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Chapter 25: Mixed methods research

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Abstract: Mixed methods research designs meaningfully integrate both qualitative and quantitative methods to understand a research problem. Mixed methods research methodologies can be used to cast a nuanced light on complex legal problems, generating new answers which would not be perceived with one data source alone. However, mixed methods research appears rare in labour law research, perhaps reflecting gaps in legal data, the time and cost of undertaking such studies, and limited training in quantitative methods in some jurisdictions. This chapter identifies data sources that could enable a new generation of mixed methods labour law research.

Keywords: mixed methods, qualitative research, quantitative research, labour law, discrimination law, empirical legal research

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I OVERVIEW

A What are Mixed Methods?

Mixed methods research designs meaningfully integrate both qualitative and quantitative methods to address a research question.[1] That is, they draw on both qualitative data (such as from qualitative interviews, case studies or observation) and quantitative data (such as from surveys, or statistical datasets), and mix them in some way. Depending on the research design and research question,[2] mixed methods could be used for triangulation, complementarity, development, initiation, or expansion of a research study.[3]

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[1] Vicki L Plano Clark and others, 'Mixing Quantitative and Qualitative Approaches: An Introduction to Emergent Mixed Methods Research' in Sharlene Nagy Hesse-Biber and Patricia Leavy (eds), *Handbook of Emergent Methods* (Guilford Press 2008) 364.

[2] For example, Greene distinguishes intents of convergence (as in triangulation) from development (using one method to inform another's development): Jennifer C Greene, 'Is Mixed Methods Social Inquiry a Distinctive Methodology?' (2008) 2 Journal of Mixed Methods Research 7, 14.

[3] Jennifer C Greene, Valerie J Caracelli and Wendy F Graham, 'Toward a Conceptual Framework for Mixed-Method Evaluation Designs' (1989) 11 Educational Evaluation and Policy Analysis 255, 259. Bryman synthesizes this as triangulation, explanation, or exploration: Alan Bryman, 'Integrating Quantitative and Qualitative Research: How Is It Done?' (2006) 6 Qualitative Research 97, 98–99, 103.

To be categorized as a 'mixed methods' study, data must normally come from more than one source;[4] so, a study drawing on one survey with both numerical (quantitative) and open text (qualitative) questions would not normally be seen as a 'mixed methods' study. Further, a study will not necessarily be seen as 'mixed methods' if it integrates more than one qualitative method; or more than one quantitative method, but not both qualitative and quantitative data – at least one form of qualitative data and one form of quantitative data is required. Studies adopting two or more forms of qualitative data (for example expert interviews, and/or organizational case studies, and/or archival or historical research), or two or more forms of quantitative research, might be described as *multimethods research*, rather than mixed methods.[5]

Mixed methods can be used either sequentially or simultaneously. Where mixed methods are used *sequentially* in a research design, one method is used to help inform the development of subsequent stages and methods;[6] in this case, the phases and methods of a study build on each other.[7] Alternatively, mixed methods could be conducted *simultaneously*. In simultaneous, concurrent or convergent mixed methods designs, researchers compare the results of different methods,[8] including by iteratively refining the study.[9]

Another critical aspect of the definition of 'mixed methods' research is that there must be meaningful integration of qualitative and quantitative methods; that is, the data must be 'mixed' in some way. For Creswell and Plano Clark, integration represents the 'interface' between qualitative and quantitative methods.[10] For Bryman, integration is critical to ensure that 'in a mixed methods project, the end product is more than the sum of the individual quantitative and qualitative parts'.[11] We need to ensure that a mixed methods study makes quantitative and qualitative findings 'mutually illuminating' in some way.[12]

Integration might occur by using the findings from one method to inform the development of other methods.[13] It could occur in analysis, by comparing and contrasting the results from different methods, to obtain complementary perspectives on a research question,[14] or to create a dialogue between different findings.[15] Integration could also occur in reporting, by presenting

[4] Bryman, 'Integrating Quantitative and Qualitative Research: How Is It Done?' (n 3) 98–99, 103.
[5] Sharlene Nagy Hesse-Biber, *Mixed Methods Research: Merging Theory with Practice* (Guilford Press 2010) 3.
[6] Greene, Caracelli and Graham (n 3) 260; Amy R Poteete, Marco A Janssen and Elinor Ostrom, *Working Together: Collective Action, the Commons, and Multiple Methods in Practice* (Princeton University Press 2010) 12.
[7] Michael D Fetters, Leslie A Curry and John W Creswell, 'Achieving Integration in Mixed Methods Designs—Principles and Practices' (2013) 48 Health Services Research 2134, 2136.
[8] ibid.
[9] ibid 2137.
[10] John W Creswell and Vicki L Plano Clark, *Designing and Conducting Mixed Methods Research* (3rd edn, SAGE Publications 2018) 220.
[11] Alan Bryman, 'Barriers to Integrating Quantitative and Qualitative Research' (2007) 1 Journal of Mixed Methods Research 8, 8.
[12] ibid 21.
[13] Greene, Caracelli and Graham (n 3) 260; Poteete, Janssen and Ostrom (n 6) 12.
[14] Julia Brannen, 'Combining Qualitative and Quantitative Approaches: An Overview' in Julia Brannen (ed), *Mixing Methods: Qualitative and Quantitative Research* (Avebury 1992) 12.
[15] Bryman, 'Barriers to Integrating Quantitative and Qualitative Research' (n 11) 21.

an overall interpretation of data and findings,[16] or by weaving together the results of different methods, in the form of a written narrative.[17]

For legal research, too, a 'mixed methods' design arguably requires some engagement with law or legal regulation. In some studies, this might involve the integration of qualitative, quantitative *and* doctrinal research. As Cotterrell argues, socio-legal research is at its best when it invades, reshapes, subverts or transforms legal doctrinal analysis;[18] this is likely enhanced through some engagement with doctrinal method. This, though, assumes that legal research itself is distinct from other qualitative and quantitative methods, raising the thorny question of how we regard and characterize doctrinal scholarship.

