Mediation Success: An Empirical Analysis

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I. INTRODUCTION

Increasingly, lawyers seem to be exploring a range of alternative dispute resolution ("ADR") processes aimed at settling controversies without the courts and without binding arbitration.[1] The range of actual experiences with ADR, however, whether from family law, construction law or commercial law, has not been translated into a theoretically well-defined body of research. For example, despite more than twenty years of social science research on an array of dispute resolution techniques, it remains unclear why some types of ADR succeed while others fail.[2] For mediation in particular, the most popular ADR technique currently used to resolve disputes,[3] it remains unclear why some disputes subjected to mediation settle and why other disputes subjected to mediation end up in court.

As a theoretical and practical matter, several key questions concerning the effectiveness of mediation remain unanswered. For instance, are mediations with a significant amount in controversy more—or less—likely to settle? Is a $200 single-issue dispute over a dented car more likely to be settled through mediation than a $200,000 multiple-issue construction contract dispute? Even more fundamentally, are tort cases more likely to be settled through mediation than contract disputes? If the character of the dispute does not determine success, what other factors shape the final

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[1] Mediation is a private, informal process in which disputants are assisted by one or more neutral third parties in their efforts toward settlement. Mediators advise and consult impartially with the parties in order to bring about a mutually agreeable resolution of disputes. For a useful general introduction to the topic, see JAMES F. HENRY & JETHRO K. LIEBERMAN, THE MANAGER'S GUIDE TO RESOLVING LEGAL DISPUTES (1986). For an introduction to arbitration, see IAN R. MACNEIL ET AL., FEDERAL ARBITRATION LAW (1994).

[2] John P. Esser, *Evaluations of Dispute Processing: We Do Not Know What We Think and We Do Not Think What We Know*, 66 DENV. U. L. REV. 499, 542 (1989).

[3] *See* NANCY H. ROGERS & CRAIG A. MCEWEN, MEDIATION: LAW, POLICY, PRACTICE (1989).

outcome in a mediation? For example, are mediations involving three or more parties more or less likely to settle than mediations involving only two parties? In addition to these factors, to what extent does the skill of the specific mediator determine success? Does a range of mediator tactics encourage settlement? If it is not the mediator that drives the process, do external pressures ultimately affect mediation success? For instance, does the threat of litigation encourage parties to settle their disputes through mediation more so than if no suit has been filed? Despite the relevance of these fundamental questions—for dispute resolution scholars, practicing mediators, and judges who encourage the use of mediation—few researchers address them in any detail. And for those addressing these concerns, given the confidentiality of most mediation experiences, few base their research on actual mediation experiences.

Drawing on more than 500 experiences with mediation from the construction industry, this paper examines the determinants of mediation success across a wide range of dispute fact patterns, case situations, and mediator abilities and innovations. Part I reviews previous quantitative and qualitative research on the determinants of mediation outcome as developed in divorce, labor, and small-claims mediations. Part I also examines the concept of mediation success and discusses the difficulties of relying on settlement as a measure of mediation outcome. Part II describes the 1990-91 American Bar Association Forum on the Construction Industry Survey of Non-Binding Dispute Resolution and reviews results on a range of ADR issues addressed in the survey.[4] Using the survey results, Part III develops an empirical model which explains settlement of construction disputes subjected to mediation. As such, the paper attempts to confirm or deny a hybrid theory for settlement decisions in construction mediations that has been developed in the fields of labor and divorce mediation.[5] As one of the first empirical investigations of construction mediations, the analysis adds to

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[4] For a detailed description of the survey and summary of results, see Thomas J. Stipanowich & Douglas A. Henderson, *Settling Construction Disputes with Mediation, Mini-Trial, and Other Processes - The ABA Forum Survey*, CONSTR. LAW. Apr. 1992, at 6 [hereinafter, *Construction Disputes*]. For analysis of the mini-trial results, see Douglas A. Henderson, *Avoiding Litigation with the Mini-Trial: The Corporate Bottom-Line as Dispute Resolution Technique*, 50 S.C. L. REV. 237 (1995); Douglas A. Henderson, *Mini-Trial of Construction Disputes*, 12 INT'L CONSTR. L. REV. 442 (1994).

[5] As developed more fully in later sections, the paper extends a model for labor mediation developed by Thomas A. Kochan and Todd Jick in *The Public Sector Mediation Process: A Theory and Empirical Examination*, 22 J. CONFLICT RESOL. 209, 211 (labor mediation). *See also* Nancy A. Thoennes & Jessica Pearson, *Predicting Outcomes in Divorce Mediation: The Influence of People and Process*, J. SOC. ISSUES, Vol. 41, No. 2, 1985 at 115, 119-21 (divorce mediation).

a growing body of knowledge of mediation in a range of settings, public and private, legal and non-legal.[6] As explained in the final section, the determinants of mediation settlement are few in number, but very powerful in terms of impact on final outcome. Judging from the results, process seems to be the key explanatory variable in mediation success, more important than mediator characteristics or skills, and far more important than the underlying nature of the dispute.

II. MEDIATION OUTCOMES IN OTHER FIELDS: MULTIPLE MODELS AND CONFLICTING PERSPECTIVES

Empirical research on mediation generally concentrates on mediation effectiveness and its assessment. A preliminary question concerns whether "settlement" is the most appropriate measure of mediation, over "degree of compromise," "willingness to recommend to others," or "compliance?"[7]

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[6] For literature on empirical examinations of mediation, see Craig A. McEwen & Richard J. Maiman, *The Relative Significance of Disputing Forum and Dispute Characteristics for Outcome and Compliance*, 20 L. & SOC'Y. REV. 439 (1986) (small claims mediation) [hereinafter *Relative Significance*]; Debra Shapiro et al., *Mediator Behavior and the Outcome of Mediation*, J. SOC. ISSUES Vol. 41, No. 2, 1985, at 101 (coal union mediation); Kochan & Jick, *supra* note 5 (public sector union mediation); Thoennes & Pearson, *supra* note 5 (divorce mediation); Jean M. Hiltrop, *Mediator Behavior and the Settlement of Collective Bargaining Disputes in Britain*, J. SOC. ISSUES Vol. 41, No. 2, 1985, at 83 (labor mediation) [hereinafter *Mediator Behavior*]; Jean M. Hiltrop, *Factors Associated with Successful Labor Mediation*, *in* MEDIATION RESEARCH: THE PROCESS AND EFFECTIVENESS OF THIRD-PARTY INTERVENTIONS 241 (Kenneth Kressel et al. eds., 1989) [hereinafter *Successful Factors*]; Jeanne M. Brett & Stephen B. Goldberg, *Grievance Mediation in the Coal Industry: A Field Experiment*, 37 INDUS. & LAB. REL. REV. 49 (1983) (labor mediation); Neil Vidmar, *An Assessment of Mediation in a Small Claims Court*, J. SOC. ISSUES Vol. 41, No. 2, 1985, at 127 [hereinafter *Admitted Liability*]; Neil Vidmar, *The Small Claims Court: A Reconceptualization of Disputes and an Empirical Investigation*, 18 L. & SOC'Y. REV. 515 (1984) [hereinafter *Reconceptualization*]; Craig A. McEwen & Richard J. Maiman, *Mediation in Small Claims Court: Achieving Compliance Through Consent*, 18 L. & SOC'Y. REV. 11 (1984) [hereinafter *Achieving Compliance*].

