On the Meaning and Pattern of Legal Citations: Evidence from State Wrongful Discharge Precedent Cases

David J. Walsh

This study examines citation data in state wrongful discharge precedent cases from a network analytic perspective. The main question posed is whether, or to what extent, judges use citations as indicators of substantive influence on their decisionmaking versus devices primarily intended to justify decisions reached on other grounds (i.e., for legitimation). To address this question, I obtained evidence on the usefulness of distinguishing between "strong" and "weak" citations and between citation frequency and breadth. I conclude that citations in legal decisions are meaningful data and that there is evidence of both intercourt influence and legitimation at work.

Legal citations are a ubiquitous feature of court decisions. Scholars have displayed considerable interest in the use of legal citations and speculated about their significance (Nagel 1964; Friedman et al. 1981; Harris 1985; Caldeira 1988; Glick 1992). Are citations meaningful indicators of intercourt communication and influence, little more than post hoc rationalization and attempts at legitimation, or something else? Even researchers who study citations express reservations about their meaningfulness, particularly in light of the large proportion of citations that are of the nonsubstantive, "string" variety (Johnson 1985; Caldeira 1988). This study delves into the meaning of legal citations by examining their use in state wrongful discharge precedent cases and by distinguishing between "strong" and "weak" forms of citation. The principal question considered here is whether, or to what extent, citations in these cases conform to a pattern consistent with intercourt influence on decisionmaking, or whether the pattern is one more in keeping with a primary function of legitimation.

Address correspondence to David J. Walsh, Management Department, Miami University, Oxford, OH 45056; e-mail: walshdj@muohio/edu.

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I. Background and Literature

As Friedman et al. (1981:793–94) have observed, judicial decisionmaking is unusual in its requirement that judges offer accounts of their decisions in the form of written opinions. Judicial opinions customarily include numerous references to other cases, both from the same court and from different courts, as well as to statutes and secondary sources (e.g., treatises and law review articles). For scholars, citations in legal opinions are an inviting source of data. Citations are widely available in both published case volumes and on-line legal reporting services, they can be counted and readily incorporated into quantitative analyses, and they can be analyzed at the individual court (or justice) level (e.g., Johnson 1985, 1986), as a relationship between pairs of courts (or states) (e.g., Harris 1985; Caldeira 1985), or as a network of courts linked by the sending and receipt of citations (e.g., Nagel 1964; Caldeira 1988). More important than these practical advantages, citations potentially open a window to better understanding of judicial decisionmaking, the development of the law, use of precedent, intercourt communication, and the structuring of relations between courts.

Yet the utility of studying citations rests on an understanding of what those citations mean. Why do courts cite one another in their case decisions? Do all citations mean the same thing(s)? These issues become more weighty in light of consistent empirical findings that the majority of cites are of the nonsubstantive, "string" variety. Friedman et al. (1981:804) have observed that "sheer *numbers* of citations are only the roughest indicator of legal style or breadth of research. . . . Many decisions 'string' out long lists of cases. From our rough figures, it is impossible to tell whether the judges read and studied the cases or why they thought it was better to cite 10 cases than two, or in what sense the cited cases influenced the court's result." Likewise, Johnson (1986:543) found that only a small percentage (27%) of the citations in the U.S. Supreme Court cases he examined were "substantive" (coded by Shepard's Citations as "followed," "limited," etc.) and concluded:

> Thus, a large number of citations were mere mentions in the majority opinions and had little or no direct relevance to the issues resolved in the later decision. This large number of nonsubstantive treatments should give pause to researchers who indiscriminately count citations without consideration of whether they carry any meaning.

If the precise meaning or purpose of citations remains obscure, studies have clearly shown that the sending and receiving of legal citations is structured. Citations are not randomly distributed among courts. In analyses of which courts cite one another and why some courts are more "elite" or prestigious (in the sense

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of having their cases regularly cited by other courts), commonalities between courts or states (e.g., geographic proximity, publication of cases in the same regional law reporters, cultural linkage through migration patterns) and characteristics of the cited court or state (e.g.,"professionalism" of the court system, judicial innovativeness, amount of caselaw produced, population size, urbanization) have all received empirical support (Harris 1985; Caldeira 1983, 1985). However, establishing the patterned, unequal character of intercourt relations does not directly address the question of why judges use citations. Caldeira (1988:30), for example, states: "*Regardless of the precise motivation behind them,* interstate citations indicate that the judges on an appellate court view the decisions of another state supreme court as relevant and appropriate for consideration" (emphasis added). But why are other courts' cases deemed "relevant and appropriate" for citation?

A number of reasons have been suggested, but two seem most central.[1] The first is that citations indicate intercourt communication and influence on judicial decisionmaking (Harris 1985; Caldeira 1985; Landes & Posner 1976). While it is widely acknowledged that judges may not be entirely forthcoming as to the reasons for their decisions and that not all citations are equally informative, the belief that citations convey some degree of substantive influence on decisionmaking offers perhaps the most compelling rationale for research on citations. The second, and contrasting, view is that citations are used not so much to explain the basis for decisions as to justify those decisions, however well or ill considered they may have been. That is, citations are seen as serving a primary function of legitimation (Friedman et al. 1981; Johnson 1985), rendering judges' decisions more acceptable to external audiences. Friedman et al. (p. 794) put the matter this way;

> Everybody knows—at least since the realists hammered home the point—that a judicial opinion does *not* tell us what went on in judges' minds. It may be mere rationalization. But we can say, with some certainty, that the opinion and its reasoning

[1] Alternative accounts include the legal capital argument of Landes and Posner (1976), which focuses on the production of precedent cases and suggests that courts prefer to have their own stock of precedent cases from which to draw and with which they can shape the law. States with larger numbers of and more recent precedent cases have a greater likelihood of being cited. Insofar as those states are then expected to have greater influence on the development of the law, this account dovetails with the view that citations reflect substantive influences on case outcomes. The styles of individual jurists, political considerations within courts (e.g., forging consensus in majority opinions, countering dissenting opinions), and the area of law in question (e.g., citations appear to be used more heavily in civil than in criminal cases) have also been proposed as explanations for variation in the use of citations (Johnson 1985, 1986). These and other factors may well be important, but they are primarily of interest when focusing on a single powerful court, like the U.S. Supreme Court (as Johnson does). They are not readily incorporated within the present study, which encompasses many different state courts deciding within a single area of the law.