Is doctrinal research simply a specialized form of qualitative research? Dobinson and Johns argue that doctrinal research *could* be seen as a form of qualitative research (defined broadly as simply something non-numerical[19]), given it involves a process of inductive reasoning that often engages with the outside world, beyond legal texts.[20] For Dobinson and Johns, doctrinal research involves identifying and weighing legal materials, in a process akin to a social science literature review.[21] Even if this does not hold from a strict epistemological standpoint, the authors argue that it could not hurt to see legal research through a qualitative lens.[22]

While, as Dobinson and Johns argue, doctrinal research can certainly learn from the processes and methods of qualitative social science research, this categorization arguably undersells the diversity and eclectic nature of the field that is 'doctrinal research' (see Bogg, this volume). Doctrinal research is not simply aimed at describing what the law *is*; the primary aim is rarely just descriptive.[23] For van Hoecke, doctrinal research is an 'empirical-hermeneutical discipline', with empirical aspects, but with – at its core – a focus on interpretation.[24] For van Hoecke, legal doctrine is best summarized 'as a mainly hermeneutic discipline, with also empirical, argumentative, logical and normative elements'.[25] Perhaps, then, doctrinal research *is* something separate and unique, a third category of scholarship, which is neither qualitative nor quantitative in nature.

If, indeed, doctrinal research is distinct and separate to qualitative research, its integration into a mixed methods research design offers a new array of advantages and challenges, which have rarely been canvassed in scholarship to date. Alternatively, if doctrinal research is simply a form of qualitative research, then its integration with quantitative methods is sufficient to create a mixed methods research design. These questions have no easy answers; but they offer important avenues for further research and thinking.

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[16] Plano Clark and others (n 1) 364.
[17] Jo Moran-Ellis and others, 'Triangulation and Integration: Processes, Claims and Implications' (2006) 6 Qualitative Research 45, 54.
[18] Roger Cotterrell, 'Subverting Orthodoxy, Making Law Central: A View of Sociolegal Studies' (2002) 29 Journal of Law and Society 632, 642.
[19] Ian Dobinson and Francis Johns, 'Legal Research as Qualitative Research' in Mike McConville and Wing Hong Chui (eds), *Research Methods for Law* (2nd edn, Edinburgh University Press 2017) 19.
[20] ibid 24.
[21] ibid 42.
[22] ibid 24.
[23] cf ibid 20–21.
[24] Mark van Hoecke, 'Legal Doctrine: Which Method(s) for What Kind of Discipline?' in Mark van Hoecke (ed), *Methodologies of Legal Research: What Kind of Method for What Kind of Discipline?* (Hart 2011) 3.
[25] ibid 17.

B How do Mixed Methods Align with Theory?

Mixed methods research has its own theoretical difficulties. For some scholars, there are fundamental theoretical and foundational differences between qualitative and quantitative research, which mean different forms of data are essentially incommensurate.[26] This 'incompatibility thesis' makes it difficult or impossible to compare qualitative and quantitative findings; they are seen as grounded in incompatible assumptions, resulting in their findings also being incompatible. Their foundational paradigms cannot be reconciled,[27] so they cannot be used in the same study. If correct, this would essentially prohibit us from adopting a mixed methods research design.[28] Sale, Lohfeld and Brazil suggest an alternative approach: while seeing qualitative and quantitative approaches as 'incommensurate', mixed methods may be possible if used for complementary purposes, as each method studies different phenomena.[29]

In response to this methodological purism, Teddlie and Tashakkori instead posit a *compatibility thesis*, adopting a methodological eclecticism and paradigm pluralism, 'synergistically integrat[ing]' the most appropriate methods for investigating a particular research problem.[30] This sort of *pragmatic* approach to mixed methods[31] and methods-driven research design is critiqued by Hesse-Biber as a 'cart before the horse' approach, leading to calls for a renewed focus on methodology in mixed methods research.[32]

To move beyond a reliance on pragmatism to justify mixed methods, we can question the sharp binary divide between qualitative and quantitative research. All data are, to some extent, subjective and require human interpretation to have meaning;[33] the differences between qualitative and quantitative research may therefore be overblown. As Bergman argues, too, 'should we not become suspicious by such clear and clean distinctions, especially if we reflect on the complex, messy, and compromise laden research process itself?'[34] Mixed methods research therefore challenges our assumptions about the research process and research data more generally; as Denzin argues, mixed methods research can be 'bold, innovative, energizing, and disruptive'.[35]

C The Benefits of Mixed Methods Research for Labour Law

Assuming we can navigate these theoretical hurdles, mixed methods research designs potentially offer significant benefits for labour law research. By offering different insights into

[26] see Norman K Denzin and Yvonna S Lincoln, 'Introduction: The Discipline and Practice of Qualitative Research' in Norman K Denzin and Yvonna S Lincoln (eds), *The Landscape of Qualitative Research* (4th edn, SAGE Publications 2013) 15.
[27] see ibid.
[28] Kenneth R Howe, 'Against the Quantitative-Qualitative Incompatibility Thesis or Dogmas Die Hard' (1988) 17 Educational Researcher 10, 10.
[29] Joanna EM Sale, Lynne H Lohfeld and Kevin Brazil, 'Revisiting the Quantitative-Qualitative Debate: Implications for Mixed-Methods Research' (2002) 36 Quality and Quantity 43, 50.
[30] Charles Teddlie and Abbas Tashakkori, 'Overview of Contemporary Issues in Mixed Methods Research' in Abbas Tashakkori and Charles Teddlie (eds), *SAGE Handbook of Mixed Methods in Social & Behavioral Research* (2nd edn, SAGE Publications 2010) 5, 8–9.
[31] Bryman, 'Barriers to Integrating Quantitative and Qualitative Research' (n 11) 17.
[32] Hesse-Biber (n 5) 10.
[33] Lisa Webley, 'Qualitative Approaches to Empirical Legal Research' in Peter Cane and Herbert M Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (Oxford University Press 2010) 930.
[34] Manfred Max Bergman (ed), *Advances in Mixed Methods Research: Theories and Applications* (SAGE Publications 2008) 17.
[35] ibid.

