

APPENDIX II: ON REPLICATION AND THE STUDY OF THE LOUISIANA SUPREME COURT<sup>79</sup>

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I. REPLICATION AND ITS IMPORTANCE

Empirical research is simply research founded on “evidence about the world based on observation or experience.”<sup>80</sup> Legal scholars have been carrying out empirical research for generations,<sup>81</sup> and today, more and more legal academics themselves, or in collaboration with social scientists, are performing empirical studies of law and courts.<sup>82</sup>

One advantage of empirical approaches to studying law is that the inferences drawn from data can be replicated. This allows the reader to assess the validity of an empirical study, be it quantitative or qualitative.<sup>83</sup> An essential feature of such transparent empirical research is that it meets a replication standard—that is, sufficient information is provided that another scholar could,

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<sup>79</sup> Appendix II is a working paper reproduced with permission by Morgan L.W. Hazelton, Rachael K. Hinkle, and Andrew D. Martin. Morgan L. W. Hazelton received her J.D. from the University of Texas at Austin and is currently a Ph.D. student at Washington University in St. Louis. Rachael K. Hinkle received her J.D. from Ohio Northern University and is currently a Ph.D. student at Washington University in St. Louis. Andrew D. Martin is Professor of Law and Director of the Center for Empirical Research in the Law (CERL) and Professor and Chair of the Department of Political Science at Washington University in St. Louis. We thank the Center for Empirical Research in the Law for supporting this replication effort. All replication materials, including the two datasets and replication scripts, can be downloaded from <http://adm.wustl.edu/replication.php>. We used Stata to perform the analyses.

<sup>80</sup> Lee Epstein & Gary King, *The Rules of Inference*, 69 U. CHI. L. REV. 1, 2 (2002).

<sup>81</sup> *Id.*

<sup>82</sup> Lee Epstein et al., *On the Effective Communication of the Results of Empirical Studies, Part I*, 59 VAND. L. REV. 1811 (2006) (“To claim that empirical work is now a fundamental part of legal scholarship borders on the boring.”)(citing ASS’N OF AM. LAW SCHOOLS, EMPIRICAL SCHOLARSHIP: WHAT SHOULD WE STUDY AND HOW SHOULD WE STUDY IT? 50 (2006), available at <http://www.aals.org/am2006/program/finalprogrammain2006.pdf> (“There is a long tradition of empirical scholarship in law and there has recently been a burgeoning of interest in conducting empirical research in America’s law schools.”)); see, e.g., STEFANIE LINDQUIST & FRANK CROSS, MEASURING JUDICIAL ACTIVISM (2009); Anna Harvey & Barry Friedman, *Ducking Trouble: Congressionally Induced Selection Bias in the Supreme Court’s Agenda*, J. OF POLS. 574 (2009); Pauline Kim, *Deliberation and Strategy on the United States Courts of Appeals*, 157 U. PENN. L. REV. 1319 (2009).

<sup>83</sup> Epstein & King, *supra* note 1.; Gary King, *Replication, Replication*, 28 PS: POL. SCI. & POL. 444 (1995).

based on the available information, replicate the data collection process and the analysis of these data.<sup>84</sup>

An article must be replicable in both of these aspects in order to meet the standard: there must be sufficient information regarding the data collection and codification processes that another scholar could collect and produce the same or comparable data; and, the methods used to analyze the data must be described in sufficient detail to allow another scholar to produce the same results given the same data.<sup>85</sup> Furthermore, this standard generally necessitates that a scholar make his or her data publicly available, because replicating the data collection process may be infeasible or impossible.<sup>86</sup> Such data publication also mitigates problems caused by insufficient space to fully describe the data collection process and other difficulties in describing data in print.<sup>87</sup>