[7] The most rigorous examination of this issue is found in Rodney G. Lim & Peter J.D. Carnevale, *Contingencies in the Mediation of Disputes*, 58 J. PERSONALITY & SOC. PSYCHOL. 259, 267 (1990) (reviewing categories of mediation outcomes); *see also* JOSEPH B. STULBERG, TAKING CHARGE/MANAGING CONFLICT 124 (1987); Kochan & Zick, *supra* note 5, at 211 ("The ultimate criterion of effectiveness of success of mediation is whether or not the intervention achieves . . . [settlement] . . . [M]easure[s] of mediation effectiveness [include] the proportion of issues that are resolved during the mediation [intervention.]"); Janice A. Roehl & Royer F. Cook, *Issues in Mediation: Rhetoric and Reality Revisited*, J. SOC. ISSUES

For the majority of researchers in mediation, however, the most challenging issue to date has been understanding the factors which explain mediation effectiveness.[8]

A. *Factors Affecting Mediation Outcome*

Explanations for mediation outcomes include a wide range of variables, constructs and configurations. However, three constructs (or sets of variables) used to explain mediation outcomes pervade the literature: (1) situational factors (or case characteristics), (2) mediator characteristics and interventions, and (3) procedural status of the dispute. As shown in this section, researchers have been unable to agree on which of these variables, or which combinations of these variables, translate into mediation effectiveness. A comprehensive view on mediation success is the exception rather than the rule in these efforts.[9] Furthermore, in disputes where more than a few thousand dollars are at stake, investigations of actual practices, problems and outcomes have been virtually nonexistent.[10]

1. *Situational Features*

Empirical research suggests that case characteristics or case situations should influence mediation outcome. Typically, these considerations might include some or all of the following variables:

- ☐ intensity of the dispute;
- ☐ party characteristics (their ability to pay, motivation to settle, or unrealistic expectations);
- ☐ type of dispute (value, payment, charges);
- ☐ length and complexity of the dispute; and
- ☐ number of parties in the dispute.

Vol. 41, No. 2, 1985, at 161, 162 ("Mediation should be judged on how well it resolves disputes between conflicting parties.").

[8] *See* Jessica Pearson & Nancy Thoennes, *Divorce Mediation: Reflections on a Decade of Research*, *in* MEDIATION RESEARCH: THE PROCESS AND EFFECTIVENESS OF THIRD-PARTY INTERVENTIONS 9, 23-26 (Kenneth Kressel et al. eds., 1989) [hereinafter *Reflections*].

[9] Hiltrop, *Successful Factors*, *supra* note 6, at 241 ("Certain mediation techniques and some aspects of the dispute situation, including the nature of the dispute involved, influence the outcome of the mediation intervention.").

[10] *E.g.*, McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 11 (evaluating mediation effectiveness in Maine small claims courts where amount in controversy was $800 or less).

Unfortunately, little consensus exists on the impact of these theoretically relevant influences.[11]

a. *Intensity of Dispute*

For many researchers, an important situational determinant of the effectiveness of mediation is the amount of perceived pressure on the parties to avoid going to the next step of the "impasse."[12] For example, the potential to strike could be viewed as a pressure point in private sector labor relations mediation. Judging from previous research, however, although "intensity of dispute" seems to influence the outcome of mediation, the direction of this relationship, whether positive or negative, remains elusive.[13] At the same time, though, others conclude that more intense disputes are more likely to result in a mediated agreement.[14]

b. *Disputant Characteristics*

Party characteristics also should affect outcome. For example, some researchers suggest that the lack of settlement in mediation typically would include three types of disputants: (1) parties lacking the motivation to settle, (2) parties hostile to each other, and (3) parties with unrealistic expectations.[15] One observer concluded generally that "the worse the state

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[11] *E.g.*, Hiltrop, *Mediator Behavior*, *supra* note 6, at 87; Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 116–17 ("[M]any practitioners have difficulty describing the mediation approach most closely associated with successful outcome."); Kochan & Jick, *supra* note 5, at 213 ("[M]ediation is more effective at resolving some types of conflicts or dealing with some sources of impasse than others . . .. [There is] no consensus nor evidence on what types of conflict mediation is best or least able to resolve.").

[12] Kochan & Jick, *supra* note 5, at 213 ("[I]ntensity of the impasse will be negatively related to the effectiveness of the mediation process . . .. [T]he larger the number of these different sources of impasse that are present in a dispute and the greater their magnitude or severity, the less effective the mediation process will be.").

[13] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 116; *see also* Kochan & Jick, *supra* note 5, at 214 ("[P]erceived pressure on the parties to avoid going to the next step of the impasse procedure" will shape outcome).

[14] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 116 (citations omitted); Kochan & Jick, *supra* note 5, at 230 ("[A] consistent predictor of effective mediation is the overall intensity of the dispute.").

[15] *See, e.g.*, Kochan & Jick, *supra* note 5, at 236; Hiltrop, *Successful Factors*, *supra* note 6, at 251.

of the parties' relationship is with one another, the dimmer the prospects that mediation will be successful."[16]

Divorce mediators are most likely to list the ability of the parties to cooperate with one another as the primary predictor of a successful outcome.[17] Suitability for mediation may be tied to the "spouses' ambivalence about the divorce, their level of anger, and the couple's ability to communicate."[18] According to this research, mediation may be least successful when couples communicate frequently but their tone is extremely angry, or when they are ambivalent about the divorce ("enmeshed couples"), or when they express their ambivalence about the divorce by avoiding the issues and not communicating ("autistic couples").[19] In mediation of custody and visitation disputes, outcomes were poorest for couples who had a history of prior litigation and post-dissolution battles.[20] In fact, while mediator actions and impact on the disputants were more crucial for successful intervention than was the nature of the dispute or characteristics of the disputants,[21] premediation characteristics were useful predictors of those who settled and those who did not—and between those who would recommend the process and those who would not—especially duration of the custody dispute (positively related to outcome), intensity of dispute, and quality of the previous relationships.[22] More recent and less severe disputes were most likely to be resolved, as were disputes between parties with at least a modest degree of communication and cooperation.[23]

c. *Type of Dispute*

An assumption in the dispute resolution literature is that mediation effectiveness differs significantly with the type of dispute.[24] An examination

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[16] Kenneth Kressel & Dean G. Pruitt, *Themes in the Mediation of Social Conflict*, J. SOC. ISSUES Vol. 41, No. 2, 1985 at 179, 185 [hereinafter *Themes*].

[17] *Id.* at 185.

[18] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 116 (citations omitted).

[19] *Id.*.

[20] Kressel & Pruitt, *Themes*, *supra* note 16, at 185.

[21] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 124.

[22] *Id.* at 125.

[23] Pearson & Thoennes, *Reflections*, *supra* note 8, at 25 ("In light of these findings, it might be argued that any beneficial outcomes noted for successful mediation clients are in fact the result of these preexisting characteristics.").

[24] Roehl & Cook, *supra* note 7, at 164 ("Mediation does not function equally well with all types of cases."); *see also* Kochan & Jick, *supra* note 5, at 212–14 (arguing that the "source of impasse" determines mediation effectiveness; and collective bargaining is affected by economic, political, legal, structural, organizational, interpersonal, and personal forces).

of 260 labor mediations from the British Advisory, Conciliation, and Arbitration Service, undertaken since 1981, concludes that while the nature of the issue in dispute affects the outcome of mediation intervention, "no consensus and little evidence" can be found on what type of dispute that mediation is "best able and least able" to resolve.[25]

Conclusions vary considerably on the appropriate target for mediation. For some, mediation is more difficult when issues of principle are involved; others, however, disagree.[26] In mediation of labor disputes, for example, the type of issue in dispute was strongly associated with the probability of achieving a settlement—pay disputes were significantly more amenable to mediation than were disputes where a matter of principle (such as union recognition) was involved.[27] Supporting this conclusion only slightly was a study of grievance mediation in the coal industry, which found "mediation was unlikely to be successful in discharge grievances, those involving large amounts of money, and those presenting novel issues of contract interpretation."[28] Still, according to this study, overall, the "resolution rate varied little by the nature of the issue in dispute."[29]

Closely related to the type of dispute has been "admitted liability" as a key explanatory variable of mediation compliance, mostly examined in a small claims setting.[30] Admitted liability suggests the distinction between no-liability disputes and partial-liability disputes has "major implications for assessing outcomes, regardless of whether the dispute is settled in mediation or goes to trial."[31] Admitted liability arises where a defendant

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[25] Hiltrop, *Successful Factors*, *supra* note 6, at 247 (suggesting a "strong association between type of issue in dispute and the probability of achieving a settlement by mediation").

[26] Kressel & Pruitt, *Themes*, *supra* note 16, at 187. *Compare* Roehl & Cook, *supra* note 7, at 164 ("[D]isputes over money and/or property are concrete, and they may lack room for compromise when compared to promises made in agreement in interpersonal disputes.") *with* Kochan & Jick, *supra* note 5, at 229 ("[D]isputes centering around issues of principle appear to be the kinds of disputes which are readily amenable to the mediation process.").