different aspects of the research problem or research question, mixed methods might reveal new and challenging insights into how law operates in practice. While recognizing the limits of any binary categorization of research data, qualitative data and methods are particularly useful for considering 'why' and 'how' questions; for studying areas that are fluid and changing;[36] and for considering issues in depth[37] across a limited number of cases.[38] Quantitative data is most useful for considering how trends apply to a broader population. It involves the aggregation of individual responses, enabling comparison and generalization.[39]

Used together to answer complementary aspects of a research questions, mixed methods can generate new answers, which would not be perceived with one data source alone.[40] Thus, proponents of mixed methods see mixed methods research designs as taking advantage of the different strengths and advantages of qualitative and quantitative research methods.[41] In some research designs, mixing methods can increase research validity, by allowing the findings from one set of data to be checked against other findings.[42] In some fields, this is referred to as 'triangulation', an idea that emerged from land surveying, where two points are used to estimate a third, unknown point.[43] Other scholars, concerned that a focus on 'triangulation' might artificially constrain our analysis,[44] prefer the imagery of a crystal or prism, as the object of study is reflected, refracted and reconstructed at different angles through different research methods.[45]

The potential bridging of ideological silos offered by mixed methods research designs may be particularly beneficial for labour law. From a feminist standpoint, for example, qualitative methods offer important tools for conducting research with and *for* workers, not *on* workers; and for critiquing and re-framing quantitative methods which are used *on* workers.[46] Mixed methods research designs can therefore empower both researchers and research participants, offering insights into methodology, helping to challenge biases, advancing social change, and raising up participants' voices.[47] This is further advanced by the emergence of transformative mixed methods designs, enabling research focused on achieving social justice and change and supporting marginalized groups.[48] Thus, mixed methods research designs can advance the growing focus on voice and empowerment in labour law research methods.[49]

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[36] Juliet Corbin and Anselm Strauss, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd edn, SAGE Publications 2008) 13.
[37] Sharan B Merriam, *Qualitative Research: A Guide to Design and Implementation* (Jossey-Bass 2009) 16.
[38] Michael Quinn Patton, *Qualitative Evaluation and Research Methods* (2nd edn, SAGE Publications 1990) 14.
[39] ibid.
[40] Greene, Caracelli and Graham (n 3) 258.
[41] Patton (n 38) 13.
[42] Jerome Kirk and Marc L Miller, *Reliability and Validity in Qualitative Research* (SAGE Publications 1986) 30.
[43] Donna M Mertens and Sharlene Hesse-Biber, 'Triangulation and Mixed Methods Research: Provocative Positions' (2012) 6 Journal of Mixed Methods Research 75, 75.
[44] Bryman, 'Barriers to Integrating Quantitative and Qualitative Research' (n 11) 21.
[45] Norman K Denzin, 'Moments, Mixed Methods, and Paradigm Dialogs' (2010) 16 Qualitative Inquiry 419, 423. See further Laura Ellingson, *Engaging Crystallization in Qualitative Research: An Introduction* (SAGE Publications 2009).
[46] Denise Leckenby and Sharlene Hesse-Biber, 'Feminist Approaches to Mixed-Methods Research' in Sharlene Nagy Hesse-Biber and Patricia Lina Leavy (eds), *Feminist Research Practice: A Primer* (SAGE Publications 2007).
[47] ibid.
[48] Kiran Mirchandani and others, 'Methodological K/Nots: Designing Research on the Enforcement of Labor Standards' (2016) 12 Journal of Mixed Methods Research 133, 136 <https://journals.sagepub.com/doi/10.1177/1558689816651793> accessed 23 January 2023.
[49] See Blackham and Cooney, this volume.

Overall, then, integrating quantitative and qualitative methods may achieve better results than using only one research method,[50] enabling more nuanced research in complex areas.[51] As Bryman argues, 'Bringing quantitative and qualitative findings together has the potential to offer insights that could not otherwise be gleaned.'[52] By engaging in a dialogue between and across methods, we can create:

> a spiraling conversation between the epistemological paradigms and the methods themselves. Within these spaces of spirals, researchers tend to interrogate both sides of the research, seeking to articulate and explore the gains and losses of both methods and the outcome of their mixing. The research design builds in moments when the two methods speak to one another, traversing but not breaking down epistemological perspectives that hold qualitative and quantitative methodologies apart from one another. These are border crossings where the tension between the methods and the processes of mixing them becomes apparent, and useful ideas often emerge.[53]

This dialectical approach is an apt complement to the argumentative and logical aspects of doctrinal research.

D The Challenges of Mixed Methods Research

While mixed methods research might offer labour law researchers significant benefits, it appears to be rarely used in practice.[54] This, perhaps, is because of the significant time, cost, and skill involved in successfully executing a mixed methods study. I have written elsewhere with Dominique Allen about the potential barriers to empirical legal research – of obtaining ethics approval, of obtaining funding to conduct fieldwork, and the time and delay that might be occasioned, especially when compared with doctrinal research.[55] In the case of a mixed methods study, this is compounded by the need to undertake multiple research methods, each with their own ethical considerations, cost and time demands. In Australian and United Kingdom (UK) empirical legal research, too, there is a tendency to favour qualitative over quantitative methods, perhaps due to a lack of statistical training;[56] in the United States (US), the strong pull of law and economics research means there is a stronger focus on quantitative studies. There are few legal scholars who have strengths in both qualitative and quantitative methods, particularly in the UK where law is a foundational degree and double degrees are rare.

