

Where are the numbers? Challenging the barriers to quantitative socio-legal scholarship in the United Kingdom

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Abstract

Legal scholars in the United Kingdom (UK) rarely adopt a quantitative approach to addressing socio-legal questions. Reasons for this are typically grounded in the nature of general education, legal education, and research training. In this article, we argue that an intellectual debate on capacity building needs to consider the conditions that have limited the production of quantitative work both within and beyond our discipline. This article draws on an empirical analysis of published socio-legal articles to understand the nature of quantitative scholarship and evidence an increasing body of work that reflects a flexible approach to data collection and analysis. Moving beyond the tribalism often associated with the qualitative/quantitative divide, we draw attention to the shift away from understandings of quantitative work as hypothesis testing towards those that are accepting of the importance of critical reflection and exploration of nuance. It is hoped that the article will prompt further discussion about capacity building to develop and sustain good-quality quantitative socio-legal scholarship in the UK.

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1 | INTRODUCTION

At the conception of the project that has led to two Special Supplements of the *Journal of Law and Society* dedicated to methodology, we sought to fill a gap in the existing literature by foregrounding discussion of methodology and challenging some of the assumptions that underpin socio-legal empirical research. We included contributions from authors at every stage of their academic career, doing research in a wide variety of contexts and drawing on different methodologies and methods. Readers of the two Special Supplements will soon recognize that every article included aligns on the qualitative side of the methods spectrum. The dominance of qualitative research methodologies and methods reflects responses to the general call for papers and our unsuccessful attempts to commission more quantitative articles. It may be that qualitative scholars are more alive to considerations of methodology and that a Special Supplement that placed methodology at its core did not appeal to the quantitative scholar. Alternatively, the lack of quantitative scholarship may reflect the general state of the field. The Introduction to the first of the Special Supplements highlighted the barriers that may limit broader discussion of socio-legal methodology.¹ This article sets out to explore whether there are additional, or particular, barriers to quantitative socio-legal scholarship and asks a series of questions about how we can build further capacity without reinforcing structural and cultural tribal attitudes towards qualitative and quantitative approaches to socio-legal phenomena.

2 | THE LIMITED PRESENCE OF QUANTITATIVE EMPIRICAL SOCIO-LEGAL STUDIES

Empirical research informed by the social sciences has traditionally been organized around the two broad categories of quantitative and qualitative approaches, based on the different concepts of method, methodology, and epistemology that determine notions of rigour, reliability,² and validity³ in each category.

Quantitative research into a social phenomenon or problem tests a theory by reference to variables that are converted into numbers, which are analysed to determine if the theory explains or predicts the phenomenon or problem of interest.⁴ In a socio-legal context, quantitative research seeks to test a hypothesis grounded in social or legal theory. To do so, the scholar reduces social or legal facts, principles, or concepts to numbers through the process of coding, and then subjects the large dataset produced to statistical analysis. As such, quantitative socio-legal scholarship can be conceptualized as a linear process that moves from theory to the testing and refining of a hypothesis. It takes a deductive view of the relationship between theory and data with, Bryman suggests, a preference for the positivist approach based on an objectivist conception of social reality.⁵ In this context, reliability is founded on objective analysis and reproducibility.

By contrast, qualitative research has distinctly different epistemological and ontological foundations. It is concerned with explaining with words not numbers and relies on an inductive

¹ L. Mulcahy and R. Cahill-O'Callaghan, 'Introduction: Socio-Legal Methodologies' (2021) 48 *J. of Law and Society* S1.

² Reliability relates to the consistency of the measurement.

³ Validity relates to the accuracy of the measurement.

⁴ J. W. Creswell, *Research Design: Qualitative and Quantitative Approaches* (1994).

⁵ A. Bryman, 'The Debate about Quantitative and Qualitative Research: A Question of Method or Epistemology?' (1984) 35 *Brit. J. of Sociology* 75.

relationship between theory and data. The connection between research questions, theory, and data is more circular, with data both formed by, and informing, theory. The interpretivist epistemological foundation of qualitative research emphasizes lived experience and understanding the social world through the subjective lens of participants. Large numbers of cases are not required, because research time is devoted to seeking out smaller but deeper or ‘thicker’ datasets. The ontological position of qualitative research is founded on a constructivist approach, which recognizes the role of both the researcher and the researched in the social construction of society. This recognition of multiple realities, co-production of data, and inter-subjectivity underpins a concept of reliability that requires a transparent research process but not one that is necessarily reproducible. As Blackham highlights in this Special Supplement, the foundational epistemological and ontological positions of these two different approaches can make them uneasy bedfellows in ways that are not always recognized in the contemporary trend towards mixed methods.⁶ In the context of socio-legal studies in the United Kingdom (UK), these dichotomous frames of reference have been reinforced by the popularity of feminist and post-colonial approaches, which take differential experiences of the world as given, and the rejection of law and economics approaches, which have enjoyed a much stronger hold on the discipline in other jurisdictions such as the United States (US).