[27] Hiltrop, *Mediator Behavior*, *supra* note 6, at 88 ("Of the 104 cases in which the issues were pay and other terms and conditions of employment, the majority (73%) were resolved by mediation."); *see also* Hiltrop, *Successful Factors*, *supra* note 6, at 258 (arguing that "disputes involving pay more readily lend themselves to compromise than issues that do not involve a continuous scale, such as recognition."); *but cf.* Roehl & Cook, *supra* note 7, at 164 ("disputes over money and/or property are concrete, and they may lack room for compromise when compared to the promises made in agreements in interpersonal disputes.").

[28] Brett & Goldberg, *supra* note 6, at 65.

[29] *Id.* at 57.

[30] *See* Vidmar, *Admitted Liability*, *supra* note 6, at 127; *but cf.* McEwen & Maiman, *Relative Significance*, *supra* note 6, at 445.

[31] Vidmar, *Admitted Liability*, *supra* note 6, at 130.

admits owing some part of the amount at issue (e.g., $250 on a $500 claim); any loss over that which the defendant has admitted to pay (i.e., over $250) thus equals a loss.[32]

According to this theory, admitted liability, rather than whether the case was mediated or adjudicated, explains final outcome, particularly as it relates to compliance.[33] In support of this proposition was a study of the London, Ontario small claims courts with claims of less than $1,000, where rate of settlement differed as a function of liability admission.[34] Partial liability cases settled earlier in the mediation process.[35] Seemingly, people who admit partial liability "already have conceded an obligation to pay something,"[36] and consequently this admission creates a reason to "induce pressure for compliance."[37]

d. *Complexity of Dispute*

Other situational factors may be important in assessing mediation effectiveness. "Complex" disputes may be more likely to settle than simple ones because the parties may fear their case will be tried more severely in court.[38] An analysis of labor mediations concluded that "[t]hose cases that involve the *broadest range* and greatest magnitude of labor relations problems are least likely to be responsive to a mediation effort."[39]

The relationship between type of dispute and complexity of dispute remains unclear in the literature. Complexity of dispute probably reflects diversity of the issues considered more than anything, while the type of dispute probably concerns the substantive issue in question. Yet it is doubtful that complexity is simply a proxy for amount in controversy, a typical situational characteristic of disputes.[40] If the stakes are too large, the disputants may be unwilling to entrust the mediator with the power to settle

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[32] *See generally* McEwen & Maiman, *Relative Significance*, *supra* note 6, at 439.

[33] Vidmar, *Reconceptualization*, *supra* note 6, at 542.

[34] Vidmar, *Admitted Liability*, *supra* note 6, at 135.

[35] *Id.* at 137.

[36] *Id.*

[37] *Id.* at 131 (These cases "will differ in likelihood of settlement, in types of outcome, and in rates of compliance.")

[38] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 117 (citations omitted).

[39] Kochan & Jick, *supra* note 5, at 230–31 (emphasis added).

[40] John W. Hinchey, *Yes, We Do Need Special Rules for Complex Construction Cases!* CONSTR. LAW. Aug. 1991, at 1, 30 ("[W]hile the amount in controversy does not necessarily make a dispute 'complex,' it is a criterion that is a relevant indicator of complexity and is relatively easy to apply.").

the dispute. Any analysis of mediation outcome should take this situational characteristic into account in explaining effectiveness.

e. *Number of Parties*

Clearly, most of the research on mediation effectiveness implicitly assumes two disputants with one mediator. Virtually all studies of mediation outcome assume a limited number of parties, usually two.[41] Yet many modern disputes involve three or more parties.[42] Indeed, one author warns that the gap in research on this topic is so wide that "the first step of describing how mediators intervene in such conflicts has scarcely been taken."[43] With more parties, the most common theory would probably hold that the likelihood for settlement would be smaller. However, a large number of parties could work to pressure certain disputants in certain directions. The nature of this relationship is simply unsettled.

2. *Mediator Characteristics*

A second set of variables put forth to explain mediation outcomes can be loosely called the "mediator as key variable" explanation.[44] Most of the research in predicting outcomes has concentrated on this human dimension of the mediation process. Common wisdom holds that a mediation is only as good as the mediator, with the following attributes critical in overall mediation success:

- ☐ intervention techniques employed (aggressiveness and diversity of techniques);
- ☐ demographic characteristics (age, experience, functional specialization); and
- ☐ overall quality of mediators.

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[41] *E.g.*, Susan S. Sibley & Sally E. Merry, *Mediator Settlement Strategies*, 8 L. & POL'Y 7, 7 (1986) ("Most disputes are hotly contested by *both* parties.").

[42] Hiltrop, *Successful Factors*, *supra* note 6, at 260 ("[T]here is almost no theory or research about the mediation of multilateral conflicts.").

[43] *Id.* at 260.

[44] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 117 ("Even the cases most suitable for mediations will not result in success if the mediator conducts them poorly."); Peter J. D. Carnevale et al., *Contingent Mediator Behavior and its Effectiveness*, *in* MEDIATION RESEARCH: THE PROCESS AND EFFECTIVENESS OF THIRD-PARTY INTERVENTIONS 213, 213 (Kenneth Kressel et al. eds., 1989) ("Success in mediation, much like success in other human endeavors, is achieved by applying the appropriate action, in this case the proper mediation tactic, to the problem at hand.").

The following questions arise: what do mediators do, how do they do it, and what difference does it make?[45]

a. *Intervention Techniques Employed*

Judging from previous empirical research, the steps that mediators take ultimately should shape mediation outcome. Four basic types of mediator tactics have been identified: (1) establishing a working alliance with the parties; (2) improving the climate between the parties; (3) addressing the issues; and (4) applying pressure for settlement.[46] The first category is also known as rapport-building, or "reflexive" intervention. Interventions aimed at improving the mediation climate reflect the mediator as facilitator, not arm-twister. Of all the "climate control" techniques, caucusing is perhaps the most commonly invoked.[47] For some researchers, "[t]he control of the communication flow is most direct and powerful when mediators caucus frequently."[48]

As for "substantive" interventions (i.e., addressing the issues), considerable disagreement exists over the appropriateness of specific tactics and their effect.[49] Generally, efforts on the part of mediators to identify and order issues concerning the outcomes of mediation have been positive.[50] For Lim and Carnevale, "[m]ediator tactics that are seen as leading to successful conflict resolution in one dispute are seen as irrelevant or even detrimental in a different dispute."[51] As their research demonstrates, mediators not only classify mediation tactics into basic types, but also classify dispute

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[45] Kochan & Jick, *supra* note 5, at 215 ("Perhaps the most crucial set of determinants of the effectiveness of mediation, and yet most difficult to conceptualize and measure, are the strategies employed by the mediator to achieve a settlement.").

[46] Kenneth Kressel & Dean G. Pruitt, *Conclusion: A Research Perspective on the Mediation of Social Conflict*, *in* MEDIATION RESEARCH: THE PROCESS AND EFFECTIVENESS OF THIRD-PARTY INTERVENTIONS 395, 413 (Kenneth Kressel et al. eds., 1989) [hereinafter *Conclusion*]. Earlier the authors called these tactics reflexive, substantive, and contextual. Kressel & Pruitt, *Themes*, *supra* note 16, at 179; *see also* Sibley & Merry, *supra* note 40, at 19-22 (suggesting two ideal mediator styles: bargaining and therapeutic); Kochan & Jick, *supra* note 5, at 216 ("Obtaining the trust and confidence of the parties in the mediator is a necessary condition for the success of mediation.").

[47] Kressel & Pruitt, *Conclusion*, *supra* note 45, at 415.

[48] Sibley & Merry, *supra* note 40, at 14.

[49] Kochan & Jick, *supra* note 5, at 218-19 (identifying the advantages and disadvantages of "strong arm" tactics and proposing that "the more aggressive the style of the mediator, the more effective the mediation process").

[50] Kressel & Pruitt, *Conclusion*, *supra* note 45, at 416.