This may mean, then, that mixed methods studies are predominantly undertaken by researchers undertaking a PhD or with significant grant funding, who have the time (and perhaps funding) to pursue complex mixed methods research designs. There is perhaps a fear, too, of being seen as doing mixed methods 'wrongly', meaning legal researchers do not choose to describe their study as comprising 'mixed' methods. Or, perhaps, legal researchers are not aware that they

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[50] Creswell and Clark (n 10) 5; Poteete, Janssen and Ostrom (n 6) 5.
[51] Laura Beth Nielsen, 'The Need for Multi-Method Approaches in Empirical Legal Research' in Peter Cane and Herbert M Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (Oxford University Press 2010) 955.
[52] Bryman, 'Barriers to Integrating Quantitative and Qualitative Research' (n 11) 9.
[53] Leckenby and Hesse-Biber (n 46) 270–71.
[54] See pt II.
[55] Dominique Allen and Alysia Blackham, 'Using Empirical Research to Advance Workplace Equality Law Scholarship: Benefits, Pitfalls and Challenges' (2018) 27 Griffith Law Review 337.
[56] Rachel Cahill-O'Callaghan and Linda Mulcahy, 'Where Are the Numbers? Challenging the Barriers to Quantitative Socio-Legal Scholarship in the United Kingdom' (2022) 49 Journal of Law and Society S105.

are 'doing' mixed methods. This may explain the relative absence of mixed methods studies in socio-legal scholarship.[57]

Another challenge, assuming labour lawyers are aware of and wish to pursue mixed methods research designs, relates to a lack of relevant legal data to support quantitative analysis. Courts, tribunals and statutory agencies generally collect very limited data about their operations, especially in Australia and the UK. This makes quantitative data analysis particularly fraught; where data are messy, small in scale, and incomplete, labour lawyers may be justifiably hesitant to attempt statistical analysis. In my survey of equality data in the context of age discrimination law, for example, I encountered significant data gaps, which made anything beyond limited descriptive analysis impossible.[58]

To identify and gather relevant statistical data from statutory agencies, scholars may pursue Freedom of Information (FOI) requests to identify data that is collected, and its limits;[59] and/or work collaboratively with governments, agencies and organizations to identify, source and obtain data. Neither of these methods can overcome an initial lack of data collection, however. Further, both of these strategies risk negatively affecting researchers' relationships with organizations and government bodies, putting researchers at risk of being seen as too 'demanding' or unrelenting in their pursuit of data.[60] This is despite most FOI legislation making data exempt if the process of gathering it would be too demanding, time consuming or costly.[61] Attempting to work collaboratively and informally with organizations also does not necessarily lead to data being produced, as there is no legal imperative for the organization to ultimately produce the relevant data. This can be compared with the more formalized, predictable (but potentially perceived as antagonistic) approach of using FOI legislation; though, even when seeking data under FOI legislation, not all requests are honoured.[62]

Researchers could also look to government data sets or public surveys for quantitative data, including surveys conducted by national bureaus of statistics (see Noack and others, this volume). However, government data sets and surveys rarely ask about individual experiences of legal problems;[63] large-scale surveys that engage with these questions are conducted infrequently or on an ad-hoc basis. For example, in my work on intersectional discrimination with Jeromey Temple, the Australian Bureau of Statistics in the 2014 General Social Survey did not ask respondents directly about their experiences of intersectional discrimination.[64] Instead, each ground of discrimination was addressed through an individual question, arguably perpetuating the siloed view of discrimination that intersectionality is meant to overcome. This

[57] Alysia Blackham, 'When Law and Data Collide: The Methodological Challenge of Conducting Mixed Methods Research in Law' (2022) 49 Journal of Law and Society S87.
[58] ibid. See further Alysia Blackham, *Reforming Age Discrimination Law: Beyond Individual Enforcement* (Oxford University Press 2022).
[59] Alysia Blackham, 'Judges and Retirement Ages' (2016) 39 Melbourne University Law Review 738; Alysia Blackham, 'Does Removing Default Retirement Ages Benefit Individuals? A Comparative Empirical Case Study of the University Sector' (2021) 21 International Journal of Discrimination and the Law 77.
[60] In one project where I sought equality data via FOI requests, a respondent contacted my employer directly, saying he was 'outraged' at the (lawful) request.
[61] See, eg, Freedom of Information Act 2000 (UK) s 12.
[62] Blackham, 'Does Removing Default Retirement Ages Benefit Individuals? A Comparative Empirical Case Study of the University Sector' (n 59).
[63] Perhaps because these questions do not easily lend themselves to quantitative analysis; again, an argument in favour of mixed methods research.
[64] Alysia Blackham and Jeromey Temple, 'Intersectional Discrimination in Australia: An Empirical Critique of the Legal Framework' (2020) 43 University of New South Wales Law Journal 773.

significantly constrained the extent to which we could examine experiences of intersectional discrimination in practice.

Thus, legal scholars often need to generate their own data sets and quantitative data to directly address their research question; again, this can be time consuming and costly. This could be done using existing public data, for example, case databases (such as published Employment Tribunal decisions),[65] or information published on government websites (like announcements of judicial appointments and retirements).[66] Again, though, this information often relates to only very limited legal questions, and cannot be used to answer many questions of legal impact and effectiveness.

Alternatively, scholars could design and conduct their own quantitative surveys. That said, it is often difficult to ensure a survey is sufficiently representative. Researchers with substantial funding, then, might seek the assistance of professional survey agencies when establishing quantitative datasets.[67] This is likely to be beyond the financial capacity of many scholars. The practical sourcing of quantitative legal data may therefore pose significant challenges for those undertaking mixed methods research.

In the context of workplace equality and discrimination law, this lack of data reflects a systemic focus on secrecy in some jurisdictions. In Australia and the UK, for example, secrecy is encouraged and required in the context of equality law by private settlements and non-disclosure agreements, confidential conciliation, the law of defamation, fear of claims of misleading conduct, and secrecy provisions in equality statutes.[68] Equality agencies are subject to strict and onerous secrecy obligations to not reveal personal information about claimants; as a result, very little is known about who makes claims of discrimination, how claims are resolved, or the extent to which discrimination remains a systemic problem.[69] This obviously inhibits empirical research; it makes quantitative analysis particularly fraught, as there are no established data sets available to researchers.