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show what judges *think* is legitimate argument and legitimate authority, justifying their behavior.

Unquestionably, these two motives for using citations are difficult to disentangle. If legitimation is taken to mean a court explaining its reasoning and the case precedents it has actually used, then the two views coincide. By employing stronger versions of these two arguments, however, we can begin to differentiate them empirically. The motive of attaining legitimacy implies that citations are used for proper appearances and to make decisions acceptable to external audiences. It is conformance to norms of legal argumentation calling for the citation of legal authority, rather than the need to consult other particular sources to arrive at decisions or the technical superiority of some decisions as statements of the law, that is at work. In organizational theory, institutionalists stress that organizations must be responsive to their environments, in large part by doing things to ensure legitimacy. Especially in the face of uncertain and not readily measured outcomes, practices and structures are incorporated because they are widely seen as "proper" (i.e., legitimate) regardless of their intrinsic merits (DiMaggio & Powell 1983:153–54; Meyer & Rowan 1977:348). From this perspective, courts faced with uncertainty surrounding the adoption of new legal doctrines and motivated by the desire to win acceptance for their decisions can be expected to employ citations most intensively when, in fact, acceptance is most problematic (Johnson 1985: 511). Thus, when judges are aiming primarily to secure legitimacy, their use of citations should vary depending on whether the court is recognizing a new legal doctrine or maintaining the status quo, whether the doctrine being considered has already been widely adopted elsewhere or not, and whether the doctrine in question represents a far-reaching change or only a limited change in the law. Courts intent on legitimation can be expected to cite prestigious courts most often, regardless of the substance of those elite courts' decisions. Ultimately, the sheer number of citations and prestige of cited courts may be more important from the standpoint of legitimation than any close correspondence between the holdings of the cited and citing courts.

If, instead, citations are primarily employed to explain how courts have arrived at their decisions, different patterns should be observable. Variation in use of citations should be linked more to the varying complexity of particular cases or differences across courts in the thoroughness with which they research and document decisions than to circumstances affecting acceptability. Likewise, when cases are being cited for their influential nature, the quality of those decisions (e.g., length, thoroughness) should matter a great deal, while the stature of the cited court should be, at best, a secondary concern. Close correspondence in outcomes between cases that are linked by citations should be

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especially evident if cases are cited for their contributions to decisions, since it is substantive influence that is being claimed.

Ultimately, the point is not to show that citations serve exclusively one purpose or the other. Rather, it is that we can reach some tentative conclusions about the extent to which each of these motives is reflected in actual patterns of citations. Together, these two motives lend a systematic nature to citation patterns in courts decisions that should be discernable, even amidst the idiosyncrasies of individual judges, cases, or courts.

This study examines state court precedent cases in the area of common law protections against wrongful termination. Over the past several decades, but especially during the 1980s, state courts considered and ruled on the pleas of discharged employees to recognize the three main theories of wrongful discharge that have emerged: the public policy exception to employment at will, implied contract, and the covenant of good faith and fair dealing.[2] If legal citations are coherent and meaningful, they should be especially so in this area of the law that has undergone rapid change and where the courts ultimately have had to decide whether to innovate or maintain their long-standing reliance on employment at will. Indeed, the observation that other states have or have not recognized a particular doctrine is the dominant rationale offered in these cases (Walsh & Schwarz 1996:673). The focus of this study on precedent cases (i.e., the earliest case in a state definitively accepting or rejecting a particular wrongful discharge doctrine) is important to note. In precedent cases, courts are apt to cite more frequently and widely than they do in cases involving "settled" areas of the law. Second, citations are unlikely to be reciprocated, since the cited court will have already ruled on the novel question and the citing court is doing so afterward. Finally, cases cited cannot constitute the strongest form of intercourt influence, "binding" precedent, since state courts are not constrained to adopt the prior decisions of other states' courts and compelling in-state precedent cases are (by definition) absent.

II. Data

The data for this study are citations from 157 cases in which the 50 state courts and the District of Columbia decided whether to adopt one or more of the three aforementioned common law wrongful discharge doctrines. The cases are primarily state supreme court decisions, although lower state court decisions are included where the higher court has been silent, as are federal court decisions (in 6 cases) applying state law. There is a reason-

[2] For further information on the nature of these legal claims, see Walsh & Schwarz 1996; Postic 1994; Shepard, Heylman, & Duston 1989.

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able degree of consensus across sources (e.g., Postic 1994; Dertouzos & Karoly 1992; Shepard, Heylman, & Duston 1989) that these are early and important wrongful discharge cases. There are about three cases in the data set from each jurisdiction. A complete listing of these cases and their holdings can be found in Walsh & Schwarz (1996:678–87).

In light of well-taken criticism of the failure of researchers to differentiate between types of citations, in this study I distinguish "strong" citations from "all" citations (undifferentiated citations including both "strong" and "weak" citations). A citation is defined as "strong" in this study if it meets one or more of the following criteria: (1) it includes a direct quotation from the cited case of more than a single word or phrase, (2) the discussion of the cited case is two or more sentences in length, (3) one court explicitly articulates reliance on the prior holding of another court. (As a practical matter, a statement of reliance is unlikely to occur without at least one of the other forms of strong citation, but statements of reliance are of sufficient importance as indicators of intercourt influence that they warrant special attention.) The empirical analyses in this study report results based on both "all" citations and on the subset of "all" citations that are "strong" citations. This contrast captures the practical choice with which researchers are faced: Is it, or is it not, worthwhile to evaluate the quality of citations rather than simply count them?[3]

Another methodological refinement is that the citations in this study are drawn only from those portions of opinions that deal specifically with the doctrine in question. It is the norm for plaintiffs in wrongful discharge cases to raise multiple claims, sometimes including statutory or constitutional protections against discharge. Especially to the extent that one is interested in intercourt influence on case outcomes, it is inadvisable to include citations that refer to other issues, procedural or substantive. Fortunately, judges are typically obliging in segmenting their opinions according to the particular claim being discussed.

Finally, courts differ not only in the number of citations they make (frequency) but also in how many other states' courts they cite from (breadth). While these variables are correlated here and probably in general, in the extreme case, a court might make numerous citations but all of them to its own cases. The breadth (or equivalently here, density) of citation is the proportion of state-by-state ordered pairs (51 × 51 = 2,601) for which

[3] In perhaps the only other citation study differentiating between strong and weak citations, Glick (1992:84) defines strong cites as those occupying more than 1% percent of the lines in a case. Glick explains, "The selection of 1 percent or more was made according to a natural breaking point in the data." Any length chosen is apt to be somewhat arbitrary. Rather than have a measure that is relative to the length of each case (and which is thus affected by the format in which the case is viewed), I have chosen the criterion of two sentences. Again, the main purpose is to distinguish clearly perfunctory citations from other, more substantial ones.