[51] Lim & Carnevale, *supra* note 7, at 259.

situations and mediation outcomes into basic types.[52] At the risk of oversimplifying Lim & Carnevale's research, their results indicate that mediators who facilitated communication and provided clarification and insights were most likely to achieve settlement.[53]

Other researchers offer evidence that mediator behavior seems to shape effectiveness in less direct and systematic ways. In particular, Professors Shapiro, Drieghe, and Brett posit that "mediation is an art—highly idiosyncratic and resistant to systematic analysis."[54] Examining five mediators in 327 separate mediations, the researchers found that, although they did not differ significantly in their overall *rate* of settlement, mediators did differ significantly in the type of mediation *outcome* they achieved.[55] Kind of settlement achieved varied according to the behavioral choices employed by the mediator; mediators embraced behavioral tactics based on the kind of outcome *they* wished to achieve.[56] A similar conclusion was identified in an experimental study of mediation rates in coal grievance disputes, where no significant differences were found among mediators' resolution rates and no differences were found among mediators' use of mediation interventions.[57]

Additional research in labor mediation clarifies the role of the mediator.[58] In these studies, the most effective strategies for labor mediators appeared to be when they predominantly served as "go-between and prod," with the most successful mediators acting as "communication" links.[59] But when mediators tried to regulate interaction between disputants and when they tried to reduce emotional tension between them, mediations were less successful.[60] For successful outcomes, this research suggested that mediators should engage in a "variety of diagnostic activities."[61] Indeed, to be effective, a mediator must do more than act as a facilitator for parties.[62]

A further contribution was made by Professors Thoennes and Pearson, who, using premediation background characteristics and user perceptions of

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[52] Lim & Carnevale, *supra* note 7, at 270; *but cf.* Sibley & Merry, *supra* note 40, at 19 (describing "consistent patterns in the settlement strategies" of mediators).

[53] Lim & Carnevale, *supra* note 7, at 260.

[54] Shapiro et al., *supra* note 6, at 101.

[55] *Id.* at 107.

[56] *Id.* at 101.

[57] Brett & Goldberg, *supra* note 6, at 57.

[58] Hiltrop, *Successful Factors*, *supra* note 6, at 244 (indicating that a small percentage of cases included "construction/extraction industries").

[59] *Id.* at 252.

[60] *Id.*

[61] *Id.* at 255.

[62] *Id.* at 259.

mediator behavior as predictor variables, identified the correlates of full, partial, and no agreement outcomes for divorce mediations.[63] Here, for their sample of divorce mediations, the most important predictor was the *perceived* ability of the mediator to facilitate communication between the two parties. The authors concluded in divorce mediation, the mediator's actions and impact on the disputants may be more crucial for successful intervention than the nature of the dispute or the characteristics of the disputants.[64]

The most heavily weighted predictors of settlement were (1) users' perceptions of the mediator's ability to provide insights into their own feelings and (2) the mediator's ability to aid disputants in understanding the feelings of their children and ex-spouses.[65] By comparison, characteristics of parties, not of the mediator, were key determinants of mediation success in 130 cases involving municipal governments and police and firefighter unions in New York state.[66]

b. *Characteristics of the Mediator*

One issue that is less well addressed, but nonetheless implicit in the research literature, is whether demographic characteristics of the mediator shape the final outcome of the resolution process. Early on, scholars recognized that "personality, background, training, and other mediator-specific characteristics influence how a mediator responds to dispute situations."[67] Attempting to measure this, Kochan and Jick included in their analysis two sets of personal characteristics; (1) demographic characteristics, and (2) the parties' perception of the quality of the mediator.[68]

Lim and Carnevale also have examined mediator background and its relationship to specific interventions. Drawing on an analysis of 255 professional mediators, Lim and Carnevale identified sex as a contingent factor influencing the use of specific mediation tactics. Males were more

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[63] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 121 (using discriminant analysis).

[64] *Id.* at 124 (using discriminant analysis); *but cf.* Kochan & Jick, *supra* note 5, at 209.

[65] Pearson & Thoennes, *Reflections*, *supra* note 8, at 24 ("These findings underscore the importance of open communication, empathy, and self-insight.").

[66] Kochan & Jick, *supra* note 5, at 231 ("[U]ltimate outcome appears to be more affected by forces outside of the control of the mediator, namely, the nature of the dispute.").

[67] *Id.* at 218.

[68] *Id.* at 219 (While "[t]he underlying proposition is that the higher the *quality* of the mediator, the more effective the mediation process will be," their results showed that mediator *experience* was the better predictor of settlement) (emphasis added).

likely to use "substantive/press" tactics than females, regardless of the type of dispute (since men were more likely to mediate labor disputes).[69] Even more surprising was that such tactics were negatively related to general settlement under hostile conditions, but were positively related under high levels of hostility.[70]

c. *Number of Advisers*

Just as most authors assume that mediations concern only two disputants, most authors assume that mediations involve only one mediator. Few investigate the effect of several advisers in the dispute resolution process.[71] Again, the lack of concern over several advisers may reflect the differences in dispute types (e.g., divorce versus construction mediation). In divorce mediations, more than one mediator would be largely unnecessary, and may prove detrimental to the dispute resolution process. Given a long history of labor arbitration that often has three or more on an arbitration panel, labor relations disputes may be more likely to involve several mediators. If mediation is viewed as an adjunct to arbitration, however, one adviser may be the rule. Conversely, if having more than one adviser does not translate into increased effectiveness, then the very idea of having more advisers should be questioned.

d. *Quality of the Adviser*

Studies typically concentrate on the specific tasks undertaken by the mediator. Few attempt to correlate overall quality of the adviser with the final mediation outcome.[72] Notwithstanding the specific technique employed by the mediator, it may be that parties settle based on an overall interpretation of the mediator. If they trust the mediator, and evaluate this as "quality," then increased rates of settlement may result. Quality of adviser may, as discussed later, only represent the perceived level of fairness and justice in the dispute resolution proceeding.

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[69] Lim & Carnevale, *supra* note 7, at 266-67.

[70] *Id.* at 270.

[71] Dean G. Pruitt & Kenneth Kressel, *The Mediation of Social Conflict: An Introduction*, J. SOC. ISSUES Vol. 41, No. 2, 1985 at 1, 1 ("Mediators are most commonly single individuals, but they also can be twosomes, threesomes, or even larger groups.").

[72] Kochan & Jick, *supra* note 5, at 226-27 (including "mediator quality" as an explanatory variable).

3. *Procedural Features*

A final set of variables centers not on dispute characteristics, or mediator interventions, but on procedural status. Here, the range of factors shaping mediation effectiveness could potentially include:

- ☐ timing of the dispute (was it at an impasse?);
- ☐ amount of discovery used in the mediation (was it extensive or not?);
- ☐ source of the request (was mediation required or not?); and
- ☐ rules used to guide the process (who sets the stage?).

As is true generally in any dispute resolution proceeding, including adjudication, choice of procedure should affect the final outcome.[73] Disputants may be as concerned with the fairness of the outcome as with the way the dispute is handled.[74]

a. *Timing of the Dispute*

"The optimal timing of entry [of ADR] into the dispute is one of the most intensely debated topics in the conciliation literature."[75] Still others conclude that "delaying intervention too long may encourage unproductive negotiation behavior, making negotiation more difficult and successful intervention less likely."[76] On the other hand, a late intervention may pressure disputants to mobilize their resources and clarify and modify their positions.[77] In short, while timing should affect outcome, the direction of this relationship is unclear.

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[73] Blair H. Sheppard et al., *Informal Thirdpartyship: Studies of Everyday Conflict Intervention*, *in* MEDIATION RESEARCH: THE PROCESS AND EFFECTIVENESS OF THIRD PARTY INTERVENTIONS 166, 168 (Kenneth Kressel, et al. eds., 1989) ("One of the most important insights from this work is that procedures matter."); Craig A. McEwen & Richard J. Maiman, *In Search of Legitimacy: Toward an Empirical Analysis*, 8 LAW & POL'Y 257 (1986) (discussing "legitimacy" as an explanation for small claims mediation compliance) [hereinafter *Legitimacy*]. *Compare* Hinchey, *supra* note 39, at 1 (expressing a need for special ADR rules), *with* Luther P. House, Jr. & Brian G. Corgan, *No, Don't Inhibit Arbitration with Courtroom "Due Process,"* CONSTR. LAW. Aug. 1991 at 1 (expressing no need for new ADR rules).