There are, though, some notable exceptions, where quantitative data *is* available that may significantly advance mixed methods labour law research. For example, the US Equal Employment Opportunity Commission (EEOC) is the federal agency responsible for interpreting and enforcing federal laws prohibiting discrimination. Among other functions, the EEOC accepts charges of discrimination from employees, is tasked with investigating those charges, and seeks to mediate settlements. The EEOC maintains a database of discrimination charges – the Integrated Mission System (IMS) – which includes information on:

1. private sector charges of employment discrimination (IMS Private Sector);

[65] Catherine Barnard and Amy Ludlow, 'Enforcement of Employment Rights by EU-8 Migrant Workers in Employment Tribunals' (2016) 45 Industrial Law Journal 1; Alysia Blackham, 'Enforcing Rights in Employment Tribunals: Insights from Age Discrimination Claims in a New "Dataset"' (2021) 41 Legal Studies 390.
[66] Alysia Blackham, 'Judicial Diversity and Mandatory Retirement: Obstacle or Route to Diversity?' in Graham Gee and Erika Rackley (eds), *Debating Judicial Appointments in an Age of Diversity* (Routledge 2018).
[67] For example, Hardy and Howe engaged Wallis Strategic Market & Social Research to conduct their survey of employers, using a sample sourced from Dun & Bradstreet: Tess Hardy and John Howe, 'Creating Ripples, Making Waves? Assessing the General Deterrence Effects of Enforcement Activities of the Fair Work Ombudsman' (2017) 39 Sydney Law Review 471; John Howe and Tess Hardy, 'Business Responses to Fair Work Ombudsman Compliance Activities' (Report, Melbourne Law School Centre for Employment and Labour Relations Law, January 2017) <https://law.unimelb.edu.au/__data/assets/pdf_file/0011/2237582/Howe-and-Hardy-Business-Response-Survey-Report-Jan-2017.pdf> accessed 19 April 2021.
[68] Dominique Allen and Alysia Blackham, 'Under Wraps: Secrecy, Confidentiality and the Enforcement of Equality Law in Australia and the United Kingdom' (2019) 43 Melbourne University Law Review 384.
[69] ibid.

2. federal complaint hearings records (IMS Federal Hearings);
3. EEOC litigation cases (IMS Litigation); and
4. appeals of federal complaint findings (IMS Federal Appeals).

Details that are on the system include the charging party or complainant's name, address, and demographics (such as date of birth, race, national origin, and sex); respondent company address and profile information (such as institution type and size); agency name and address; particulars about the details of the charge or complaint; and activities related to the charge, hearing or appeal processing.[70] The IMS has been in use for two decades, meaning it holds substantial data on discrimination charges in the US.

That said, management of data remains a difficult issue in the US, and was identified as one of the EEOC's main management challenges for the 2019 fiscal year.[71] The EEOC has used the IMS for 20 years, meaning it is in need of substantial modernisation. According to the EEOC Office of Inspector General, 'The system's age and antiquated technology infrastructure constrain Agency efforts regarding strategic performance and operational management.' The EEOC is in the process of modernising the IMS to improve workflow and reporting, at a projected cost of US$4 million. The EEOC is also working to improve its data analytics capabilities.

Despite its limitations and age, the IMS has enabled researchers to conduct innovative research on the prevalence and outcomes of discrimination charges, including to: establish the over-representation of women of colour in sexual harassment claims;[72] find that claimants with a history of disability had far more successful claims than those with a current disability;[73] compare claims based on autism spectrum disorders with those relating to intellectual disability;[74] and find that mental illness claims are less successful than those not involving mental illness.[75]

While not as well established, other jurisdictions are progressively collecting new datasets that might enable future mixed methods research in labour law. For example, the statutory agency Acas in Great Britain has modernized its data management systems using PowerBI.[76] While

[70] US Equal Employment Opportunity Commission, 'Integrated Mission System/Agency Records System: Privacy Impact Assessment' (October 2006) <https://www.eeoc.gov/eeoc/privacy/ims-pia.cfm> accessed 28 February 2020.
[71] US Equal Employment Opportunity Commission, 'Fiscal Year 2019 Agency Financial Report U.S. Equal Employment Opportunity Commission'<https://www.eeoc.gov/fiscal-year-2019-agency-financial-report-us-equal-employment-opportunity-commission> accessed 13 June 2023.
[72] Tanya Katerí Hernández, 'Sexual Harassment and Racial Disparity: The Mutual Construction of Gender and Race' (2001) 4 Journal of Gender, Race and Justice 183; Tanya Katerí Hernández, 'The Intersectionality of Lived Experience and Anti-Discrimination Empirical Research' in Laura Beth Nielsen and Robert L Nelson (eds), *Handbook of Employment Discrimination Research: Rights and Realities* (Springer 2005).
[73] William Draper and others, 'Workplace Discrimination and the Record of Disability' (2012) 36 Journal of Vocational Rehabilitation 199.
[74] Todd A Van Wieren, Amy J Armstrong and Brian T McMahon, 'Autism Spectrum Disorders and Intellectual Disabilities: A Comparison of ADA Title I Workplace Discrimination Allegations' (2012) 36 Journal of Vocational Rehabilitation 159.
[75] Jessica E Hurley and others, 'Merit Determinants of ADA Title I Allegations Filed by Persons with Mental Illness' (2012) 36 Journal of Vocational Rehabilitation 171.
[76] iCoTech Services, 'Project Online Reconfiguration and Power BI Data Visualisation' (4 May 2021) <https://icotechservices.co.uk/success-stories/project-online-reconfiguration-and-data-visualisation-through-power-bi/> accessed 20 September 2022.

this new system is currently used for internal management – not research – it flags the importance of data management going forward for statutory agencies.