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one state's court cited another state's court (intrastate cites included). The cited case need not be the other state's precedent case, although it most often is.

Table 1 provides an overview of the citation data from these cases. Considering cites[4] of all types (i.e., both "strong" and "weak" cites), courts cited cases from a little more than a quarter (0.28) of states in their decisions. Strong cites link a tenth of the state pairs. Especially since reciprocation in citations is not very likely, the observed densities of legal citations suggest a relatively broad search for authority. Not surprisingly, the frequency figures show that a clear majority of the citations in these cases are of the "weak" variety. The average number of cites per case was 16.66 for citations of all types but only 3.19 for "strong" cites.[5] While strong cites are far less numerous, the correlations between the breadth of strong cites and all citations ($r = .50$) and between the frequency of strong cites and all cites ($r = .69$) are reasonably high. At the outset, then, it is clear that there are limits on the amount of distinct information gained by distinguishing on the basis of citation strength. For purposes of brevity and clarity, results for analyses of strong cites will be focused on in the following sections, with results for all citations discussed only when they differ.

Table 1. Breadth and Frequency of Citation in Wrongful Discharge Precendent Cases

	Strong Citations	All Citations
Breadth: Proportion of state courts whose cases are cited out of the total number possible, including citations to courts of the same state; i.e., density of network of legal citations. $N = 2{,}601$ state-by-state pairings (dyads)	0.10	0.28
Frequency: Mean no. of citations (all types, including law reviews and treatises) per case. $N = 157$ cases	3.19	16.66

III. Methods

Case-Level Analysis: Variables and Hypotheses

The relational data used in this study and the question posed call for several types of analyses. The question of what purpose(s) citations serve is first approached by an ordinary least squares (OLS) regression analysis of citation breadth and frequency.

[4] "Cite" is commonly used as a noun in legal writing. Therefore, I here use "citations" and "cites" as synonyms.

[5] To avoid possible confusion, recall that the breadth of strong cites is based on the number of different states strongly cited across all of a state's precedent cases (the figure of 0.10 translates to an average of 5.1 states), while the frequency figure is per case. Thus, it is entirely consistent for state courts to average a little over 3 strong cites per precedent case and to cite strongly 5 different states overall.

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Here, the unit of analysis is the individual judicial opinion. The variables used in this part of the analysis are listed in Table 2, A, "Unit of Analysis—Cases."

The notion that citations are primarily aimed at securing legitimacy suggests several hypotheses. First, and most basic, a decision in favor of adopting a new legal doctrine is likely to engender more intense efforts at legitimation than one maintaining the legal status quo. As Friedman et al. (1981:815) put it, "A change in the law, it seems, calls for a broad search for authority." In changing the law, judges cannot simply appeal to stare decisis and cite a few well-known cases from their own state; instead, they must show that circumstances and/or understandings of the law have changed (Baum & Canon 1982:96–97). To the extent that citations, particularly those to cases from other jurisdictions, help accomplish this end, greater citation frequency and breadth can be expected when the case outcome is adoption of a new legal doctrine.

The reach of the wrongful discharge doctrine being considered should also affect citation breadth and frequency. The public policy exception is almost always treated as a tort claim and the covenant of good faith and fair dealing is sometimes so treated. Implied contract cases, on the other hand, always entail contract law analyses and remedies. Courts have long experience in enforcing contracts and are arguably more ready to recognize implied contract (in principle, if not always in particular cases) than to formulate a new tort claim for wrongful discharge, with the possibility of attendant punitive damages.[6] Even when the covenant of good faith and fair dealing is regarded as a contract claim, its amorphous character portends a potentially expansive doctrine. Thus, if courts cite to render their judgments more legitimate and the public policy and covenant of good faith doctrines constitute more fundamental departures from employment at will, citation breadth and frequency should be greater in public policy and covenant of good faith and fair dealing cases than in implied contract cases.

The phase of the adoption process is a third expected influence on citation patterns. A court that is early in recognizing a doctrine has a need for legitimation but has relatively few other relevant cases on which to draw. On the other hand, a court that decides a precedent case later in time when the majority of other

[6] Baum and Canon (1982:84) contrast the dynamic nature of tort law with the relatively settled and static character of contract law. Courts deciding implied contract cases have stressed the consistency of the doctrine with traditional contract principles and minimized the extent of change involved (Walsh & Schwarz 1996:668). Edelman, Abraham, and Erlanger (1992:52) make the alternative argument that implied contract is the most sweeping of the wrongful discharge doctrines, owing to its potentially greater applicability (i.e., employers make promises and issue handbooks regularly). This argument would be more persuasive if the courts did not allow disclaimers and the like to so often negate enforcement of employer promises.

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Table 2. Variables, Operationalizations, and Descriptive Statistics

A. Unit of Analysis—Cases

Variable	Operational Definition	Mean	S.D.
PUBCASE	= 1 if the case deals with the public policy exception, 0 otherwise	0.338	0.474
CGFCASE	= 1 if the case deals with the covenant of good faith/ fair dealing, 0 otherwise	0.325	0.470
IMPCASE	= 1 if the case deals with the implied contract doctrine, 0 otherwise	0.338	0.474
EARLY	= 1 if the case was decided before 16% of states had adopted the doctrine in question, 0 otherwise	0.414	0.494
MIDDLE	= 1 if the case was decided when between 16 and 50% of states had adopted the doctrine in question, 0 otherwise	0.338	0.474
LATE	= 1 if the case was decided after 50% of states had adopted the doctrine in question, 0 otherwise	0.248	0.433
ADOPTED	= 1 if the case resulted in adoption of the doctrine in question, 0 otherwise	0.599	0.492
PROSCALE	State court system's rating from Glick & Vine's (1973) scale of legal professionalism	11.648	3.587
BREADTH1	No. of states strongly cited	2.013	2.106
	(Base 10 log transformation)	0.394	0.267
BREADTH2	No. of states cited in any fashion	5.911	6.141
	(Base 10 log transformation)	0.698	0.345
FREQ1	No. of strong cites	3.191	3.171
	(Base 10 log transformation)	0.503	0.330
FREQ2	Total no. of cites	16.656	15.478
	(Base 10 log transformation)	1.086	0.391