[74] Sheppard et al., *supra* note 72, at 177; *see also* Donald T. Weckstein, *The Purposes of Dispute Resolution: Comparative Concepts of Justice*, 26 AM. BUS. L. J. 605, 607 (1988) ("The assumption is that a just process will yield a just result.").

[75] Hiltrop, *Successful Factors*, *supra* note 6, at 248 (citations omitted); Kochan & Jick, *supra* note 5, at 215 (data constraint preventing evaluation of timing of entry hypothesis).

[76] Hiltrop, *Successful Factors*, *supra* note 6, at 248 (citations omitted).

[77] *Id.* at 248-49.

Based on an analysis of labor mediations in Britain, mediation "work[ed] best when operating under a real and immediate strike threat, namely at the final stages of a negotiation process or at the point during a dispute where the parties are taking strike action."[78] Yet the converse may also hold, namely that "by intervening rather early in the conflict, the mediator may be able to help the disputants identify the issues and understand the size and scope of their conflict."[79]

b. *Source of Request*

Source of request should also explain mediation effectiveness.[80] In cases where a joint request for undertaking any form of alternative dispute resolution is made, both sides may be more prepared to deal with the mediator. But where mediation is undertaken at the request of only one of the parties, the mediator's first task may be to persuade one or both disputants to discuss the issues with a third party.[81] Finally, the very act of seeking assistance may create a psychological commitment to cooperating with the mediator. For one observer, "[i]t is important that both parties, rather than only one of them, seek the services of the mediator before assistance is offered."[82]

Source of request may only camouflage "legitimacy" as a related explanatory variable. McEwen and Maiman suggest, based on their study of Maine small claims courts, that "whatever compliance occurs would appear to be the consequence of the legitimacy of the court or of the agreement arrived at through mediation or negotiation, rather than of the self interest or habit of the party or coercion by the state."[83] The more "legitimate" processes yield higher rates of compliance. As this theory holds, "[o]ne obeys not because one agrees with the substance of the rule (one may in fact agree, disagree, or be indifferent to the rule itself), but because one believes in the authority or process that has produced it."[84]

Available evidence on the influence of this potential predictor is sketchy at best. In a sample of labor mediation cases, one author found that "of the 97 disputes in which the mediator intervened at the request of the two parties, seventy-one percent were resolved by mediation. By

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[78] Hiltrop, *Successful Factors*, *supra* note 6, at 258.

[79] *Id.* at 249.

[80] Hiltrop, *Mediator Behavior*, *supra* note 6, at 89.

[81] Hiltrop, *Successful Factors*, *supra* note 6, at 248.

[82] *Id.* at 258.

[83] McEwen & Maiman, *Legitimacy*, *supra* note 72, at 262.

[84] *Id.* at 265.

comparison, the settlement rate for unilateral requests was fifty percent."[85] A contrary result was presented by McEwen and Maiman who, in an analysis of 242 cases in Maine's small claims courts, found "perceptions of having freely chosen mediation . . . [were] *not* associated with the success of the process."[86] At least some level of compliance was more likely to result from a consensual method of arriving at an outcome than from an imposed judgment.[87]

c. *Party Control*

Embedded in the process of dispute resolution is the mutual reduction of conflict, and any procedures designed or implemented to improve the process should ultimately lead to increased mediation effectiveness. Hence, adoption of mediation procedures should affect outcome. Consider a common situation in construction disputes. If AAA mediation rules are applied as required by contract, for example, the result may be significantly different than if the parties developed the rules *ad hoc* on their own. How rules are developed, and who developed them, should shape the effectiveness of mediation.

Ultimately, developing rules for dispute resolution says as much about allocation of resources as it does about distributive fairness. A decision that satisfies the parties because they made it is obviously sensitive to their interests and thus provides a just decision that "maximizes the dignity of the individual disputant."[88] Distributive justice therefore is best attained "when the ultimate outcomes are distributed to contending parties in proportion to their respective contributions or inputs to the transaction underlying the dispute."[89] Conflicts of interest, which ultimately concern distributive justice and ultimately arise in all disputes, are best resolved by assigning the maximum process control to the disputants and assigning control for making decisions to an impartial third party.[90] To date, unfortunately, no study explicitly evaluates the role of distributive justice and party control in the eventual outcome of mediated disputes.

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[85] Hiltrop, *Successful Factors*, *supra* note 6, at 247–48.

[86] McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 26 ("[I]t does *not* appear that those who said they chose mediation were more pliable and compromise oriented than those who felt they were required to participate in this procedure.") (emphasis added).

[87] *Id.* at 40.

[88] Weckstein, *supra* note 73, at 617.

[89] John Thibaut & Laura Walker, *A Theory of Procedure*, 66 CAL. L. REV. 541, 542 (1978).

[90] *Id.* at 541, 559.

d. *Discovery*

Discovery also ultimately concerns power allocation in the dispute resolution process. While this issue has been addressed in the arbitration context,[91] few have examined this aspect in terms of mediation effectiveness. If no discovery has been undertaken as part of the ADR technique, for example, then parties may be less willing to divulge their position. If discovery has been extensive, parties may be more willing to express their ultimate goals, having little to reveal because of the previous discovery. Conversely, absence of premediation discovery may speed the process, leaving more time for caucusing and mediator interventions. The presence of premediation discovery may level the playing field, giving a relatively "unpowerful" disputant the chance to uncover relevant information and the chance to understand the other side's position. Extensive discovery may translate into more headaches and burdens in the mediation of disputes.

B. *Unresolved Issues of Assessment*

An optimum measure for mediation effectiveness remains elusive. The choice of a measure for mediation outcome may very well shape the range of variables put forth to explain mediation settlement. The very essence of mediation is at stake: is mediation a process, or a product? Those embracing the product view rely on settlement (versus no settlement), compliance rates, and similarly discrete evaluations. Those embracing the process view use definitions that include "willingness to recommend to others," "future relationships between parties," and "user satisfaction."

1. *Effectiveness*

In a comprehensive review of the literature, Professors Kressel and Pruitt list six general categories of mediation outcome: (1) user satisfaction; (2) rates of compliance; (3) rates of settlement; (4) nature of agreements; (5) efficiency; and (6) improvement in the postdispute climate.[92] Typically, user satisfaction with mediation is very high for these categories, even for those who fail to reach a settlement, and this outcome has been of interest

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[91] Kacey Coleman, Comment, *An Advance or a Retreat? Prehearing Discovery in Arbitration*, 6 ADELPHIA L. J. 41 (1990) (discussing prehearing discovery in arbitration).

[92] Kressel & Pruitt, *Conclusion*, *supra* note 45, 394, 395-400; *see also* Kressel & Pruitt, *Themes*, *supra* note 16, at 184 (1985) ("One problem with the evidence is the paucity of studies and the narrow range of types of mediation investigated to date.").

for only a few researchers.[93] Rates of compliance have been one of the primary measures of interest in mediation outcomes.[94] For many more researchers and practitioners, rate of settlement has been synonymous with mediation outcome. Here the concern is simple: did the mediation achieve settlement? One estimate places mediation settlement rates around sixty percent.[95] Of these measures, according to some, settlement rate has been perhaps the most overemphasized.[96]

Lim and Carnevale, in the most rigorous study of mediation outcomes conducted to date, suggest that outcomes fall into one of three categories: (1) general settlement; (2) mediator outcomes; and (3) improved relationship.[97] Developed from a confirmatory factor analysis of a survey of 255 professional mediators, their first category adds some legitimacy to the notion that settlement is a useful outcome measure. For Lim and Carnevale, general settlement included "number of issues reduced," "overall success," and "lasting agreement reached."[98]

Corroborating this in another setting, an actual evaluation of outcomes in Canadian small claims courts, another scholar concluded that "the claim that mediated settlements yield intermediate outcomes is greatly exaggerated. Substantial numbers of such cases yielded all-or-none outcomes."[99]

"Compliance" as an outcome measure has been developed primarily by Vidmar[100] and by McEwen and Maiman.[101] The focus here concerns what occurs once mediation ends. In this type of research, outcome is measured by whether the defendant had paid some, all, or none of the judgment or settlement, usually after some specified period of time. In practice this measure approximates whether or not settlement was achieved at all because full compliance is difficult to measure, given confidentiality of the post-mediation result.