When scholars make their underlying data public, they contribute to the greater wealth of knowledge and efficiency of the knowledge creation process.<sup>88</sup> This is true whether or not mistakes have been made during the project.<sup>89</sup> The replication standard is essential because mistakes in the data gathering and analysis processes are commonplace.<sup>90</sup> Indeed, making data publicly available is of utmost importance when mistakes are likely, e.g., with subjective coding of case characteristics. Transparency allows others to find and correct mistakes, and ultimately test the robustness of conclusions. Research is, after all, a human endeavor. An author who meets the replication standard and produces his or her data provides transparency that allows other scholars the opportunity to assess the validity of the evidence he or she offers and identify and correct mistakes he or

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<sup>84</sup> *Id.* at 138; King, *supra* note 4; *see also* Frank Cross et al., *Above the Rules: A Response to Epstein and King*, 69 U. CHI. L. REV. 135, 138 (2002) (implicitly acknowledging the importance of the replication standard by criticizing King, *supra* note 4 on the basis that the findings were not replicable); Richard L. Revesz, *A Defense of Empirical Legal Scholarship*, 69 U. CHI. L. REV. 169, 188 (2002) (also implicitly acknowledging the importance of the replication standard).

<sup>85</sup> King, *supra* note 3.

<sup>86</sup> *See id.* at 445

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *See generally id.*

<sup>90</sup> *Id.* at 445.

she may have made.<sup>91</sup> There is little chance that another scholar could catch such mistakes if the replication standard is not met.<sup>92</sup>

## II. THE PALMER AND LEVENDIS STUDY

In 2008, the TULANE LAW REVIEW published an empirical study by Professors Vernon Palmer and John Levendis,<sup>93</sup> amid a storm of controversy resulting from this publication,<sup>94</sup> the Dean of the Tulane Law School sent a letter of apology to the Louisiana Supreme Court,<sup>95</sup> and the law review electronically posted and issued an Erratum regarding the article.<sup>96</sup> One of the reasons for the apology and erratum was that some errors were found in the dataset made available to the law review by Professor Palmer.<sup>97</sup> Over the law two years, Professor Palmer has overseen an effort to correct these errors and validate the data used in the original study.

After the controversy erupted, Professor Palmer contacted us to request that we conduct a replication both of his original analysis and his updated analysis based on corrections of mistakes he had become aware of in the data. We agreed

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<sup>91</sup> See Robert Newman et al., *A Methodological Critique of The Louisiana Supreme Court in Question: An Empirical and Statistical Study of the Effects of Campaign Money on the Judicial Function*, 69 LA. L. REV. 307 (2009) (acknowledging that the academic publication system allows for the correction of errors, but asserting that the publication Vernon Palmer & John Levendis, *The Louisiana Supreme Court in Question: An Empirical and Statistical Study of the Effects of Campaign Money on the Judicial Function*, 82 TUL. L. REV. 1291 (2008) risked immediate harm to the personal reputations of the Louisiana Supreme Court justices considered in the study).

<sup>92</sup> *Id.*

<sup>93</sup> Palmer & Levendis, *supra* note 12.

<sup>94</sup> See, e.g. Newman et al., *supra* note 12; Kevin R. Tully & E. Phelps Gay, *The Louisiana Supreme Court Defended: A Rebuttal of The Louisiana Supreme Court in Question: An Empirical and Statistical Study of the Effects of Campaign Money on the Judicial Function*, 69 LA. L. REV. 281 (2009); Statement of Chief Justice Pascal F. Calogero, Jr. Louisiana Supreme Court (June 12, 2008), available at [http://www.lasc.org/press\\_room/press\\_releases/2008/Statement\\_of\\_Chief\\_Justice\\_Calogero\\_June\\_12\\_2008.pdf](http://www.lasc.org/press_room/press_releases/2008/Statement_of_Chief_Justice_Calogero_June_12_2008.pdf); TaxProf Blog, *Tulane Dean Apologizes for Errors in Law Review Article Claiming Donor Influence Claiming Donor Influence on Louisiana Supreme Court* (Sept. 23, 2008), available at [http://taxprof.typepad.com/taxprof\\_blog/2008/09/tulane-dean-apo.html](http://taxprof.typepad.com/taxprof_blog/2008/09/tulane-dean-apo.html) (listing multiple sources in the press and “blogosphere” commenting on the controversy and the apology and erratum notice).