B. Unit of Analysis—State Courts

Variable	Operational Definition	Mean	S.D.
ELITE	Judicial prestige score from Caldeira (1983) based on citations received in 1975 cases	1.133	78.062
AVGYEAR	Average year in which a state's courts decided its wrongful discharge precedent cases	83.688	2.884
LENGTH[a]	Average length (rounded to nearest page) of a state court's wrongful discharge precedent cases	2.360	1.096
LAWREVS	Average no. of law review articles cited in a state court's wrongful discharge precedent cases	0.900	1.183
STGCENT	Degree centrality score for a state's court based on strong citations from other states in their wrongful discharge precedent cases	9.803	10.988
ALLCENT	Degree centrality score for a state's court based on all citations from other states in their wrongful discharge precedent cases	27.604	19.196

[a]Length is defined at the number of pages in the section of the opinion specifically dealing with the wrongful discharge doctrine in question (and not the entirety of the decision).

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courts have already recognized the doctrine has cases aplenty from which to choose but less need to cite widely and extensively given that the doctrine is already well established (i.e., "legitimate"). Thus, the breadth and frequency of citations can be expected to be less for cases that occur early in the diffusion of a legal innovation, as well as for cases decided later in the process when the doctrine is already the norm legally. Greatest citation frequency and breadth is likely in the middle period of the adoption process, when there are both cases to cite and strong reason to do so.[7]

Explanations for variation in citation breadth and frequency consistent with the view that citations track intercourt influence are less readily apparent. One relevant hypothesis is that state courts with the wherewithal to craft lengthy, well-researched decisions will cite more broadly and frequently. It is thoroughness of research that drives the use of citations rather than the need to foster acceptability. The Glick and Vines (1973) index of legal professionalism is useful for investigating this possibility.[8] It rates state court systems on their methods of judicial selection, structure, administrative apparatus, terms of office, and salaries. Court systems with excessively high caseloads and poorly paid judges subject to intense political pressures (i.e., courts rated lower on "legal professionalism") are less apt to produce carefully researched decisions drawing fully on available caselaw.

Hypothesis 1: To the extent that citations are primarily intended to render decisions more acceptable and legitimate, courts will cite more frequently (FREQ1, 2) and broadly (BREADTH1, 2) when adopting rather than rejecting a doctrine (ADOPTED) and in deciding more far-reaching doctrines (PUBCASE, CGFCASE). Courts deciding cases either early (EARLY) or after most other courts have already adopted a doctrine (LATE) will cite less frequently (FREQ1, 2) and less broadly (BREADTH1, 2).

Hypothesis 2: To the extent that citations primarily indicate substantive influence on judicial decisionmaking, courts that are higher in legal professionalism (PROSCALE) will cite more frequently (FREQ1, 2) and broadly (BREADTH1, 2)

[7] Determining the phase of the adoption process during which a case is decided is problematic. The approach used here is to label as "early" those cases decided before 16% of states had adopted the doctrine; "middle," those cases decided when between 16% and 50% had adopted it; and "late," those cases decided after the majority of states had already adopted the doctrine. These cut-off percentages correspond to typical inflection points on the S-shaped cumulative adoption curve characteristic in the diffusion of innovations (Rogers 1983:247; Valente 1995:80).

[8] Although the Glick & Vines (1973) study is now somewhat dated, it is unlikely that the basic character of a state's court system changes rapidly, and indeed, many wrongful discharge precedent cases were decided in the 1970s and early 1980s.

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State Court-Level Analysis: Variables and Hypotheses

Further evidence on the purpose(s) served by citations comes from examination of the state courts most often cited. State courts with higher in-degree centrality within the network of legal citations are those most regularly cited by their peers. This simple measure is based on the number of courts citing a particular state's courts cases out of the number possible (converted to a percentage) (Freeman 1978–79:220–21).[9] It serves here as the dependent variable in OLS regression models predicting the centrality of state courts. The full set of variables used in this analysis is listed in Table 2, B, "Unit of Analysis—State Courts."

A sizable number of variables have been identified in the literature as increasing the likelihood that a state's courts will be cited by other states (Harris 1985; Caldeira 1985; Baum 1991). Many of these factors are dyadic in nature (e.g., publish cases in the same legal reporter, located in the same geographic region, linked culturally through migration patterns). While it is entirely possible to perform an analysis of state-by-state pairings, doing so requires a different dependent variable than the centrality scores of individual states. More important, these variables do not directly address the issue of what citations mean. Knowing, for example, that courts are more apt to cite other courts publishing in the same legal reporter because of easy access or some other reason fails to illuminate why citations are used in the first place. Other variables proposed to account for citations received are state or court system attributes including population size, urbanization, legal professionalism of the court system, and the legal capital of the state's courts (stock of precedent cases from which to draw). Many of these variables are highly intercorrelated (Caldeira 1985:186). Given the very small *N* (51) and a primary concern with distinguishing between citations as indicators of influence on case outcomes versus purveyors of legitimacy, the regression models here are limited to a very few variables which provide the most leverage in making this distinction.

Caldeira's (1983) measure of judicial prestige has been shown to be related to population size, legal capital, legal professionalism, and several other variables. It is a convenient summary measure for present purposes that can be contrasted to measures of decision quality.[10] To the extent that courts are cited on the

[9] Caldeira's (1983:88) measure of judicial prestige is essentially another form of centrality measure. It differs from in-degree in that citations to other courts are weighted according to the total number of citations made by the citing court and the actual proportion of cites received is subtracted from the proportion that would be expected if citations were equally distributed across courts (thus allowing for negative prestige scores). I use a simpler and more widely employed measure of centrality here.

[10] Caldeira's (1983) measure of judicial prestige is based on citations in cases from 1975. Presumably, wrongful discharge cases decided in 1975 are included in his data set. However, only 3 of the 157 cases in this study are circa 1975. Thus, any overlap is quite minimal.