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[93] Kressel & Pruitt, *Conclusion*, *supra* note 45, at 395–96.

[94] *See, e.g.*, McEwen & Maiman, *Relative Significance*, *supra* note 6; Vidmar, *Admitted Liability*, *supra* note 6, at 12.

[95] Kressel & Pruitt, *Conclusion*, *supra* note 45, at 397.

[96] *Id.* at 397.

[97] Lim & Carnevale, *supra* note 7, at 267.

[98] *Id.* at 267; *see also* Sibley & Merry, *supra* note 40, at 19 ("The purpose of mediation is to reach settlement" in the bargaining mode).

[99] Vidmar, *Admitted Liability*, *supra* note 6, at 136.

[100] *Id.* at 137; Vidmar, *Reconceptualization*, *supra* note 6, at 516.

[101] McEwen & Maiman, *Relative Significance*, *supra* note 6, at 439; McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 11.

2. *Illustrations*

A few illustrations underscore the range of measures used. In an incisive examination of 130 public sector labor disputes, Kochan and Jick relied on four effectiveness measures: (1) settlement (versus no settlement); (2) percent of issues resolved; (3) movement on the issues; and (4) "holding back the issues."[102] When examining the influence of several variables on these outcomes, a different definition of outcome translated into relatively different explanations; for example, "aggressiveness of the mediator is more important in reducing the number of issues [as a measure of outcome] than in affecting whether a final settlement is achieved [as another measure of outcome]."[103] When outcome was defined as the degree of "management movement" on the issues, however, key explanatory variables once again changed. In particular, management was less likely to "move on the issues" when it faced an intense dispute.[104] The authors conclude that "[t]he ultimate criterion of effectiveness or success of mediation . . . is whether or not the intervention achieves this goal [an agreement]."[105]

Effectiveness can also reflect the particular dispute in question. In a study of five mediators in 327 mediation conferences in the coal industry, Shapiro, Drieghe, and Brett developed six categories of outcome: (1) compromise; (2) union withdraws the grievance; (3) company grants the grievance; (4) the mediator gives an advisory opinion sustaining the grievance; (5) the mediator gives an advisory opinion denying the grievance; and (6) the mediator gives an advisory opinion stating an uncertainty whether an arbitrator would sustain or deny the grievance.[106] Similarly, in a study of three court-based divorce mediations, explanatory variables were primarily background characteristics of the dispute and disputants. Two outcome measures were used: degree of settlement and willingness to recommend mediation.[107] In this research, degree of settlement in custody disputes was measured by three responses: final

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[102] Kochan & Jick, *supra* note 5, at 211.

[103] *Id.* at 229.

[104] *Id.* at 229-30.

[105] *Id.* at 211-12 ("[A]n additional measure of mediation effectiveness is the proportion of issues that are resolved during the mediation process . . .. [Another measure is] the degree of movement . . . toward agreement by the parties during the mediation intervention."); *see also* Roehl & Cook, *supra* note 7, at 162 ("Mediation should first be judged on how well it resolves disputes between conflicting parties.").

[106] Shapiro et al., *supra* note 6, at 104.

[107] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 120.

agreement; partial agreement; or no agreement.[108] Willingness to recommend mediation was assessed by responses to a Likert-type scale question.[109]

3. *Implications*

If outcome is defined as rate of settlement, then the set of explanatory variables used to explain outcome should differ from those used to explain outcome when outcome is defined as rate of compliance. Few studies recognize this issue.[110] Even fewer suggest that key attributes of mediation outcome may differ significantly by domain of disputes (e.g., divorce, custody, labor, construction). Indeed, outcomes in divorce mediations may reflect more process attributes of the technique, while labor disputes necessarily require that product outcomes be evaluated. Conceivably, some forms of mediation may have only very discrete outcomes with very little therapeutic effect. In other words, outcome may be contingent on the type of dispute under consideration.

C. *State of the Literature*

For the past twenty years, legal scholars, social scientists, and behavioral theorists have (with varying degrees of success) addressed why one mediation fails and another succeeds.[111] Explanations for mediation effectiveness remain largely contradictory, especially in assessing the relative influence that one set of variables, over another set, has on settlement.[112] For example, while Thoennes and Pearson[113] concluded

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[108] Thoenes & Pearson, *Divorce Mediation, supra* note 5, at 120 (Asking respondents "[w]hat issues were settled in mediation?"). Subjective outcome measures such as these appear "more precise than those obtained purely from court records." *Id.*

[109] *Id.* at 120–21 ("Would you recommend mediation to your friends if they had custody or visitation problems?").

[110] *But see* Kochan & Jick, *supra* note 5.

[111] For analysis of mediation research generally, see Kenneth Kressel et al.,MEDIATION RESEARCH: THE PROCESS AND EFFECTIVENESS OF THIRD PARTY INTERVENTION(1989) [hereinafter: MEDIATION RESEARCH]; *see also* Kressel & Pruitt, *Themes, supra* note 16, at 179; James A. Wall, Jr., *Mediation: An Analysis, Review, and Proposed Research*, 25 J. CONFLICT RESOL. 157 (1981); Pearson & Thoennes, *Reflections, supra* note 8, at 9. Jeanne M. Brett et al., *Mediator Style and Mediation Effectiveness*, 2 NEGOTIATION J. 277 (1986).

[112] *Compare* Kochan & Jick, *supra* note 5, at 236 ("[O]ur conclusion is reinforced that the parties, rather than the mediators, play the dominant role in shaping the mediation process.") *and* Brett & Goldberg, *supra* note 6, at 65 ("The determining factor, however, is probably not the nature of the grievance but the attitude of the parties toward the grievance.")

mediator characteristics explained settlement of divorce mediations, Kochan and Jick[114] concluded *case* characteristics provided a better explanation for labor mediation settlement.

However, just as it may be a mistake to equate mediation of divorce disputes with mediation of labor disputes, it may be a mistake to judge mediation of construction disputes by conclusions drawn from other fields.[115] In construction disputes, where parties often contest millions in complex commercial disputes, settlement may depend more on the amount in controversy, than the quality of the mediator, unlike the situation that some suggest exists in labor mediation. By comparison, in divorce mediations size of dispute (e.g., net estate in question) may, after accounting for other key considerations, exert little effect on final outcome. If research on mediation is still in its infancy, as many suggest,[116] then research on mediation of construction disputes must be embryonic.

Several reviews have touted the benefits of mediation in the construction industry,[117] but few comprehensive studies exist. Analysis of

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with Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 121 ("[T]he most important predictor was the perceived ability of the mediator to facilitate communication between the two parties.") *and* Lim & Carnevale, *supra* note 7, at 271 ("[T]here appear to be links between mediation tactics and outcomes that occur with some dispute types more than others.").

[113] Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 115, 124.

[114] Kochan & Jick, *supra* note 5, at 235–36.

[115] *Id.* at 211 ("The primary objective of mediation is to get the parties to reach an agreement.").

[116] Lim & Carnevale, *supra* note 7, at 259; *see also* Kressel & Pruitt, *Themes*, *supra* note 16, at 179 ("We are still in the relatively early stages of sustained research on mediation."); Roehl & Cook, *Rhetoric and Reality*, *supra* note 7, at 166 ("More research is needed to develop a toxology of cases to aid in the screening and resolution of disputes."); Vidmar, *Admitted Liability*, *supra* note 6, at 140 ("Further research is needed to determine the degree to which case characteristics and procedures affect outcomes."); Kochan & Jick, *supra* note 5, at 209 ("Mediation is probably the most widely practiced and least researched conflict resolution procedure in collective bargaining."); Hiltrop, *Successful Factors*, *supra* note 6, at 259 ("[W]e need to know more about the situational determinants of successful mediation."); Wall, *supra* note 110, at 157 ("Despite its variety, longevity, and seeming ubiquity, mediation remains understudied, less than understood, and unrefined.").