Statutory agencies are also increasingly collecting data from and on employers, as part of moves to use organizational transparency to advance workplace equality.[77] For example, the EEOC collects workforce data from US employers with over 100 employees. Employers are legally required to provide data, which is then used for enforcement, self-assessment by employers, and research. Data is collected about workforce gender and race/ethnicity by types of job grouping. The data is confidential, but aggregated data is made available to the public, and researchers have used the data to facilitate research. For example, Kalev and Dobbin compared historical information about employers' experiences of lawsuits and compliance reviews with annual data on workplace composition;[78] and Kalev, Dobbin and Kelly used tailored organizational surveys to supplement and complement agency data to evaluate which approach to affirmative action had the most impact on organizational processes.[79] These data collections therefore have significant potential to support mixed methods labour law research.

In the UK, gender pay gap reporting can be compared and searched across organizations;[80] and industry-wide gender pay gap data can be analysed in Australia.[81] In Australia, too, the Victorian Commission for Gender Equality in the Public Sector has started collecting significant amounts of data from public sector entities as part of the gender audit processes established under the Gender Equality Act 2020 (Vic). Some of this information is being made public,[82] facilitating new forms of quantitative research about the workplace, particularly in relation to gender equality.

These represent just a few examples, taken from the field of workplace equality law specifically. However, they illustrate the new and emerging data sets that might be used going forward to strengthen mixed methods studies in labour law. Indeed, there is arguably a strong need for labour lawyers – including those with a qualitative bent – to engage with, consider and analyse these emerging forms of quantitative data.

II MIXED METHODS AND LABOUR LAW RESEARCH

The use of mixed methods is comparatively rare in labour law research; indeed, it appears rare in socio-legal research generally.[83] However, there are some notable examples of where it has been used successfully.[84] In her PhD thesis, Allison used a mixed method research design,

[77] Alysia Blackham, 'Positive Equality Duties: The Future of Equality and Transparency?' (2021) 37 Law in Context 98.
[78] Alexandra Kalev and Frank Dobbin, 'Enforcement of Civil Rights Law in Private Workplaces: The Effects of Compliance Reviews and Lawsuits Over Time' (2006) 31 Law & Social Inquiry 855.
[79] Alexandra Kalev, Frank Dobbin and Erin Kelly, 'Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diversity Policies' (2006) 71 American Sociological Review 589.
[80] Government Equalities Office, 'Search and Compare Gender Pay Gap Data' (*GOV.UK*) <https://gender-pay-gap.service.gov.uk/> accessed 21 September 2022.
[81] Workplace Gender Equality Agency, 'WGEA Data Explorer' (*WGEA Data Explorer*) <http://data.wgea.gov.au/> accessed 21 September 2022.
[82] Commission for Gender Equality in the Public Sector, 'Baseline Report – 2021 Workplace Gender Audit Data Analysis' (2022) <https://content.vic.gov.au/sites/default/files/2022-08/CGE%202207009_CGEPS%20Baseline%20Audit%20Report_v7.pdf> accessed 20 September 2022.
[83] Blackham, 'When Law and Data Collide' (n 57).
[84] Marshall describes her approach as using 'mixed methods' in complementing historical institutionalist analysis with semi-structured interviews with key players in Cambodia (including union leaders and other people with experience of the labour movement, personnel from Better Factories Cambodia, representatives of factory

informed by Indigenous methodologies, historical analysis, legal doctrinal research, semi-structured interviews with 25 Indigenous participants and 8 stakeholders, analysis of Freedom Ride survey data (capturing Aboriginal views on race discrimination in New South Wales in 1965), and analysis of complaint data from equality agencies, to critique the operation of race discrimination law and access to justice for Australian Aboriginal and Torres Strait Islander peoples.[85] Mixed methods added significant benefit to this project, enabling Allison to draw on Indigenous knowledge and insight, and engage with participants' subjective perceptions and experiences of racial discrimination. However, Allison found quantitative data on race discrimination complaints to be difficult to obtain: data were requested directly from statutory agencies, as public data were insufficiently detailed.[86] Data were analysed descriptively, but often not comparable across jurisdictions, due to differences in reporting and legislative regimes.[87] As in other studies, then, Allison's work was constrained by the limited data gathered by statutory agencies.

To scrutinize the impact of the Industrial Relations (Amendment) Act of 2001 in the Republic of Ireland, Gibbons also deployed a mixed methods research design.[88] The Act provides that, in the absence of collective bargaining, unions may refer issues in dispute to the Labour Court, which can issue a Recommendation and, ultimately, enforce that recommendation as a Circuit Court order.[89] Drawing on court statistics, Gibbons found these mechanisms were rarely used in practice.[90] The long-term impact of using the Act for unions and their members was investigated by examining union membership records and data, sourced directly from unions; Gibbons found that unions and workplaces who previously used the Labour Court dispute mechanism often had low union membership levels, limited activism and minimal collective bargaining.[91] These findings were further scrutinized by conducting 36 interviews across case studies of 10 disputes, including interviews with union officials, current and former union members, activists and shop stewards.[92] These interviews found that the ultimate success of a Recommendation, and its implementation, was largely dependent on the bargaining status of a workplace.[93] Gibbons therefore concluded that the Act essentially side-stepped the issue of

management and representatives of employer bodies), to evaluate *Better Factories Cambodia*: Shelley Marshall, 'Using Mixed Methods to Study Labour Market Institutions: The Case of Better Factories Cambodia' (2018) 27 Social & Legal Studies 475. Arguably, though, this better reflects the use of multiple qualitative methods, not mixed methods. In a different project, Marshall draws on 'a mixed methodology' including case studies that consisted of interviews with workers and regulatory agents, participant observation, legal analysis and political economy analysis: Shelley Marshall, 'How Does Institutional Change Occur? Two Strategies for Reforming the Scope of Labour Law' (2014) 43 Industrial Law Journal 286. Again, this is not necessarily a 'mixed methods' study, at least as that term is used in interdisciplinary scholarship. Brölmann also uses the term 'mixed methods' to describe the International Labour Organization's approach to convention-making (as opposed to a research methodology): Catherine M Brölmann, 'ILO Convention Practice: Mixed Methods in Norm-Setting for Social Justice' in George P Politakis, Tomi Kohiyama and Thomas Lieby (eds), *ILO100 – Law for Social Justice* (International Labour Office 2019).