The two Special Supplements highlight the wealth of excellent qualitative research being conducted in socio-legal studies in the UK and further afield. Yet the notable lack of a significant body of quantitative research is concerning for those of us who wish to promote a diversity of approaches or are interested in more generalizable data. Indeed, as artificial intelligence is playing an increasingly important role in the social sciences, it is also important to recognize that the traditional divides between quantitative and qualitative approaches are breaking down. Indeed, computer programs can now be trained to undertake a qualitative discourse analysis of the sorts of large datasets usually associated with quantitative research.⁷ The significance of the lack of quantitative research extends beyond academic concerns. The acquisition of skills that enable qualitative researchers to engage with and critique quantitative research is critical in a world where the more ‘scientific’ model adopted by quantitative researchers often holds greater sway with policy makers.

Building on the findings of the Nuffield Report of 2006 discussed in our Introduction to the first Special Supplement,⁸ we sought to ascertain whether the expectation of the field contained within that report continued to reflect the state of affairs for socio-legal scholarship in the UK.⁹ To situate quantitative scholarship within the wider socio-legal empirical research context, we carried out a systematic review of articles based on empirical work in a selection of UK-based journals. This included a number of leading socio-legal journals (the *Journal of Law and Society*, *Social & Legal Studies*, the *Journal of Social Welfare and Family Law*, and the *International Journal of Law in Context*), as well as a number of leading generalist journals (the *Modern Law Review*, the *Oxford*

⁶ A. Blackham, ‘When Law and Data Collide: The Methodological Challenge of Conducting Mixed Methods Research in Law’ (this issue).

⁷ L. Mulcahy and S. Wheeler, “‘Couldn’t You Have Got a Computer Program to Do That for You?’ Reflections on the Impact that Machines Have on the Ways We Think About and Undertake Qualitative Research in the Socio-Legal Community’ (2020) 47 *J. of Law and Society* 149.

⁸ H. G. Genn et al., *Law in the Real World: Improving Our Understanding of How Law Works: Final Report and Recommendations* (2006), at <<https://www.nuffieldfoundation.org/sites/default/files/Law%20in%20the%20Real%20World%20full%20report.pdf>>.

⁹ We would like to recognize the extensive work by Wend Teeder on this element of the project.

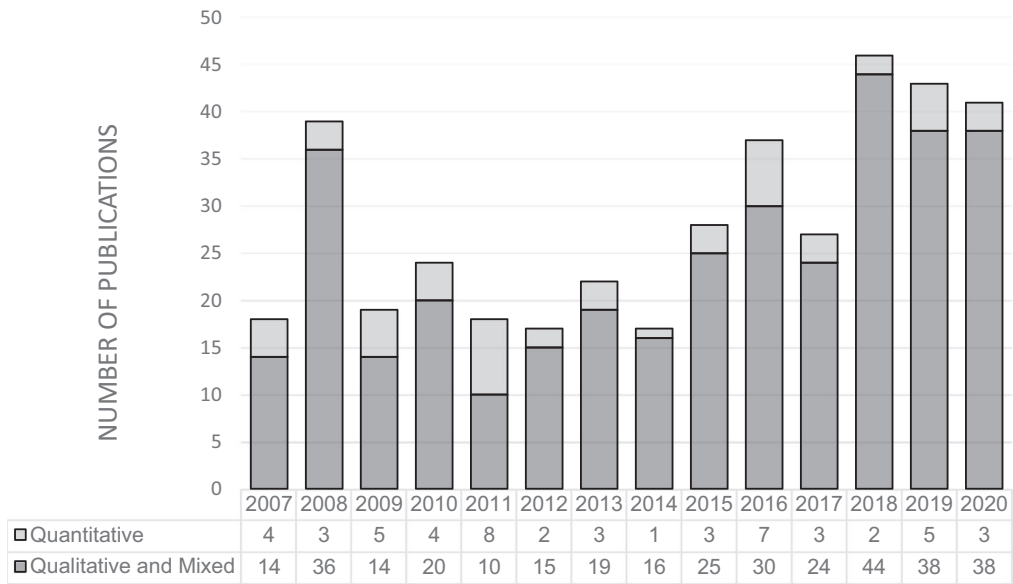


FIGURE 1 Mapping the occurrence of empirical socio-legal scholarship

Note: The data collected for 2006 only reflected two months of publication (ten articles, one quantitative) and for 2021 only reflected six months (19 articles, one quantitative). As a result, this data was not included in the graphic representation.

Journal of Legal Studies, *Public Law*, and *Feminist Legal Studies*) where the best socio-legal work might also be placed.

We defined empirical socio-legal scholarship as any research that drew upon quantitative, qualitative, mixed, or experimental methods to understand a legal problem. The dataset comprised all of the articles published in these eight journals from the date of the publication of the Nuffield Report (November 2006) to June 2021. The articles that engaged with empirical methods were identified by an online search of topics that one might find on a standard qualitative or quantitative methods course such as sampling, surveys, interviews, focus groups, ethnography, participant observation, visual methods, content analysis, discourse analysis, grounded theory, randomized controlled trials, statistics, secondary data, ethics, mixed methods, regression analysis, and hypothesis testing. The abstract of each article was then reviewed to ensure that the article engaged in empirical socio-legal scholarship. Where it was not clear from the abstract whether this was the case, the article was read to make the determination. It is worthy of note that we often had to dig deeper to find out what methods were adopted in articles that relied on quantitative data.