[117] *E.g.*, David Moffat, *Alternative Dispute Resolution: New Hope Emerges for Controlling Litigation in the Construction Industry*, ARCHITECTURE, June 1992, at 99, 100-01; Gerry Donohue, *Staying Out of Court*, BUILDER, Jan. 1992, at 286 (1992); Milton F. Lunch, *Stature of Mediation Gains as a Dispute Resolution Option: Construction-Related Groups, as Well as the Courts, are Pushing for Greater Use of Alternative Dispute Resolution Techniques Rather Than Litigation*, 32 BUILDING DESIGN & CONSTR. 31 (1991).

mediation effectiveness in construction disputes should help clarify these issues and potentially resolve the divergent conclusions which have developed from research on labor and divorce mediations. The lack of agreement on the mediation effectiveness field may be attributable to the concentration on one set of variables at the expense of others. Of the variables identified in this review, procedure has received the least attention, even though theoretically this concept might constitute the most important predictor of mediation outcome. The next section develops an empirical model that incorporates situation, mediator, and procedure.

III. MEDIATION OF CONSTRUCTION DISPUTES: ADDING EMPIRICAL EVIDENCE TO ANECDOTE

The lack of empirical attention given to mediation, the lack of attention given to construction disputes, and the success of the 1985-86 Forum on the Construction Industry (FCI) survey on arbitration[118] inspired the 1990-91 FCI survey on mediation, mini-trial, and other settlement-oriented procedures used in construction disputes.[119] The survey, developed with input from representatives of the Forum, the AAA, and the Center for Public Resources, was intended to supplant anecdote and hearsay with data reflecting the actual collective attitudes and experiences in the field.[120] The 1990-91 survey, extending an earlier ABA survey focusing exclusively on arbitration, canvassed the construction bar's attitudes and experiences with mediation, mini-trial, and, to a lesser extent, summary jury trial, non-binding arbitration, and other ADR processes.

A. *Setting of the Forum Survey*

A detailed survey covering a range of issues was distributed at the 1990 meeting of the Forum on the Construction Industry. Information on attitudes toward non-binding methods of dispute resolution, in particular

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[118] See Stipanowich & Henderson, *supra* note 4, for a discussion of these results.

[119] A detailed description of the survey and summary of the empirical results is provided by Stipanowich & Henderson, *Construction Disputes*, *supra* note 4, at 6; *see also* Thomas J. Stipanowich & Douglas Henderson, *Mediation and Minitrial of Construction Disputes*, in CONSTRUCTION CONFLICT MANAGEMENT AND RESOLUTION 314 (Peter Fenn & Rod Gameson eds., 1992) (reviewing mediation and mini-trial results).

[120] Consequently, the analysis here is constrained by what measures were already included in the survey. Effectively, this amounts to secondary analysis of survey data. Secondary analysis refers to the accepted process of overlaying a theoretical model on data not specifically collected for that purpose.

mediation, mini-trial, and summary jury trial, was collected as part of the survey.

The questionnaire contained two sections. The first sought information regarding the respondent's *perceptions* of a range of dispute resolution processes. The second section collected information concerning the respondent's *actual experiences* with a range of dispute resolution techniques. Special emphasis was placed on mediation,[121] defined in the survey as "a private, informal process in which disputants are assisted by one or more neutral third parties in their efforts toward settlement;"[122] and mini-trial,[123] defined as "a private process in which counsel for the opposing parties present their cases in condensed form in the presence of designated representatives for each side who have authority to settle the dispute . . . [and usually] an impartial third-party advisor."[124] Selected questions addressed the use of summary jury trial[125] and non-binding arbitration.[126] The questionnaire was distributed to approximately 5400 Forum members in late 1990; 552 completed surveys were ultimately returned and coded for analysis.[127]

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[121] For analysis of mediation research, see generally MEDIATION RESEARCH, *supra* note 45; *and* James A. Wall, Jr., *supra* note 110, at 157.

[122] Stipanowich & Henderson, *Construction Disputes*, *supra* note 4, at 6.

[123] The classic description of "minitrial" is given in Eric D. Green et al., *Settling Large Case Litigation: An Alternative Approach*, 11 LOY. L.A. L. REV. 493, 501-06 (1978). Another comprehensive source is James F. Davis & Lynne J. Omlie, *Mini-Trials: The Courtroom in the Boardroom*, 21 WILLAMETTE L. REV. 531 (1985). In addition, Ronald L. Olson, *Dispute Resolution: An Alternative For Large Case Litigation*, LITIG. Winter 1980, at 22, 59, and Lester Edelman & Frank Carr, *The Mini-Trial: An Alternative Dispute Resolution Procedure*, ARB. J., March 1983, at 7, provide useful summaries.

[124] Stipanowich & Henderson, *Construction Disputes*, *supra* note 4, at 6, 10 n.3 ("After the presentation, the parties' representatives meet to discuss settlement prospects. At some point, the third-party advisor may offer certain non-binding conclusions regarding the probable adjudicated outcome of the case and may assist in negotiations.").

[125] *Id.* at 10 n.4 ("As explained in the survey, '[s]ummary jury trial is similar in concept to mini-trial, but involves condensed presentations before a jury which draws nonbinding conclusions regarding issues in dispute. It is utilized by some courts as a means of facilitating pretrial settlement of legal actions.'").

[126] *Id.* at 6, 10 n.3 ("The survey states: 'Non-binding arbitration, like mini-trial and summary jury trial, usually involves condensed case presentations before one or more third persons who draw non-binding conclusions regarding issues in dispute. Typically a court-annexed procedure, it is also aimed at facilitating settlement of disputes.'").

[127] A limited budget prevented in-depth follow-up of the initial written response. Nevertheless, the sample is still large enough to provide useful observations and general conclusions on the use and abuse of dispute resolution techniques. Considering the length of

B. *Context of Construction Mediations*

Results from the Forum survey provide documentary evidence on the range of ADR techniques being employed by construction professionals and underscore the difficulties of understanding when mediation succeeds.

1. *General Experience with Various ADR Processes*

According to Forum participants, binding arbitration remains by far the most widely used form of ADR in construction cases: The great majority of the lawyers completing the survey (81.5%) had participated in at least one binding arbitration; more than half (55.0%) had arbitrated five or more times, and one-quarter (25.2%) had ten or more arbitration experiences.[128] Approximately three-quarters (72.5%) of the respondents had arbitrated during the previous two years.

Although the survey revealed less breadth and depth of experience with mediation, responses indicated such procedures are being extensively employed. Nearly two-thirds (64.2%) of the respondents had participated in at least one mediation, and most of those (58.3% of those responding) had done so in the last two years. More than eleven percent had mediated ten or more times.[129] About one in five responding attorneys (21.1%) had participated in a mini-trial.

Other forms of dispute resolution were resorted to less frequently by respondents. Analysis of the results showed that less than a third (29.6%) had experienced non-binding arbitration. About one in ten (9.6%) had been involved in summary jury trials. Relatively few attorneys had multiple experiences with these procedures.

Not surprisingly, the construction bar's level of familiarity with alternative processes directly reflected the collective level of experience. Four in five respondents (81.2%) were "familiar" or "very familiar" with binding arbitration, with about sixty-two percent expressing familiarity with mediation. Despite frequent discussions of ADR in professional literature and education efforts by the ABA and other professional groups, more than one-fifth (21.0%) of those surveyed remained "unfamiliar" or "very unfamiliar" with mediation. Even more surprising, considering the long

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the questionnaire, the collective response of attorneys represents an impressive aggregate of nonbillable time.

[128] Stipanowich & Henderson, *Construction Disputes*, *supra* note 4, at 6. "Although this is less than the 90 percent experience rate reflected in the earlier arbitration survey, it is still impressive." *Id.* at 10 n.7.

[129] *Id.* at 6-7.

history of arbitration in the construction industry, was the fact that one in ten respondents admitted a lack of familiarity with binding arbitration!

Participants were less knowledgeable regarding other processes. Nearly two-thirds (63.0%) of the respondents indicated they were "unfamiliar" or "very unfamiliar" with summary jury trials; almost half (47.6%) were unfamiliar or very unfamiliar with mini-trials; and four of ten (40.3%) made the same statement with respect to non-binding arbitration.