<sup>95</sup> Letter from Lawrence Ponoroff to the Justices of the Louisiana Supreme Court (September 10, 2008), available at [http://www.lasc.org/press\\_room/press\\_releases/2008/AR-TU\\_APOLOGY\\_LETTER.pdf](http://www.lasc.org/press_room/press_releases/2008/AR-TU_APOLOGY_LETTER.pdf).

<sup>96</sup> Susan Finch, *Law Dean Writes of Regret Over Errors, Author Stands By Article’s Conclusions*, TIMES-PICAYUNE, Sept. 17, 2008; TaxProf Blog, *supra* note 15.

<sup>97</sup> Of course, every article ever published in a law review or social science journal contains some errors, whether having to do with data, execution, attribution, and the like.

to do so as a neutral third party. We received the original dataset from Professor Palmer along with the corrected version used in his current piece.

We agreed to address the second prong of the replication standard: we would conduct a replication study of the author's initial and current results given the description of the methods provided in the articles and the underlying data sets. Our analysis takes both the data and methodology as given. *We do not engage the debates regarding whether the data is flawed or the methodology is appropriate.*<sup>98</sup> The data, replication code, and tables containing the full replication results for both the 2008 and 2010 articles are available online at <http://adm.wustl.edu/replication.php>. While the availability of these resources may (and indeed should) play a role in the debate regarding appropriate methodology, all we seek to establish here is that the author(s) did in fact use the methods described in the articles to reach the results reported. In no way should this replication be construed as an independent audit of the data used in the study, nor should it be seen as an endorsement of the methodology employed.

The first prong of the replication standard, data collection and codification, is also important; in fact, the publication of the underlying data for the 2008 article allowed others to identify problems with the data.<sup>99</sup> Palmer's description of the data collection and codification processing along with the production of the data in this current article should allow for further testing of the underlying data and the methods used to arrive at his conclusions. We encourage interested others to undertake this project.

### III. REPLICATION RESULTS

There are a total of only three discrepancies in our replication of the results in Tables 1-6 in both the 2008 and 2010 articles. The replication of the 2010 article reveals what is almost certainly a typographical error in Table 6. The total amount of donations in the "Other" category is reported at \$156,408 while we calculate it to be \$156,008. Our results for Table 5 diverge once from the reported values in each article. The 2008 article reports an odds ratio—a transformed coefficient from a logistic regression model that shows how a particular variable increases (if greater than one) or decreases (if less than one) the probability of voting in favor of the defendant—for Justice Traylor of 9.30 while we calculated it to be 9.22. However, since neither odds ratio is statistically significant, this discrepancy does not contradict the authors' substantive conclusions. The final difference involves the odds ratio for Justice Weimer in the 2010 article and is similarly innocuous. For this odds ratio a p-value of 0.64 is reported while we computed a p-value of 0.63. All of the remaining results from

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<sup>98</sup> For this debate *see* Tully & Gay *supra* note 15; Newman et al., *supra* note 12.

<sup>99</sup> Tully & Gay, *supra* note 15.

our replication are identical to the results reported in Tables 1-6 of the 2008 and 2010 articles.

The results from the 2010 article relying on the corrected dataset are somewhat different from the results in the 2008 article, but not drastically so. We present the 2008 and 2010 results side-by-side for Tables 1, 5, and 6 to illustrate the important ways in which the substantive conclusions drawn from the evidence did (and did not) change after the data were corrected.<sup>100</sup> Table 1 shows that for the cases in which there was only one contributor there is no change. With both sets of data, the results for all but two of the justices are statistically significant. Based on the corrected data, in Table 5 the time-adjusted amount of the net contribution has a statistically significant p-value for Justices Calogero and Johnson rather than for Justices Calogero, Kimball, and Weimer as the original analysis indicated.<sup>101</sup> Finally, torts cases are the only type of case in which the amount of the net contribution is a significant predictor of which party will win the case. Table 6 shows that while constitutional law cases initially appeared to also merit this conclusion, the corrected data no longer shows a significant relationship for that category of cases.