This initial search process yielded 427 articles. To understand the approaches taken in empirical socio-legal scholarship over this 15-year period, the articles were categorized into three broadly defined groups: quantitative research in which the foundation of analysis was numerical data; qualitative research in which the foundation of analysis was generated from observations, surveys, interviews, ethnography, and other qualitative methods; and mixed methods. Figure 1 shows the consistent presence of empirical socio-legal scholarship in the journals reviewed, but it can be seen from this data that the sample was dominated by qualitative scholarship. Of all of the empirical socio-legal scholarship published in these journals, 87 per cent was classified as either qualitative (75 per cent) or mixed methods (12 per cent) based on the key data analysed. Just 13 per cent of all

of the empirical socio-legal articles reviewed were classified as ones in which the majority of the analysis was grounded in quantitative socio-legal scholarship.

This finding is not unique to socio-legal studies, as has sometimes been assumed. A benchmark review of UK sociological research by the Economic and Social Research Council (ESRC) suggested that qualitative research is also dominant in that field.¹⁰ The review highlighted the central role of pathways to studying sociology that encouraged students to move away from a mathematical education from the age of 16. This was seen to have an impact on the capacity for quantitative scholarship for which mathematical literacy is an essential skill, leading the ESRC to recommend the need for intensive mathematical training as part of any sociology undergraduate programme. It could be argued that in UK law schools, where law is a primary rather than a postgraduate degree, there is also a clear need for training in mathematical literacy to support graduates to undertake, critique, and commission socio-legal research. This is not only a skill that lawyers need if they plan to enter the academy. Epstein and King, staunch advocates of empirical training in law schools, argue that practitioners need the skill set that the training provides to effectively evaluate empirical research for clients or senior members of their law firms, or as judges in both a civil and criminal law context.¹¹ These skills are even more necessary in the data-driven world in which we now live.¹² There is a recognition in this changing data landscape that those in the legal profession require a foundation in what Justice Birss refers to as ‘forensic mathematics’.¹³ Judges are increasingly required to make decisions based on quantitative data, with significant consequences to the parties.¹⁴ These mathematical skills are essential to ensure that judges can understand the data presented but also, more importantly, can ask the right questions.¹⁵ The skills deficit and awareness of it within the legal profession is reflected in a recent survey, in which 37 per cent of UK judges identified the need to learn more about statistics and their application in a legal context.¹⁶

The ESRC 1+3 funding programme, in which students undertake compulsory qualitative and quantitative methodology training before beginning their PhD, recognizes that it is important for students to develop skills in both qualitative and quantitative methods. The minimum training standards prescribed by the ESRC in their *Postgraduate Training and Development Guidelines* reinforce the need for training in the philosophy and practice of a broad range of methodologies and methods to

¹⁰ I. Diamond et al., *International Benchmarking Review of UK Sociology* (2010) 23.

¹¹ L. Epstein and G. King, ‘Building an Infrastructure for Empirical Research in the Law’ (2003) 53 *J. of Legal Education* 311.

¹² D. Stevenson and N. J. Wagoner, ‘Bargaining in the Shadow of Big Data’ (2015) 67 *Florida Law Rev.* 1337; S. Caserta, ‘The Sociology of the Legal Profession in the Digital Age’ (2021) *International J. of the Legal Profession* 1.

¹³ Birss LJ, ‘Numbers, Science and the Law: No Cause for Division’ Chancery Bar Association Annual Lecture, 16 November 2021, at <<https://www.judiciary.uk/wp-content/uploads/2021/12/DHCJ-Birss-LJ-Speech-to-Chancery-Bar-Association-Annual-Lecture.pdf>>.

¹⁴ In an earlier lecture, Lady Rose noted several cases – in particular, the Sally Clark case – where a lack of mathematical skill had significant consequences. Lady Rose also noted the increasing reliance on data in public law cases. Rose LJ, ‘A Numbers Game? Statistics in Public Law Cases’ ALBA Annual Lecture, 5 July 2021, at <<https://www.supremecourt.uk/docs/alba-lecture-5-July-2021.pdf>>.

¹⁵ The basic forensic mathematical skills suggested by Justice Birss are an understanding and ability to estimate, an understanding of the difference between precision and accuracy, and an ability to detect randomness.

¹⁶ C. Thomas, 2020 *UK Judicial Attitude Survey* (2021) 63, at <<https://www.judiciary.uk/wp-content/uploads/2021/02/JAS-2020-EW-UK-TRIBS-8-Feb-2021-complete.pdf>>.

raise the general level of skills and knowledge amongst social scientists by ensuring that they develop, and can apply, basic and advanced quantitative and qualitative research skills that are responsive to the needs of social science subject areas and disciplines, the broader science base and a wide range of users.¹⁷

This guidance goes on to make clear that students are expected to be trained to a basic level of statistical literacy that would allow them to interpret numerical data and understand the basics of statistical inference and modelling. More specifically, they require a thorough understanding of simple quantitative analysis techniques, such as the use of univariate descriptive statistics; dispersion; measures of bivariate association; population inference from cross-sectional and longitudinal sample surveys; inference from research using experimental designs; inferential statistical tests for parametric and non-parametric data; linear and non-linear forms of multivariate regression; data reduction and grouping methods, such as factor and cluster analysis; and longitudinal analysis, such as event history analysis. We mention these criteria at length because of the notable lack of reference to these methods in the journals that we surveyed.