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basis of reputation rather than the quality of particular decisions, this supports the view that legitimation and appearing correct are primary motives for citations. It is the prestige of the court that is being invoked rather than the substance of its decision. Measures of decision quality are necessarily crude but include the length of the decision and how extensively law review articles are drawn on.[11] If decisions are cited for their substance, then courts that produce lengthier and better researched (i.e., incorporating more legal scholarship) opinions should be preferred for citation. A final variable necessary to consider is the average year in which a state's courts decided wrongful discharge precedent cases. Canon and Baum (1981) have emphasized the importance of timing in explaining judicial innovation, since courts must wait for appropriate cases on which to rule, and the same applies to the opportunity to be cited. Courts that decide earlier stand a much greater chance of being cited by subsequent courts simply because their cases are "out there," regardless of the motive behind the citation.[12] Inclusion of this variable also controls for the possibility that prestigious courts are being cited not for their reputation but because they are more apt to adopt legal innovations and write early decisions.

Hypothesis 3: To the extent that citations primarily indicate substantive influence on judicial decisionmaking, courts producing lengthier decisions (LENGTH) and citing more law review articles in their decisions (LAWREVS) will be more central within the network of citations (STGCENT, ALLCENT).

Hypothesis 4: To the extent that citations are primarily intended to render decisions more acceptable and legitimate, courts that are more prestigious (ELITE) will be more central within the network of citations (STGCENT, ALLCENT).

Hypothesis 5: The earlier a state's courts decided precedent cases (AVGYEAR), the more central that state's courts will be within the network of citations (STGCENT, ALLCENT).

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11 An alternative measure of decision quality, the average number of strong citations contained in the state's decisions, was also used, both in place of and in combination with the other quality measures. It had no discernable effects and, due to the small number of degrees of freedom, was deleted from the reported regressions.

12 While it is probably true in general that courts prefer newer cases to cite because they are more relevant (Friedman et al. 1981:808; Landes & Posner 1976:250), given the relatively short period over which wrongful discharge doctrines have developed (the earliest case was 1959, but most decisions occurred between 1975 and 1990), this is not an issue here. Instead, the greater opportunity for earlier cases to be cited strongly suggests a negative relationship between average time of decision and centrality.

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Network-Level Analysis

The distinction drawn in the network analysis literature between "cohesion" and "structural equivalence" (Burt 1987; Knoke & Kuklinski 1982) suggests the importance of examining not only direct citations between courts ("cohesion") but also congruence in the total pattern of citations that courts exhibit ("structural equivalence"). In this study, block modeling (specifically, CONCOR) is used to identify structurally equivalent courts; those state courts whose overall profiles of citations to and from other courts are the same or very similar (Knoke & Kuklinski 1982; White, Boorman, & Breiger 1976).[13] Contingency tables are constructed and chi-square statistics calculated to analyze the relationship between type of linkage (i.e., direct cite, same pattern of citations received and sent) and congruence in case outcomes to determine which, if any, is more closely associated with homogeneity in case outcomes.

If a state's courts cite the courts of another state or exhibit a similar pattern of citations received and sent, are there grounds to suspect that decisions of those courts will be more congruent than in the absence of citation or when a different set of decisions are drawn on? To some extent, both the legitimation and the citations as indicators of substantive influence views anticipate an association between the use of citations and case outcomes. After all, another case holding to the contrary does not go very far in terms of providing legitimation, and it would be difficult to argue that such a case constituted a significant influence on the citing court's decision. However, correspondence in outcomes seems especially critical to the view that citations track substantive influence, since it is the effect of the cited decision on the thinking of the cited court that is being claimed. This is all the more so if (as in this study) the correspondence sought is a "close match" in the reach of a doctrine (and not merely whether it is adopted or rejected).[14] In contrast, the purpose of

[13] CONCOR has been widely used in network analyses, especially by sociologists. It provides a systematic means of simplifying data on relations between multiple actors by partitioning networks into a smaller number of positions occupied by structurally equivalent actors. In this study, the relations analyzed are citations and the actors are state courts. For each doctrine and for each type of citation, a 51 × 51 matrix was created whose cells have a value of 1 if a state court cited another state court in its precedent case, and 0 otherwise. These matrices and their transposes (the latter were used in order to have full information on citations both received and sent) were submitted to the CONCOR procedure. Since CONCOR performs successive bipartitions of a network (up to the point where each network actor occupies its own "group"), it is left to the network analyst to decide how many groupings best capture the essence of the network. The choice of eight groupings in this study balances parsimony against the desire to have groupings that include only those states whose patterns of citations are genuinely similar. Conceptually and computationally, CONCOR is most akin to techniques of hierarchical clustering (Breiger, Boorman, & Arabie 1975).

[14] In this study, close correspondence in outcomes is deemed to exist only if both courts rejected the same wrongful discharge doctrine, both courts accepted "narrower" variants of the doctrine, or both courts recognized "broader" variants of the doctrine. The

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legitimation could be equally well served through a loose correspondence of case outcomes or, perhaps, even citation of marginally relevant cases (by nonetheless displaying the trappings of erudition and conformance to "proper" legal form).[15]

If correspondence in case outcomes would be most clearly indicative of the role of citations as markers of influence, that still leaves open whether it is linkage through direct citation or overlap in patterns of citations that is most closely associated with homogeneous outcomes. Indeed, it is not self-evident that there is any coherent relationship between citations and case outcomes, if only because there is no reason for courts to be exhaustive in citing other courts with whose decisions they agree. Burt (1987) is among those who have argued that overlap in patterns of relations is likely to be more revealing than direct ties, although the relative effects of structural equivalence and social cohesion seem to vary depending on the context (Marsden & Friedkin 1994:18). In the present context, it is reasonable to suspect that since structural equivalence takes account of multiple influences from other courts, it may be especially telling in explaining homogeneity in case outcomes.

Hypothesis 6: To the extent that citations primarily indicate substantive influence on judicial decisionmaking, there should be close correspondence in the case outcomes of courts linked by direct citations and even more so for courts exhibiting the same or very similar patterns of citations (i.e., "structurally equivalent" courts).

IV. Findings

I focus initially on the sending side of the citation relationship and ask why courts vary in the frequency and breadth of the citations they make. Why do some wrongful discharge precedent cases include scant citations limited to the deciding court's own prior cases, while others are replete with citations to other states' cases? An OLS regression analysis of the frequency and breadth of citation in the 157 court decisions addresses these questions. Results of this regression analysis are given in Table 3.

The clearest finding concerns case outcomes (ADOPT). Net all of the other variables, when courts decided to adopt a wrongful

criteria used in distinguishing between broader and narrower variants of wrongful discharge doctrines are outlined in Walsh & Schwarz 1996:650-54.

