisal:** Mixed Methods Appraisal Tool (MMAT, 2018)
- **Synthesis Approach:** Integrative synthesis guided by the Affective–Cognitive Processing Model

3 KEY FINDINGS / RESULTS

- **Study Sample:** 20 studies met inclusion criteria
- **Levels of PTG in IBD:** Generally low to moderate

CORE PTG MANIFESTATIONS & IBD-SPECIFIC FEATURES

Tedeschi & Calhoun's 5 domains

Personal strength

Relating to others

New possibilities

Appreciation of life

Spiritual change

IBD-Specific Features:

- Enhanced disease self-management
- Increased altruistic behaviors

KEY INFLUENCING FACTORS (4 DOMAINS)

INDIVIDUAL

(Age, marital status, disease activity)

ILLNESS COGNITIONS

(Illness perception, stigma)

COPING PROCESSES

(Coping efficacy, emotional expression, self-disclosure)

EMOTIONAL STATES

(Depression, distress)

- **Interventions:** Limited evidence currently
- Mechanisms between cognitive appraisal and PTG remain unclear

4 THEORETICAL & PRACTICAL IMPLICATIONS



- **Theoretical Implication:** Enhances understanding of PTG within chronic illness, particularly IBD.



- **Practical Implication:** Findings can inform development of interventions to promote resilience and posttraumatic growth in clinical practice.



5 KEYWORDS: Inflammatory bowel disease; Posttraumatic growth; Integrative review; Mixed evidence synthesis

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Process Evaluation of the FITTEST Study (MM Design)

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