Our understanding is that, to meet these ESRC requirements, many law schools outsource quantitative methodology training to other social science departments. As a result, early-career socio-legal scholars are distanced from their home departments during their training as social scientists and required to adopt the principles, standards, questions, and interests of alternative disciplines. This immersion may well promote an excellent understanding of quantitative methodology, but it inhibits a detailed understanding of the relevance of this approach to legal or socio-legal scholarship. As a consequence, it limits the inter-disciplinary vision of the socio-legal mission and reinforces the impression that quantitative training always happens in places other than the law school.

Other problems relate to the existence of large-scale datasets for socio-legal scholars to analyse. Many of the articles that we reviewed collated a dataset from publicly available sources, such as barristers' chambers' webpages¹⁸ and case reports,¹⁹ or by developing and administering a survey.²⁰ These approaches have the benefit of allowing the researcher to determine and label their own variables and facilitate the creation of a relational database. However, for many socio-legal scholars, especially those seeking to rely on secondary datasets for longitudinal studies based on a time series, the information that exists on the operation of the legal system is limited and flawed, and gaps can rarely be filled because of the passage of time. This is particularly true for those who work on trends in the litigation system, forced to depend on inadequate datasets collected and published by the state. By way of example, datasets for some proceedings, such as the Family Division of the High Court, are largely unusable because of inconsistencies in the statistics

¹⁷ ESRC, *Postgraduate Training and Development Guidelines* (2015, 2nd edn) 7, at <<https://www.ukri.org/wp-content/uploads/2021/10/ESRC-06102021-PostgraduateTrainingandDevelopmentGuidelines-2015.pdf>>.

¹⁸ See for example M. Blackwell, 'Old Boys' Networks, Family Connections and the English Legal Profession' (2012) *Public Law* 426; M. Blackwell, 'Talking Silk: An Empirical Study of the Award of Queen's Counsel Status 1981–2015' (2015) 78 *Modern Law Rev.* 971; M. Blackwell, 'Starting Out on a Judicial Career: Gender Diversity and the Appointment of Recorders, Circuit Judges, and Deputy Court Judges, 1996–2016' (2017) 44 *J. of Law and Society* 586.

¹⁹ See for example S. Shah and T. Poole, 'The Impact of the Human Rights Act on the House of Lords' (2009) *Public Law* 347; T. Poole and S. Shah, 'The Law Lords and Human Rights' (2011) 74 *Modern Law Rev.* 79; S. Shah et al., 'Rights, Interveners and the Law Lords' (2014) 34 *Oxford J. of Legal Studies* 295; A. K. Zimdars, 'The Competition for Pupillages at the Bar of England and Wales (2000–2004)' (2011) 38 *J. of Law and Society* 575.

²⁰ See for example S. Roach-Anleu and K. Mack, 'Gender, Judging and Job Satisfaction' (2009) 17 *Feminist Legal Studies* 79.

reported and gaps in the time series produced. Similarly, data on the Chancery Division shows such dramatic swings from year to year that doubt is cast on the credibility of the dataset. Official statistics are also frequently reported in the form of aggregates, with the result that relationships between independent variables and the trajectory of individual cases cannot be traced. In other instances, significant statistical information has simply not been collected, or its collection has been discontinued during vital periods. An example is data collected on the rate of out-of-court settlement and the stage of the litigation system at which settlement occurs. Even less data was collected in the immediate aftermath of the Woolf reforms – a somewhat ironic change given that the reforms actively sought to promote more out-of-court settlement.

The result of these various problems with large datasets is that the socio-legal research community has had to rely on partial accounts of activity. Her Majesty's Courts and Tribunal Service has expressed a commitment to improving data collection and reporting, but it remains of ongoing concern to researchers that they are limited in their ability to chart historic patterns of behaviour and the impact of changes in policy or legal culture. Problems with official statistics are such that Genn has argued that important research questions cannot be answered because of the poverty of official data on court usage.²¹ These problems raise an important question about the extent to which the capacity-building problem in quantitative socio-legal research is caused by the lack of availability of large datasets or whether the lack of datasets reflects a lack of extensive demand for them.

The increased expectation from funding bodies that academics deposit their datasets in public repositories has undoubtedly been a welcome step forward in capacity building in quantitative methods.²² The sharing of datasets avoids the duplication of the time and labour involved in the collection of the data and facilitates replication and the testing of alternate hypotheses. This positive step also provides clear guidance, regulations, and boundaries regarding use and manipulation of the data. However, it may also require a significant cultural change, not least in how we attribute authorship and the value that we afford to the conception of the database and gathering of large datasets.²³

The sharing of data and authorship, and the building of empirical expertise and knowledge, are not issues for law faculties alone to consider. Banakar and Travers highlight how sociology departments have failed to foster closer partnerships between lawyers and sociologists interested in empirical work.²⁴ They acknowledge that sociology departments do expose their students to the concept of law and legal phenomena through the seminal work of scholars such as Weber, Marx, and Ehrlich. However, they also contend that the interests of sociologists rarely extend to having courses on law, other than criminology, in the sociology syllabus, and there appears to be

²¹ On this point, see also L. Mulcahy and W. Teeder, 'Are Litigants, Trials and Precedents Vanishing after All?' (2022) 85 *Modern Law Rev.* 326; V. Bondy and M. Sunkin, 'The Use of Statistics in Proposing Reforms to the Public Funding of Judicial Review Litigation: A Critical View' (2009) 14 *Judicial Rev.* 372.