[15] Harris (1985:450) has argued to the contrary: "If a court does not consult other courts' cases to improve its own decision-making, but only cites out-state cases that are consistent with the decision it has already made, it will only communicate with courts with which it agrees on the policy in question." My reasons for concluding that close correspondence in case outcomes more clearly reflects the substantive influence view are outlined in the body of the article. In either event, the question whether citations, or patterns of citations, are meaningful in the sense of being related to case outcomes, is still of interest.

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discharge doctrine, they cited more frequently and widely than when they declined to recognize a doctrine. There is also evidence of courts citing more widely (but not frequently) in public policy cases (PUBCASE) (for strong cites only) and in covenant of good faith and fair dealing cases (CGFCASE). Courts deciding early in the adoption process (EARLY) cited less widely than those deciding in middle-period cases, although the coefficient is significant at the .05 level or less only for the breadth of all cites. There is no apparent relationship in these data between either deciding a case after a majority of courts have already accepted a doctrine (LATE) or the legal professionalism of a court (PROSCALE) and the frequency and breadth of its citations.

Table 3. OLS Regressions Predicting Breadth and Frequency of Citation (Unstandardized Coefficients; *t*-values in Parentheses)

	Breadth		Frequency	
Variables	Strong Citations (BREADTH1)	All Citations (BREADTH2)	Strong Citations (FREQ1)	All Citations (FREQ2)
Intercept	0.191* (2.425)	0.500*** (4.799)	0.261* (2.565)	0.782*** (6.586)
PUBCASE	0.166*** (3.575)	0.111 (1.813)	0.081 (1.359)	0.010 (0.146)
CGFCASE	0.225*** (3.777)	0.159* (2.021)	0.137 (1.784)	0.092 (1.027)
EARLY	–0.070 (–1.366)	–0.223*** (–3.272)	–0.052 (–0.784)	–0.151 (–1.945)
LATE	0.043 (0.852)	–0.054 (–0.796)	0.049 (0.747)	0.034 (0.441)
ADOPT	0.222*** (4.817)	0.206*** (3.371)	0.265*** (4.453)	0.277*** 3.989)
PROSCALE	–0.004 (–0.658)	0.008 (1.099)	0.002 (0.252)	0.014 (1.665)
Adjusted R^2	.204	.166	.133	.159
F	7.665***	6.172***	5.000***	5.907***
N	157	157	157	157

NOTE: Public policy cases (PUBCASE) and covenant of good faith and fair dealing cases (COVCASE) are compared with the omitted category of implied contract cases. Early (EARLY) and late (LATE) cases are compared with the omitted category middle cases. Because of right-skewed distributions, the dependent variables were transformed by taking their common (base 10) log.

*p < = .05 **p < = .01 ***p < = .001

These findings provide considerable support for the legitimation view of the function of citations (hypothesis 1). Recognizing a new doctrine engenders particular concern with acceptability, and the judges in these cases clearly felt obliged to cite more often and widely when they were opting to recognize an exception to the long-standing doctrine of at-will employment. More far-reaching doctrines also call for more concerted efforts at le-

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gitimation, reflected here in the greater breadth of citation in public policy and covenant of good faith cases, compared with implied contract cases. The notion that the timing of a decision relative to rulings by other courts should matter was the legitimacy hypothesis that received the least support. The fact that cases decided later (LATE) did not exhibit fewer and less broad citations may be due to the fact that these are all still precedent cases for their respective states. More generally, it is questionable to what extent these wrongful discharge claims can be considered institutionalized, given the recency of their inception and the fact that they are cast as "exceptions" to the still operative employment-at-will doctrine. Lastly, while by no means a definitive test of the notion that citations reflect substantive influences on case outcomes (hypothesis 2), none of the coefficients for legal professionalism (PROSCALE) are significant. There is no evidence in these data that courts with the wherewithal to produce more in-depth decisions actually did so, at least to the extent of citing more frequently and widely. Situational factors affecting the need to account for a decision, especially the decision to adopt a new doctrine, seem to be more telling.

The intuition that the breadth and frequency of citation are distinct phenomena deserving of separate treatment receives support in these findings, insofar as more variables are statistically significant and slightly more variation is accounted for in the models predicting citation breadth. Apparently, citing from a larger number of states is thought to provide better legitimation than simply citing more often. The results for strong citations and all citations are qualitatively very similar in this analysis.

Insight into the meaning of citations can also be gained by considering which courts are the recipients of citations. Why do some courts receive a disproportionate share of citations? The results of an OLS regression analysis predicting the centrality (normalized in-degree) of each of the 51 courts in the network of intercourt citations are given in Table 4.

The results summarized in Table 4 are virtually identical for centrality scores based on strong citations only and centrality scores based on citations of all types. Consistent with the view that courts cite other courts for purposes of legitimation and that citations to more prestigious courts best serve this end (hypothesis 4), the coefficient for the measure of judicial prestige (ELITE) is positive and easily statistically significant. It might, of course, be true that more prestigious courts also produce technically superior decisions, but at least insofar as decision quality is measured here, there is a propensity to cite these courts over and beyond the quality of their opinions. The results indicate that decision quality also has some bearing on the choice of courts to cite (hypothesis 3). Courts that, on average, produced longer (LENGTH) decisions (presumably more carefully argued and doc-

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umented) were more likely to be cited by other courts. There is no discernable effect, however, for the number of law review articles cited (LAWREVS). The single most important determinant of centrality among the factors considered is the average year in which a state's courts decided wrongful discharge precedent cases (AVGYEAR).[16] The earlier that a state decided its precedent cases, the more widely it was cited by other states (hypothesis 5). At some point, early cases may be regarded as dated and more recent cases preferred for citation, but the short time period within which wrongful discharge precedent cases were decided (for the vast majority of states, within a 15-year period from 1975 to 1990) clearly favors citation of those cases that have been available the longest. While some courts are more ready innovators, and would thus tend to produce early cases available for citation by other courts, there is also a substantial element of chance affecting the timing of decisions, because courts must await the arrival of appropriate cases on which to rule (Canon & Baum 1981).