[85] Fiona Allison, 'Cause for Hope or Despair? Evaluating Race Discrimination Law as an Access to Justice Mechanism for Aboriginal and Torres Strait Islander People' (PhD thesis, James Cook University 2019) <https://doi.org/10.25903/5ebb247f12d94> accessed 16 April 2021.

[86] ibid 20.

[87] ibid 221.

[88] Tish Gibbons, 'No Longer a "Secondary Force ... in Labour Relations": A Mixed Methods Study of the Effect on Irish Trade Unions of the Industrial Relations (Amendment) Act 2001' in Amy Ludlow and Alysia Blackham (eds), *New Frontiers in Empirical Labour Law Research* (Hart 2015).

[89] ibid 121.

[90] ibid 124–25.

[91] ibid 132–33.

[92] ibid 133–34.

[93] ibid 134.

union recognition, instead dealing with substantive disputes in isolation.[94] Thus, mixed methods were key for looking beyond the text of Labour Court Recommendations, to consider their practical and substantive long-term impact: Gibbons concludes her findings '[represent] a far less benign conclusion than any reached from examination of the Labour Court Recommendations alone.'[95]

In the context of employment discrimination in the US, Berrey, Hoffman, and Nielsen used quantitative analysis of 1,788 discrimination cases filed in federal court in seven districts between 1988 and 2003 to create a 16-cell grid that mapped the most frequently occurring types of employment discrimination (race, sex, age, disability) against the most theoretically meaningful case resolutions (dismissal, early settlement, late settlement, trial).[96] This grid was then used to select cases for more detailed analysis, and shaped the sample selection for 100 qualitative interviews with parties and their representatives.[97] While the results of this study were split across two publications (perhaps illustrating the difficulty of reporting mixed methods research within the confines of a journal article), this illustrates how qualitative and quantitative methods might be used to inform methodological development and sample selection, across the phases of a study.

Haidar has used a mixed methods research design – integrating qualitative interviews and a survey of 401 delivery workers – to study delivery platform work in Buenos Aires.[98] Through an integrated narrative, Haider draws on these dual methods to argue that we need to consider platform work through an analytical framework with three dimensions: technological-organizational, institutional (including legal regulation) and ideological. This illustrates, too, the potential to use mixed methods to capture complementary in-depth perspectives (through qualitative interviewing) and consider how these issues apply across a broader population (through a quantitative survey).

Vosko and the Closing the Enforcement Gap Research Group also used a mixed methods research design to investigate the 'enforcement gap' in labour law standards.[99] The multi-year project integrated analysis of administrative data, qualitative interviews, focus groups, and policy/archival analysis.[100] For the Group, mixed methods offered a critical means of integrating the social justice approaches of qualitative research, with the 'evidence-based' policy approaches of quantitative research, with the explicit aim of achieving social and policy change.[101] This research, as an example of a transformative mixed methods research design, illustrates how quantitative data – which speaks to policy makers, and is likely to prompt systemic change – can be integrated with qualitative methods that advance voice and participant empowerment.[102]

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[94] ibid 135.
[95] ibid 136.
[96] Laura Beth Nielsen, Robert L Nelson and Ryon Lancaster, 'Individual Justice or Collective Legal Mobilization? Employment Discrimination Litigation in the Post Civil Rights United States' (2010) 7 Journal of Empirical Legal Studies 175.
[97] Ellen Berrey, Steve G Hoffman and Laura Beth Nielsen, 'Situated Justice: A Contextual Analysis of Fairness and Inequality in Employment Discrimination Litigation' (2012) 46 Law & Society Review 1.
[98] Julieta Haidar, 'The Multidimensional Configuration of Platform Work: A Mixed-Methods Analysis of the Argentinian Case' (2022) Economic and Industrial Democracy (forthcoming).
[99] Leah Faith Vosko, *Closing the Enforcement Gap: Improving Employment Standards Protections for People in Precarious Jobs* (University of Toronto Press 2020).
[100] ibid 40–41.
[101] Mirchandani and others (n 48) 134, 136–7.
[102] ibid 137.

In my own research, I have used mixed methods to interrogate the impact of age discrimination law on organizations in the UK.[103] Using qualitative and quantitative methods to develop different stages of the research design, I drew on comparative legal doctrinal analysis, statistical analysis of data from the 2011 Workplace Employment Relations Study, qualitative expert interviews, organizational case studies and the Delphi method to critique the way in which law had been implemented in practice, and to offer suggestions for reform.[104] The mixed methods design included triangulation (comparing and contrasting the results of different methods to validate data), exploratory elements (to generalize qualitative findings) and explanatory elements (to explain quantitative results).[105] I found that UK age discrimination law was limited in the extent to which it encouraged employers to create opportunities for older workers to remain in work, addressed ageist attitudes, and achieved organizational change.[106] Best practice employers were already operating beyond legal requirements, and small and private employers demonstrated limited responsiveness to legal change.[107]

In another study, I used mixed methods to interrogate the impact of removing mandatory retirement ages on organizations and individuals, focusing on case studies of higher education in Australia, the UK and US.[108] Drawing on quantitative statistics on workforce composition, organizational case studies including qualitative interviews, and a survey of UK universities conducted via FOI requests, I considered how UK universities were responding to the abolition of the national default retirement age, and the extent to which it was impacting on individuals employed in the sector. I identified major risks that universities might adopt an Employer Justified Retirement Age without appropriate scrutiny;[109] and, conversely, that institutions removing mandatory retirement ages might drive a focus on performance management and work intensification across the sector.[110] Thus, a mixed methods study was essential to both offer a sector-wide picture of the impact of legal change, and scrutinize organizational processes and narratives around an ageing workforce. This mixing of qualitative and quantitative methods was particularly relevant in the context of performance management, as many performance processes are informal, and not recorded in official or central statistical data.[111] Qualitative methods therefore offered a more complete picture than quantitative methods of how mandatory retirement and performance measures might be related.