²² The UK Science and Technology Facilities Council (STFC) expects that data resulting from the research that it funds should be made openly available after any proprietary period. See ESRC, 'Facilities and Resources: Find an ESRC Facility or Resource' *UK Research and Innovation*, 24 January 2022, at <<https://www.ukri.org/councils/esrc/facilities-and-resources/find-an-esrc-facility-or-resource/>>.

²³ The importance of authorship and the responsibilities associated with attribution have been extensively considered by the scientific community. See for example M. K. McNutt et al., 'Transparency in Authors' Contributions and Responsibilities to Promote Integrity in Scientific Publication' (2018) 115 *Proceedings of the National Academy of Science* 255.

²⁴ R. Banakar and M. Travers, 'Introduction' in *Theory and Method in Socio-Legal Research*, eds R. Banakar and M. Travers (2005) iv.

very little curiosity about how lawyers are trained to conceive of law. Pointing to the way in which this disinterest in legal institutions and phenomena is reflected in methodology textbooks written by social scientists, Banakar and Travers argue that

they do not tell us the first thing about what it means to interview judges or lawyers in different jurisdictions, observe mediation, dispute resolution or other forms of negotiation in the context of different legal cultures or analyse legal documents in a sociological way.²⁵

While Epstein and King suggest that we need to embed skilled social scientists in law schools,²⁶ it might equally be argued that we also need more lawyers in sociology and anthropology departments.

Further differences between the organization and culture of law schools and other social science disciplines also serve to limit the flourishing of methodological ambition. The standards of empirical quantitative scholarship have a foundation in standards developed for established scientific fields, which are grounded on the two intimately linked factors of collaboration and significant grant funding. As data produced by the Higher Education Funding Council for England (HEFCE) Research Excellence Framework exercise regularly reveals, neither of these activities characterizes contemporary law schools, where sole scholars and library-based research continue to be the norm. The existence of different structural and cultural foundations in other social science disciplines means that those interested in quantitative studies will find it easier to acquire the skills, institutional support, and mentorship necessary to meet the high thresholds for quantitative research established by the field there than in the discipline of law. These are thresholds that it may be challenging for law schools to meet, but, as we discuss in the next section, the endeavour is not impossible.

3 | GLIMMERS OF HOPE?

These discussions promote a rather gloomy picture that will be familiar to those who have read the Nuffield Report. However, our review of eight leading journals also made clear that while it is less common, some excellent quantitative socio-legal work is being undertaken in the UK, some of which challenges the traditional epistemological paradigm rehearsed above. There is a clear focus on particular types of quantitative work, with interventions including experiments and randomized controlled trials remaining rare.²⁷ However, defined hypothesis statistical testing using large datasets to ‘facilitate descriptions of, or inferences from large populations as well as

²⁵ *Id.*, p. x.

²⁶ Epstein and King, *op. cit.*, n. 11.

²⁷ The study by the sociologists Noguera, Tena-Sanchez, and Leon is a good example of a quantitative experimental method used to test a series of hypotheses concerning how the expressive effects of law affect citizens’ behaviour. J. A. Noguera et al., ‘Is There an Informative Effect of Law? An Experimental Test’ (2014) 41 *J. of Law and Society* 576. The technical, practical, and ethical obstacles that limit these interventions in a socio-legal setting are detailed extensively elsewhere and are not the focus of this article, but see P. Pleasance, ‘Trials and Tribulations: Conducting Randomized Experiments in a Socio-Legal Setting’ (2008) 35 *J. of Law and Society* S1, 8; E. Finch and V. E. Munro, ‘Lifting the Veil: The Use of Focus Groups and Trial Simulations in Legal Research’ (2008) 35 *J. of Law and Society* S1, 30.

replication by other scholars²⁸ was more common. There were some excellent examples of this in our review of journals. For example, Shah, Poole, and Blackwell subjected a database of ‘leave to intervene’ applications to the House of Lords to statistical analysis to understand the impact of the Human Rights Act 1998 on the incidence of intervention and the influence of interveners on judicial decision making.²⁹ The authors tested four hypotheses on a dataset of over 900 cases and concluded that the outcomes of cases did not appear to be significantly affected by the presence of interveners, nor did judges write more separate opinions as a result of interventions. The approach adopted facilitated the determination of an important ‘systematic causal’ association and robust comparison.³⁰

Our review suggested that the standards adopted by socio-legal scholars engaging in quantitative work largely reflect the traditional norms and expectations of social sciences grounded in statistical analysis and a positivist approach. Yet, despite the power of this type of scholarship to explain, predict, and compare, it also presents a number of challenges in this regard. In part, this is related to practical limitations, as Shaffer and Ginsburg have noted in their discussion of the empirical turn in international law:

The power of quantitative methods is an ability to test hypotheses in a rigorous manner against large quantities of data using statistical techniques and control variables. The major challenges for these methods involve measurement and causal inference. Reducing complex social realities to indicators and measures that can be used in statistical analysis is often difficult. Furthermore, even if measurement challenges can be resolved, producing a research design to draw causal inferences can involve as much art as science.³¹

The compilation of datasets clearly requires numerous choices at every level, from the selection of measurable indicators to decisions on the inclusion and exclusion of individual data points. The reduction of a complex socio-legal context to measurable, quantifiable indicators can often require a search for what Arvind and Stirton, in their work on judges, call the ‘latent variable’.³² This approach requires moving away from the directly observable towards manifestations of the property of the thing being analysed. For Arvind and Stirton, judicial decisions gave access to the latent unobservable variable of judicial attitudes. As the authors note:

The primary difficulty to be overcome in measuring judicial attitudes is that – like many other constructs of interest to academic lawyers – they are not directly observable: in statistical terms they are latent variables. Being unobservable does not,

²⁸ M. Heise, ‘The Importance of Being Empirical’ (1999) 26 *Pepperdine Law Rev.* 807, at 810.