Table 4. OLS Regressions Predicting State Centrality Scores* (Unstandardized Coefficients, *t*-Values in Parentheses)

Variables	Strong Citations Centrality Score (STGCENT)	All Citations Centrality Score (ALLCENT)
Intercept	161.019***	287.331***
	(5.105)	(5.361)
ELITE	0.046**	0.083***
	(3.242)	(3.463)
AVGYEAR	−1.876***	−3.321***
	(−5.034)	(−5.101)
LENGTH	2.463*	4.542**
	(2.504)	(2.717)
LAWREVS	−0.060	−0.150
	(−0.067)	(−0.099)
Adjusted R^2	.638	.658
F	23.048***	25.021***
N	51	51

$*p <= .05$ $**p <= .01$ $***p <= .001$

So far, the view of citations as devices for increasing the legitimacy and acceptance of judicial opinions has received considerable support, while the notion that citations track the flow of ideas and influence has fared less well. Before we write off the substantive impact of citations, some additional evidence must be examined. In this section, I consider situations in which courts ex-

[16] This is demonstrated by the following standardized coefficients for the model predicting centrality based on strong citations: 0.327 (ELITE), -0.493 (AVGYEAR), 0.246 (LENGTH), -0.006 (LAWREVS). The standardized coefficients for the other model are very similar.

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pressly articulate reliance on the prior holdings of other states' courts. I then ask whether there is evidence of a close association between citations and case outcomes.

Courts sometimes go beyond discussion and quoting of other cases to openly acknowledge that particular cases were influential and worth following. A few examples of these expressions of reliance from wrongful discharge precedent cases are the following:

> We find particularly helpful the opinion of the Supreme Court of Texas in *Sabine Pilot Service* [note omitted]. . . . We are persuaded that the Texas rule strikes the best balance between the sound and long-established at-will doctrine and the need to recognize and, when necessary, to enforce an identifiable public policy. Accordingly, we adopt the Texas rule and apply it to this case. (*Adams v. George W. Cochran & Co.* 1991:33–34)

> We find particularly persuasive the opinion of the Supreme Court of Minnesota in *Pine River State Bank v. Mettille* [1983; citation omitted]. . . . Following the reasoning in *Pine River*, we hold that an employee handbook or other policy statement creates enforceable contractual rights if the traditional requirements for contract formation are present. (*Duldulao v. Saint Mary of Nazareth Hospital* 1987:318)

> We agree with the foregoing standard and analysis of the Arizona Supreme Court in *Wagenseller* [1985], and adopt the implied-in-law covenant of good faith and fair dealing in employment contracts as set out above. (*Metcalf v. Intermountain Gas Co.* 1989:749)

To be sure, statements of this kind are not the norm. Fourteen explicit statements of reliance on decisions from other states were found in public policy cases, 10 in implied contract cases, and 8 in covenant of good faith and fair dealing cases. The statements tended to be scattered about rather than directed at one or a few courts.[17] There is little reason to disbelieve a court when it attributes major influence on its decision to another court. There is, in fact, reasonably close correspondence in outcomes for those cases in which courts express reliance on the prior decisions of other courts.[18] Thus, statements of reliance

[17] The main exception in this regard is the Minnesota Supreme Court, whose decision in *Pine River State Bank v. Mettille* (1983) was cited as particularly influential by all of the courts that made such a statement in an implied contract precedent case. Other courts seemed to be impressed by the manner in which that decision, while adopting a new wrongful discharge doctrine, was firmly couched in the familiar discourse of contract law.

[18] All the cases expressing explicit reliance produced the same outcome in terms of acceptance or rejection of the doctrine in question. When more refined criteria for "close agreement" on the breadth of the doctrine recognized were used, 11 of the 14 public policy cases, 3 of the 10 implied contract cases, and 6 of the 8 covenant of good faith and fair dealing cases were found to be in "close agreement." The relative lack of correspondence in implied contract cases is difficult to explain, although decisions in these cases tend to be obtuse and difficult to code in terms of the breadth of the implied contract doctrine being recognized.

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constitute evidence that, at least occasionally, citations track the influence of one court on the thinking of another.

Is there evidence in these data for a more general relationship between citations, or similarity in patterns of citations, and agreement in case outcomes? Table 5 displays in contingency table form the relationship between citations and case outcomes. The panels differ by whether strong cites or all cites are being considered and by whether direct citations of one court by another ("cohesion") or similarity in patterns of citation ("structural equivalence") are being considered. A "close match" is predicated on the pair of courts both rejecting a doctrine, both adopting a narrow variant of the doctrine, or both adopting a broad variant of the doctrine.[19]

Table 5. Cross-Tabulations of Citation Linkages and Similarity in Outcomes (Row Percentages and Cell Frequencies)

Type of Linkage	Similarity in Outcomes: Close Match Not Present %	Close Match Not Present N	Close Match Present %	Close Match Present N	Total %	Total N
A. Strong Citation						
Strong citation not present	54.7	(2,137)	45.3	(1,767)	100.0	(3,904)
Strong citation present	54.7	(111)	45.3	(92)	100.0	(203)
Column marginals/total *N*		(2,248)		(1,859)		(4,107)
χ^2, 1 d.f. = 0.0020, p = .960						
B. Citation of Any Type						
No citation of any type present	54.5	(1,869)	45.5	(1,559)	100.0	(3,428)
Citation present	55.8	(379)	44.2	(300)	100.0	(679)
Column marginals/total *N*		(2,248)		(1,859)		(4,107)
χ^2, 1 d.f. = 0.3795, p = .550						
C. Patterns of Strong Citations						
Differing patterns of strong citations	55.9	(1,941)	44.1	(1,528)	100.0	(3,469)
Similar patterns of strong citations	48.1	(307)	51.9	(331)	100.0	(638)
Column marginals/total *N*		(2,248)		(1,859)		(4,107)
χ^2, 1 df = 13.3381, p = .000***						
D. Patterns of All Citations						
Differing patterns of all citations	55.4	(1,967)	44.6	(1,582)	100.0	(3,549)
Similar patterns of all citations	50.4	(281)	49.6	(277)	100.0	(558)
Column marginals/total *N*		(2,248)		(1,859)		(4,107)
χ^2, 1 d.f. = 4.9834, p = .28*						

*p < = .05 **p < = .01 ***p < = .001

[19] Excluding self-citations (because these would necessarily be in "close agreement"), there are 2,550 state-by-state pairings for each doctrine. However, it is clear that

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Hypothesis 6 proposes a positive relationship between the existence of a citation and close correspondence in case outcomes. The findings outlined in Table 5, panels A and B, suggest otherwise. The fact that one state's court cited another state's court, either strongly or in any fashion, is not associated in these data with a close convergence in outcomes. In the case of strong cites (Table 5, A), the percentage of matches is the same regardless of whether a citation is present. When all ties are considered (Table 5, B), there is also no statistically significant association, but the data are in the direction of a negative relationship. The failure to find an association between direct citations and outcomes, even after restricting the sample to courts that had a genuine opportunity to cite one another, may reflect the simple fact that courts are generally not comprehensive in citing all other courts with which they agree. Alternatively, other courts might be cited out of a sense of evenhandedness, to show that a court is aware of contrary holdings. Still, the absence of any association between individual citations and the types of doctrines that are adopted (or rejected) raises further question about the utility of most individual citations as indicators of influence.