Justice	Data from 2008 article			Data from 2010 article		
	Total Votes	% in favor of sole contributor	p-value	Total Votes	% in favor of sole contributor	p-value
Calogero	52	0.73	<0.01	71	0.66	<0.01
Johnson	49	0.53	0.78	48	0.50	0.56
Kimball	104	0.65	<0.01	98	0.65	<0.01
Knoll	29	0.48	1.00	28	0.39	0.91
Traylor	9	0.89	0.04	6	1.00	0.02
Victory	55	0.65	0.03	61	0.62	0.04
Weimer	27	0.81	<0.01	23	0.70	0.05
Total	325	0.65	<0.01	Not reported		

Table 1: Replication of percentage of time each justice voted for a sole contributor, corresponding to Table 1 in the Palmer & Levendis (2008) study and Table 1 in the Palmer (2010) study.

<sup>100</sup> We label our tables here to match the corresponding tables in Palmer & Levendis (2008) and Palmer (2010) rather than numbering them sequentially.

<sup>101</sup> The same change in results is reflected in Table 4 as well.

Justice	Data from 2008 article		Data from 2010 article	
	Odds Ratio	p-value	Odds Ratio	p-value
Calogero	1.21	0.02	1.11	0.06
Johnson	1.25	0.12	1.21	0.07
Kimball	1.19	0.01	1.07	0.17
Knoll	1.08	0.49	0.88	0.32
Traylor	9.22 <sup>†</sup>	0.26	na	na
Victory	1.03	0.71	1.03	0.64
Weimer	1.99	0.07	.087	0.63 <sup>‡</sup>

<sup>†</sup>Article reports 9.30.

<sup>‡</sup>Article reports 0.64.

Table 5: Replication of logistic regression estimates of the impact of defendant’s time-adjusted net contribution on the probability of a justice voting for the defendant, corresponding to Table 5 in the Palmer & Levendis (2008) study and Table 5 in the Palmer (2010) study.

Case Type	Data from 2008 article			Data from 2010 article		
	Donations	Odds Ratio	p-value	Donations	Odds Ratio	p-value
Torts/ Negligence	\$752,127	1.18	<0.01	\$995,679	1.11	<0.01
Employment/ Labor	\$119,300	1.09	0.30	\$109,450	1.08	0.42
Domestic Relations	\$42,375	1.43	0.27	\$43,875	1.37	0.25
Constitutional Law	\$57,869	1.73	0.06	\$88,660	0.90	0.32
Government	\$196,817	1.08	0.32	\$329,083	1.07	0.22
Real Property	\$3,000	0.35	0.35	\$7,000	0.23	0.40
Health	\$79,160	1.12	0.28	\$117,650	1.12	0.18
Other	\$110,353	1.09	0.55	\$156,008 <sup>†</sup>	1.12	0.21

<sup>†</sup>Article reports \$156,408.

Table 6: Replication of logistic regression estimates of the impact of defendant’s net contribution on the probability of voting for the defendant in different types of cases, corresponding to Table 6 in the Palmer & Levendis (2008) study and Table 6 in the Palmer (2010) study.

#### IV. CONCLUSION

This process illustrates the key role replication plays in the development of knowledge. Research is necessarily built on the work of other scholars. When scholars conduct empirical research in a way that permits replication of their work, they dramatically increase the efficiency of this process. Providing open access to both data and replication code maximizes the opportunity and minimizes the costs for scholars to engage each other's work in a meaningful way. This type of interaction is important not just to uncover mistakes, but also to both develop and challenge emerging ideas. Simply put, replication can only make scholarship better.