²⁹ Shah et al., op. cit., n. 19. See also Poole and Shah, op. cit., n. 19.

³⁰ For further examples, see M. McCann and S. Wheeler, ‘Gender Diversity in the FTSE 100: The Business Case Claim Explained’ (2011) 38 *J. of Law and Society* 542; J. Goudkamp and E. Katsampouka, ‘An Empirical Study of Punitive Damages’ (2018) 30 *Legal Studies* 90; G. Fondevila and M. Quintana-Navarrete, ‘Pre-Trial and Legal Defence in Latin America’ (2021) 17 *International J. of Law in Context* 75.

³¹ G. Shaffer and T. Ginsburg, ‘The Empirical Turn in International Legal Scholarship’ (2012) 106 *Am. J. of International Law* 1, at 4.

³² T. T. Arvind and L. Stirton, ‘Legal Ideology, Legal Doctrine and the UK’s Top Judges’ (2016) *Public Law* 418.

however, mean that they are not measurable. We can, and do, observe manifestations or indicators of these latent properties.³³

Quantitative socio-legal scholarship often has to search for the hidden variable, though this is not unique to socio-legal scholarship. Arvind and Stirton adopt a traditional quantitative approach in their search, but much of the published socio-legal scholarship reviewed for this article moved away from traditional norms and expectations of quantitative scholarship towards a more fluid approach that remained open to the ‘unexpected’ finding. This research also disrupted the link between theory and hypothesis testing. This move away from hypothesis testing is not unique to quantitative socio-legal research. For example, the shift in biological sciences towards genomic data has encouraged an increasingly exploratory data-driven research programme that searches for patterns rather than testing hypotheses. However, unlike in that field, much of this form of socio-legal scholarship also breaks the link between quantitative data and statistical analysis.³⁴ Viewed from this perspective, it could be argued that traditional understandings of quantitative scholarship founded on the norms of other disciplines do not capture the breadth or nuance of socio-legal practices. This suggests that to understand and shape norms to support the quantitative socio-legal community, we need an approach that embraces the depth and breadth of the sub-discipline. Our analysis provides an empirical foundation from which to start to shape this approach.

Siems has argued that quantitative comparative law can be classified according to three categories of empirical substrate for analysis: counting facts about the law, coding the law, and conducting surveys about the law.³⁵ These data classifications also form the basis of the majority of the socio-legal scholarship reviewed for this article. Counting facts about the law simply refers to any information about the law that can be calculated, such as the number of cases, citations, length of cases, and appointments. This type of data analysis was the dominant quantitative approach in our review. For example, Burton counted the monthly issue of public funding certificates for domestic violence cases, which framed an investigation of the decline of civil remedies;³⁶ Möser drew on data collected by insolvency services to characterize users of consensual debt relief;³⁷ and Hazell and O’Brien counted incidents of judges providing oral testimony to parliamentary committee inquiries to frame their discussion of the importance of this alternate form of constitutional dialogue.³⁸

Coding law starts to move away from these easily defined units and towards systematically translating legal phenomena into numbers. We identified 12 articles that moved beyond counting

³³ Id., p. 423.

³⁴ This work does not simply present descriptive statistics but uses descriptive data to clarify, identify, or reframe a legal concept or principle. This is distinct from the quantitative empirical work that necessarily relied on statistics and population data that was at the heart of the lengthy debates between Sisk and Heise and Epstein and King in the US on appropriate standards for quantitative empirical legal research. See for example G. Sisk and M. Heise, ‘Judges and Ideology: Public and Academic Debates about Statistical Measure’ (2005) 99 *Northwestern University Law Rev.* 743; L. Epstein and G. King, ‘The Rules of Inference’ (2002) 69 *University of Chicago Law Rev.* 153.

³⁵ M. Siems, *Comparative Law* (2013) ch. 7.

³⁶ M. Burton, ‘Civil Law Remedies for Domestic Violence: Why Are Applications for Non-Molestation Orders Declining?’ (2009) 31 *J. of Social Welfare and Family Law* 109.

³⁷ K. Möser, ‘Making Sense of the Numbers: The Shift from Non-Consensual to Consensual Debt Relief and the Construction of the Consumer Debtor’ (2019) 46 *J. of Law and Society* 240.