When we examine the effects of similarity in patterns of citations (Table 5, C and D), the picture is quite different. There is clear evidence of a positive association (consistent with hypothesis 6); courts that are alike in the pattern of citations they send and receive are also more likely to agree in their decisions regarding particular wrongful discharge doctrines. This is especially true for structural equivalence groupings based on strong citations. Not only is the chi-square statistic robust, but it is only in Table 5, C, that the proportion of states closely matched in outcomes exceeds the proportion not closely matched. Thus, while agreement cannot be directly equated with influence, these findings are at least consistent with the view of citations as meaningful indicators of influence that can be used to track the development of legal doctrines. However, if this is so, it is only so when overall patterns of citations, rather than individual citations, are considered.[20]

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the opportunity to cite another court depends largely on whether that other court has already published a decision pertaining to the doctrine in question. Two courts may end up reaching the same decision, but if one failed to cite the other because the latter court had not yet produced a relevant precedent case, that is hardly evidence of a lack of association between citations and case outcomes. A more appropriate test is provided by considering only those pairings for whom the opportunity to cite was present; that is, the court potentially cited had already produced a decision relevant to the doctrine in question. Restricting the state pairs included in this manner and combining findings for the three doctrines yields an N of 4,107. However, while the three doctrines are combined in these tables, the presence or absence of close agreement and of a citation or similar pattern of citations are all doctrine-specific.

[20] The claim here is simply that structural equivalence in citation networks is useful in predicting similarity in case outcomes. Undoubtedly, other factors may account for similarity in citation patterns and directly or indirectly affect homogeneity in case outcomes. A fuller attempt at causal modeling is beyond the scope of this article.

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These findings thus provide partial support for hypothesis 6, insofar as structurally equivalent courts are more likely to be in close agreement on their decisions than courts that do not exhibit similar patterns of citations. Especially given that courts were deemed to be in close agreement only if they concurred at a relatively refined level, the findings are most in keeping with the view that citations are markers for substantive influence. The observed association is notably stronger for structural equivalence groupings based on the presence of strong cites than those based on the presence of citations of any kind. In conjunction with the evidence on statements of reliance, this suggests that differentiating between strong cites and cites of any kind may be especially important when attempting to track substantive intercourt influence. The findings also relate to the long-standing debate within the network analysis literature concerning the relative effects of cohesion and structural equivalence on homogeneity in attitudes and behavior. A number of studies have concluded, like the present study, that structural equivalence is of greater consequence, but findings have varied (Marsden & Friedkin 1994:18). The most straightforward account of these findings is that structurally equivalent state courts draw on the same (or similar) cases (i.e., cite the same courts) and thus utilize the same sources of ideas about the law and arrive at the same decisions. Their familiarity with one case and the citations it contains may also lead the citing courts to cite many of the same other cases. Yet, structural equivalence is also premised on citations received from other courts. Presumably, cases with the same outcome are then more likely to be cited together by subsequent courts in their decisions.

V. Conclusions

The major question addressed by this study concerns the meaning and purpose of citations. Are citations in judicial opinions markers for the flow of ideas and influence between courts? Or are they symbolic devices primarily aimed at securing legitimacy? These two ends are not, of course, mutually exclusive, nor are they readily distinguished. Evidence in this study for legitimation as a primary motive for use of citations includes the greater breadth and frequency of citations in situations where acceptability of decisions is more in question, particularly when new legal doctrines are being adopted and those doctrines are relatively far-reaching. Further support for this view is the finding that prestigious courts were more likely to be cited, even after several measures of decision quality were considered. The view of citations as substantively meaningful receives support from findings that courts producing longer opinions were more likely to be cited, that courts sometimes discuss other states' cases at length

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and directly attribute influence to them, and that courts similar in their citation profiles are more likely to be in close agreement on case outcomes.

This evidence of both motives operating to create systematic patterns of citations provides further support for the general proposition that legal citations are meaningful and useful data. If it seems unremarkable that these two motives should play a part in citations, prior research on legal citations has tended to acknowledge, but sidestep, the issue of what citations mean. Instead, it has focused on demonstrating that citations are structured, going to some courts more frequently than others, and identifying which courts those are (Caldeira 1983, 1985; Harris 1985). Empirical evidence directly addressing the purposes served by legal citations represents a contribution. It is also clear that there are other factors underlying citations. One of the most basic is that courts can only cite other courts that have already produced pertinent decisions.

Distinguishing between strong citations and citations of all types did not result in markedly different findings overall, but was shown to have a potential pay-off, particularly when one is trying to discern substantive influence on case outcomes. The results of this study also support the notion that citation breadth and frequency are distinct phenomena that should both be included in citation studies.

Some future directions for research are apparent. It would be useful to examine citations in a more developed area of the law to determine the extent to which the findings of the study are predicated on the fact that these are precedent cases. While it makes sense to identify and focus on strong citations, it may very well be that there are better ways to operationalize strong citations than the criteria used here. Clearly, devising other empirical tests that would more definitively distinguish between the two views of citations would be desirable, albeit difficult to accomplish. Because the time at which a court decides its precedent case is clearly relevant to the ability of other courts to cite and be influenced by that court, further attention needs to be given to the factors (to the extent that these are systematic) affecting judicial innovation. The most useful citation research is likely to be the sort of which Glick's (1992) study of "right to die" caselaw is an exemplar. Focusing on a single, significant area of the law, Glick's work is a model for how to combine data from citations with the substance and chronology of the development of the law. However, the results of the present study strongly indicate that overlap in patterns of citations, and not simply individual citations, needs to be incorporated into this type of study. Finally, while explicit applications of network analysis concepts and techniques to the study of legal citations have been few, there is clearly much room for this type of synthesis.

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