In another empirical project on age discrimination in employment, I used mixed methods to map gaps in enforcement and barriers to pursing an individual claim of age discrimination.[112]

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[103] Alysia Blackham, *Extending Working Life for Older Workers: Age Discrimination Law, Policy and Practice* (Hart Publishing 2016).
[104] ibid ch 2.
[105] see Plano Clark and others (n 1) 381.
[106] Blackham, *Extending Working Life for Older Workers: Age Discrimination Law, Policy and Practice* (n 104) ch 9.
[107] Ibid 134–35, ch 9.
[108] Alysia Blackham, 'Managing without Default Retirement in Universities: A Comparative Picture from Australia' (2015) 35 Legal Studies 502; Alysia Blackham, 'Organisational Responses to the Abolition of Mandatory Retirement: Case Studies of Australian University Practice' (2016) 45 Industrial Law Journal 144; Alysia Blackham, 'An Experimentalist Approach to Equality: A Case Study of Retirement in the UK University Sector' (2019) 39 Legal Studies 598; Blackham, 'Does Removing Default Retirement Ages Benefit Individuals? A Comparative Empirical Case Study of the University Sector' (n 59).
[109] Blackham, 'An Experimentalist Approach to Equality' (n 109).
[110] Blackham, 'Does Removing Default Retirement Ages Benefit Individuals? A Comparative Empirical Case Study of the University Sector' (n 59).
[111] ibid.
[112] Blackham, *Reforming Age Discrimination Law* (n 58).

The qualitative aspects of the project included comparative legal doctrinal research; and qualitative expert interviews with 105 expert respondents, including legal practitioners, industrial advocates, academics, representatives from unions, equality agencies, non-government organizations, and government.[113] The quantitative methods deployed included statistical analysis of claims and cases, using data from statutory agencies, community legal centres, courts and tribunals; datasets created from quantitative content analysis of 1208 reported UK Employment Tribunal decisions, and 108 Australian cases; and a survey of 76 legal practitioners and industrial advocates.[114] This project used mixed methods both sequentially, allowing the phases and methods of the study to build on each other,[115] and achieving integration by using mixed methods to guide and develop different stages of the research design[116] (using doctrinal analysis and qualitative interviews to inform development of the survey); and concurrently, allowing the iterative refinement of the study and methods.[117] Integration was also achieved through reporting, by thematically weaving results together across themes,[118] in a narrative form that considered the stages of the 'enforcement pyramid' of disputes[119] to connect quantitative and qualitative results around similar themes and concepts.[120] Mixed methods proved critical to the success of this research design, particularly in scrutinising the quantitative data sourced from statutory agencies.[121] The qualitative and quantitative methods spoke to complementary aspects of the research questions; but also, through the dialogue between methods, I could draw out and interrogate inconsistencies or tensions between qualitative and quantitative data.[122]

III FUTURE AREAS OF SCHOLARSHIP AND DEVELOPMENT

This review of the literature has demonstrated the relative rarity of mixed methods research designs in labour law. This is perhaps unsurprising, given the limited production of empirical legal scholarship generally.[123] If legal scholars do not have the skills or incentives to produce *either* qualitative or quantitative research, the mixing of qualitative and quantitative methods will be particularly unusual. The future development of the field depends on better research training, skill development, and investment in labour law scholars, to ensure they have the skills, time, funding, and capacity to execute these sorts of projects.

At a fundamental level, too, there is a need for scholarship that considers what is unique – if anything – about *legal* mixed methods research, and how doctrinal research can best be integrated with qualitative and quantitative methods. If legal doctrinal research is, indeed, distinct from qualitative research, what does this mean for the field of mixed methods, and for the execution of legal mixed methods scholarship?

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[113] ibid 10–11, 13–16.
[114] ibid 11–13, 16.
[115] Fetters, Curry and Creswell (n 7) 2136.
[116] Greene, Caracelli and Graham (n 3) 260; Poteete, Janssen and Ostrom (n 6) 12.
[117] Fetters, Curry and Creswell (n 7) 2137.
[118] Moran-Ellis and others (n 17) 54.
[119] This complete narrative is published as Blackham, *Reforming Age Discrimination Law* (n 58).
[120] Fetters, Curry and Creswell (n 7) 2142, 2150.
[121] Roger Gomm, *Social Research Methodology: A Critical Introduction* (2nd edn, Palgrave Macmillan 2008) 204.
[122] See the full discussion in Blackham, 'When Law and Data Collide' (n 57).
[123] Hazel Genn, Martin Partington and Sally Wheeler, *Law in the Real World - Improving Our Understanding of How Law Works: Final Report and Recommendations* (Nuffield Foundation 2006) <https://www.nuffieldfoundation.org/wp-content/uploads/2019/12/Law-in-the-Real-World-full-report.pdf> accessed 21 May 2012; Felicity Bell, 'Empirical Research in Law' (2016) 25 Griffith Law Review 262.

This analysis has also demonstrated some of the benefits of using mixed methods as part of legal scholarship. Mixed methods can be used sequentially, to develop aspects of a research project; to gain new and more nuanced insights into legal phenomena; and to further scrutinize surprising findings or interrogate possible research limitations. Mixed methods research designs could therefore be of particular benefit in developing labour law scholarship, particularly in enabling participation and voice for workers.

While the mixing of qualitative and quantitative data can enhance and extend empirical findings, this remains rare in legal scholarship. Even where scholars are keen to develop a mixed methods design, a lack of usable quantitative data can severely inhibit legal scholarship. While this chapter maps some important developments in quantitative data sources for labour law scholars, to facilitate mixed methods research of legal phenomena, statutory agencies, courts and tribunals need to re-emphasize the importance of data collection and reporting, considering both the scope and quality of data collected. This is important to enable research rigor, particularly for the next generation of mixed methods labour law research, and for the accountability of public bodies.