³⁸ R. Hazell and P. O’Brien, ‘Meaningful Dialogue: Judicial Engagement with Parliamentary Committees at Westminster’ (2016) *Public Law* 54.

to coding cases, and this coding was often related to statistical analysis. For example, Karstedt, Bergin, and Koch examined the complex relationship between legal reforms and public and political accounts of them, which underpinned a reduction in the US prison population.³⁹ They developed a coding framework that captured nuanced factors or hidden variables, such as the punitiveness of the criminal justice system, and applied multivariate analysis to identify the critical junctures that influence change in the penal system.⁴⁰

The analysis of variables or categorical data in surveys about the law⁴¹ is one of the dominant methods in all of the work that we reviewed (14 per cent).⁴² This method was often used to gather both quantitative and qualitative data (classified as mixed methods), but typically the emphasis was on the latter. By contrast, Zimdars focused on quantitative data to examine the pathway to the Bar in England and Wales and identify the structural barriers to attainment.⁴³

Quantitative socio-legal scholarship can also be classified by the central aim of data collection. Siems' study of comparative law identifies three forms of measurement: measuring the impact of legal ideas, measuring similarities and differences, and measuring the quality of legal rules and institutions.⁴⁴ However, our analysis suggests that socio-legal research that centres on counting can extend beyond these traditional ambitions of measurement to a deeper exploration of the legal system. For example, Platt and colleagues developed databases of administrative court records and appeals to comprehensively examine the patterns of judicial review litigation in 409 local authorities in England and Wales.⁴⁵ The mapping of the patterns of decision making revealed trends in the use of judicial review, highlighting that it was commonly used by the 'most marginalised groups against some of the most hard-pressed local authorities in relation to some of the most intractable resource allocation issues'.⁴⁶ The exploratory nature of the quantitative study provided, as the authors suggested, a 'more textured image of the different worlds of judicial review litigation'.⁴⁷ Mapping of patterns of litigation also underpinned Hand's work countering claims of a 'compensation culture'.⁴⁸ Rather than statistically testing hypotheses, the author mapped the trends in press coverage and case statistics demonstrating a decline in claims. This exploratory form of analysis of publicly available datasets also underpinned the normative profiles of the 'critics' of the

³⁹ S. Karstedt et al., 'Critical Junctures and Conditions of Change: Exploring the Fall of Prison Populations in US States' (2019) 28 *Social & Legal Studies* 58.

⁴⁰ For further examples, see B. Mitchell and R. D. Mackay, 'Investigating Involuntary Manslaughter: An Empirical Study of 127 Cases' (2011) 31 *Oxford J. of Legal Studies* 165; C. Dauvergne and J. Millbank, 'Forced Marriage as a Harm in Domestic and International Law' (2010) *Modern Law Rev.* 57.

⁴¹ Siems, op. cit., n. 35, ch. 7.

⁴² Interview was the dominant method and was employed in 54 per cent of the published research surveyed.

⁴³ Zimdars, op. cit., n. 19.

⁴⁴ Siems, op. cit., n. 35, ch. 7. Measuring the quality of legal rules was at the centre of much of the socio-legal scholarship. See for example S. Pemberton, 'Demystifying Deaths in Police Custody: Challenging State Talk' (2008) 17 *Social & Legal Studies* 237; R. Kaspiew et al., 'Legislative Aspirations and Social Realities: Empirical Reflections on Australia's 2006 Family Law Reforms' (2011) 33 *J. of Social Welfare and Family Law* 397; B. Bowling and C. Phillips, 'Disproportionate and Discriminatory: Reviewing the Evidence on Police Stop and Search' (2007) 70 *Modern Law Rev.* 936; N. J. Balmer et al., 'Just a Phone Call Away: Is Telephone Advice Enough?' (2012) 34 *J. of Social Welfare and Family Law* 63.

⁴⁵ L. Platt et al., 'Mapping the Use of Judicial Review to Challenge Local Authorities in England and Wales' (2007) *Public Law* 545.

⁴⁶ Id., p. 567.

⁴⁷ Id., p. 567. The exploratory nature of the initial study provided the foundation for the subsequent mixed methods study by Sunkin and Bondy: M. Sunkin and V. Bondy, 'Settlement in Judicial Review Proceedings' (2009) *Public Law* 237.

⁴⁸ J. Hand, 'The Compensation Culture: Cliché or Cause for Concern?' (2010) 37 *J. of Law and Society* 569.

justice system developed by Hertogh.⁴⁹ Exploratory socio-legal research is not limited to observing patterns; it also motivated Vogel's decision to revisit a dataset and adopt a different statistical approach to 'reveal the secrets of the data'.⁵⁰

The central characteristic of this work is a shift from hypothesis testing to exploration, and in many cases a move away from statistical analysis towards pattern identification. This more exploratory form of quantitative scholarship shifts the epistemological foundations of practice from the objective, positivist scientific paradigm to a more interpretative position that recognizes the social construction of society⁵¹ and the centrality of the researcher in the process in ways that remain sensitive to qualitative approaches.

4 | CROSSING THE QUANTITATIVE/QUALITATIVE DIVIDE

There is increasing recognition that the traditional scientific paradigm is not always appropriate in sociological settings, and this is particularly true in a socio-legal context. The positivist foundation of empiricism centres on researcher objectivity and the clear separation of facts and values; as such, the scientific foundation of quantitative empirical studies assumes a value-neutral orientation focused on factual phenomena. However, few socio-legal scholars would accept that their work is, or can be, entirely objective. As Fischer has argued in the context of public policy research, the object that we seek to measure is 'rooted in [the researcher's] own understanding of it (i.e., assumptions, expectations, and experience of the very object) and any efforts to treat the world and its representations as isomorphic can only lead to misrepresentations'.⁵² Interpretative judgments pervade every aspect of quantitative socio-legal study, from conception to analysis, in a way in which the traditional standards of scientific disciplines are perhaps ill equipped to understand.

We are not necessarily suggesting a post-structuralist ontology, but we are asking scholars to consider one that is more grounded in aspects of critical realism. This would encourage recognition that in a social context data may provide useful traces of the underlying reality, but that when seeking to identify causal relationships it is important to look inside the process of interpretation.⁵³ This does not require a move away from statistical analysis or the principles that underpin it. Rather, it is the understanding that buttresses Goldthorpe's notion of 'causation as a

⁴⁹ Hertogh presented the data from a range of published datasets including the World Values Survey, the Eurobarometer, the British Crime Survey, and the European Social Survey to classify the critics. The author did not subject the data to secondary statistical analysis. M. Hertogh, 'Loyalists, Cynics and Outsiders: Who Are the Critics of the Justice System in the UK and the Netherlands?' (2011) 7 *International J. of Law in Context* 31.

⁵⁰ M. E. Vogel, 'The Social Origins of Plea Bargaining: An Approach to the Empirical Study of Discretionary Leniency?' (2008) 35 *J. of Law and Society* S1, 201, at 201. For further examples, see Mitchell and Mackay, op. cit., n. 40; M. Arslan, 'Differentiating and Connecting Indicators: The Quality and Performance of Law in the World Bank's Doing Business Project' (2020) 16 *International J. of Law in Context* 17; J. Goudkamp and D. Nolan, 'Contributory Negligence in the Twenty-First Century: An Empirical Study of First Instance Decisions' (2016) 79 *Modern Law Rev.* 575.

⁵¹ B. A. Ryan, 'Does Postmodernism Mean the End of Science in the Behavioural Sciences, and Does It Matter Anyway?' (1999) 9 *Theory & Psychology* 483.

⁵² The quotation is from an article in which Fischer explores the limitations of positivist approaches in policy development. The quotation captures the centrality of the researcher that we observe in socio-legal scholarship. F. Fischer, 'Beyond Empiricism: Policy Inquiry in Post Positivist Perspective' (2005) 26 *Policy Study J.* 129, at 133.

⁵³ W. Olsen and J. Morgan, 'A Critical Epistemology of Analytical Statistics: Addressing the Sceptical Realist' (2005) 35 *J. for the Theory of Social Behaviour* 255.

generative process' in a social context.⁵⁴ The author's central premise is that no statistical analysis to establish causal relationships will ever be definitive; thus, scholars should be required to examine alternative explanations. This approach facilitates a move towards a more post-positivist epistemology that shifts the focus from proving and disproving hypotheses to an emphasis on centralizing critical reflection.

Significantly, the recognition of the centrality of the observer encourages us to shift the standard of reliability from reproducibility to the principles of transparency. These principles require insight into the judgements that structure and guide the research process from data collection to analysis. This approach recognizes the agency of the individuals analysing the work and the value in exploration, but also provides a framework to support and understand it.

5 | CONCLUSION

The scholarly traditions of law schools – where historical, philosophical, doctrinal, and critical forms of scholarship continue to be important – are unlikely to change in the near future. However, it could be argued that professional associations such as the Socio-Legal Studies Association, ESRC socio-legal pathway leads, and the editors of socio-legal journals could usefully promote engaged discussion of what constitutes high-quality and cutting-edge quantitative socio-legal scholarship. Central to supporting such scholarship is a commitment to transparency, and the responsibility of journal editors is particularly important in this context. Though funding agencies insist that datasets are made available for scrutiny, this is not a requirement of legal journals. While we found evidence in the sample of work that we examined that authors, with the support of publishers, are already committed to transparency,⁵⁵ the limited space afforded to methods in a typical journal article prevents detailed exposition of methodology. As such, the datasets on which the analysis is founded and the choices surrounding the data gathered remain hidden from view.⁵⁶ We argue that explicit discussion of the process of gathering and analysing data is essential if we are to support early-career scholars to identify and develop vital quantitative skills that will enhance the scope of socio-legal work. These developments are essential if socio-legal scholars are to move beyond the journals that we have reviewed to publish in social science journals that specialize in empirical work.

Rather than relying on existing standards employed by other social science disciplines, we could usefully consider what constitute the highest standards for researchers studying law and legal phenomena and the extent to which viewing standards through a socio-legal lens alters the type and nature of the standards to which we aspire. In other words, rather than acting as a parasite that feeds off the methodologies and methods developed in other social science

⁵⁴ J. H. Goldthorpe, 'Causation, Statistics, and Sociology' (2001) 17 *European Sociological Rev.* 1, at 8–10.

⁵⁵ By way of example, Goudkamp and Nolan's empirical study of 368 first-instance decisions examining the application of the doctrine of contributory negligence in England and Wales presented a detailed and lengthy discussion of their coding and analysis decisions, including the limitations, 'so that readers of this article can evaluate the methods that we used and draw their own conclusions regarding results. We highlight both the strengths and weaknesses of our methodology.' Goudkamp and Nolan, *op. cit.*, n. 50, p. 580.

⁵⁶ This is not universal. There are some excellent examples of authors who have clearly set out their decision-making process. For example, Arvind and Stirton included an appendix to explain the decisions that underpinned their analysis. Arvind and Stirton, *op. cit.*, n. 32.

disciplines, the socio-legal community should be encouraged to take the lead in establishing the discipline's standards and unique place in social science research.

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