2. *Perceptions Regarding Mediation*

Numerous survey questions elicited lawyer attitudes regarding when and under what circumstances mediation was appropriate. Less than half (49.3%) of those responding would recommend the use of mediation to their clients in "most" or "all" construction-related disputes. Only a few (1.5%) said they would never recommend mediation. Eighty-six percent (85.6%) of those surveyed disagreed that proposing mediation was a sign of weakness in a party. Respondents considered mediation appropriate in the following circumstances:

- ☐ the parties wished to maintain an ongoing business relationship;
- ☐ clients desired privacy and confidentiality;
- ☐ disputes needed to be resolved quickly; or
- ☐ an economical process for resolution of the dispute was essential.

Mediation was considered least appropriate where:

- ☐ the dispute turned on a novel question of law;
- ☐ the credibility of witnesses was at stake; or
- ☐ the opposing party or its counsel was considered untrustworthy or unlikely to compromise.

Six of ten participants (60.8%) regarded mediation as "appropriate" or "highly appropriate" where no discovery had occurred. On the other hand, four out of five (81.7%) thought mediation appropriate where discovery had been completed and the case was ready to go to trial. Few attorneys (4.2%) believed discovery was never appropriate prior to mediation; more than half the survey group (56.2%) would prefer prior discovery in "most" or "all" cases.

The survey group registered strong opinions on the role of the dispute resolution advisor in mediation. The majority (82.4%) thought mediators should be allowed to express their opinions to the parties regarding the issues in the dispute. Consistent with traditional practice (and the position of the American Arbitration Association), more than two-thirds (67%) of those responding believed that under no circumstances should mediators serve as arbitrators in the same case.

Participants were asked to indicate the relative importance or unimportance of thirteen mediator attributes. Those attributes which the

group regarded as almost always important were impartiality, managerial skills, personal discretion, listening ability, and the ability to understand complex issues. Patience and creativity were also important in most cases. The ability to explain complex issues, persuasiveness, design or construction experience, personal prestige, and legal expertise were collectively regarded as important in some but not all cases. Familiarity to the parties was viewed as a relatively unimportant factor.

Despite their generally positive attitudes toward mediation, less than half (42.7%) of those responding thought standardized contracts should require mediation prior to arbitration or litigation of disputes. On the other hand, over half (53.9%) thought standardized contracts should require mediation prior to arbitration or litigation of disputes involving large sums of money.[130]

3. *Actual Experiences with ADR*

In addition to providing information on their perceptions, ABA members completing the survey provided detailed information on their actual experiences with mediation, mini-trials, summary jury trials, non-binding arbitration, and various other processes. Each respondent was permitted to describe three different experiences with these processes. A total of 548 separate experiences were reported by 320 respondents.

Of the 548 experiences, 459 (83.8%) involved mediation, 62 (11.3%) were mini-trials, and 20 (3.6%) were summary jury trials. The remainder included a minor assortment of alternatives such as technical advisory panels, expert negotiations, and informal dispute settlement.

More than ninety percent of the reported experiences occurred between 1987 and 1990. Almost three-quarters (72.4%) took place in the two years preceding the survey. While this may result from the natural inclination of respondents with multiple experiences to report those of more recent memory, it seems clear that settlement-oriented procedures—particularly mediation—are gaining rapidly in popularity. The leading categories of disputes submitted to ADR processes were issues of defective work, payment, project delays, and changes. Less frequently, disputes involved job site administration, differing site conditions, and personal injury or property damage.

Those participating in mediation acted as counsel for a party in nearly nine-tenths (87.4%) of the reported cases. In more than half of these (50.1%), the participant represented a contractor; another 20.9% involved representation of owners; 15.7%, design professionals or their insurers; and

[130] The questionnaire did not inquire how "large sums of money" should be defined, nor what implementing language might be included in a contractual mediation provision.

10.5%, sureties. In nearly all of the remaining cases (12.4%) the respondents served as mediators. In more than a third (36.9%) of the reported cases, the mediated dispute involved two parties. Another twenty-two percent involved three parties; the remainder (58.9%) involved four or more parties. The majority of mediations (82.9%) were concluded in three days, and almost half (49.4%) were completed, successfully or unsuccessfully, within one day.

Amount in controversy ranged from $600 to $500,000,000. Across all types of ADR, the median amount in controversy was $1,000,000, with an average amount in controversy of $6,012,526. The average amount in controversy for mediation was $4,102,025, significantly lower than that for the mini-trial, with an average of $9,542,016.

The decision to resort to mediation was a product of agreement between the parties nearly two-thirds of the time (65.1%). About a third of the time (29.4%) the process was court-initiated. Relatively few cases (3.7%) were evident where the process was initiated pursuant to a mediation provision in a contract. In nearly nine out of ten cases (87.4%) a lawsuit or arbitration demand preceded initiation of mediation.

Full discovery had been conducted in 43.3% of the cases sent to mediation. Document discovery was indicated in about one-fourth (26.5%) of the cases with depositions and interrogatories used less frequently (4.4% and 4.0%, respectively). In one-fifth of the cases (21.4%), no discovery was conducted prior to mediation. Where discovery occurred, the great majority of respondents (84.9%) found it "helpful" in the mediation.

The major sources of mediation procedures were the following: party-developed rules (34.1%), rules of the court or other judicially-imposed procedures (27.4%), and AAA mediation rules (20.1%). Other sources of procedures included the Center for Public Resources and various private services.

Mediators were appointed by independent organizations in about one-third (32.6%) of the reported cases; in a number of other situations (21.4%) appointment was by agreement of the parties. Selection was by some other method more than forty percent (44.9%) of the time. While most mediators (64.5%) were attorneys, one-fifth (21.1%) were retired judges. Design professionals, contractors, claims experts, and professors were employed far less frequently.

Nine out of ten mediations (90.2%) featured some form of oral presentation by each party before the mediator. Nearly two-thirds (64.7%) of the time this oral presentation was supplemented by some form of written memorandum.

Mediators engaged in informal joint discussions with both parties in about half (52.5%) of the cases. Private caucuses with each party were employed in two of three cases (64.9%). In some cases mediators reviewed

job records and other documents (26.4%). Less frequently they conducted discussions with third parties (11.1%), made job site visits (9.6%), or consulted with independent experts (6.5%). Only a few mediators (3.3%) consulted technical reference works. Advisors expressed their views of the factual and legal issues in the dispute in most cases (72.2%).

The survey group was largely unconcerned with the most frequently mentioned potential drawbacks of mediation. A mere 13.5% of respondents were concerned with revelation of trial strategy in mediation; only seven percent viewed revelation of confidential information as a drawback of mediation. Similarly, only one in twenty (5%) respondents saw delays or disruptions of litigation or arbitration processes as a problem. Even fewer attorneys (4.1%) were troubled by potential difficulties of addressing the rights of third parties not participating in the mediation.

4. *Settlement Results*

Across all types of ADR reported, full settlement occurred 57.4% of the time and partial settlement occurred in 8.4% of the cases. Of the mediations described by the respondents, full settlement occurred 59.1% of the time; a further 7.9% of the cases were settled in part. Of these cases, a monetary settlement resulted in two-thirds (65.1%) of the cases. An agreement to perform specific work tasks resulted in a few cases (7.0%).

IV. EXPLAINING SETTLEMENT OUTCOMES IN CONSTRUCTION MEDIATIONS

Empirical assessments of mediations in other disciplines often focus on the success of the mediation process.[131] The FCI data provides a unique opportunity to examine this issue in the context of construction disputes. The purpose of this section, like earlier empirical investigations of labor and divorce mediation, will be to assess the effect of multiple influences on mediation settlement, other influences remaining constant. Alternatively, the goal in this section is to construct a model that predicts the likelihood of mediation settlement.

[131] For a range of studies that address the issue of mediation effectiveness, see section II and accompanying footnotes. In the construction field, the author knows of no study that investigates a similar range of factors that might theoretically and practically affect outcomes in construction mediations.

A. *Conceptual Model of Mediation Outcome*

Unlike models developed previously,[132] this model posits that effectiveness in mediation of construction disputes, as measured by settlement rate, is a function of three concepts: (1) situational factors; (2) mediator characteristics; and (3) procedural status. As is true of any model, specification should optimally include the precise nature and direction of the relationships expected to surface. However, for construction disputes such detail is impossible, given the lack of previous research. It may be, for example, that procedural issues are particularly acute for construction disputes, and that mediator characteristics account for little of the variance in settlement outcomes.

Nevertheless, a few relationships can be tentatively hypothesized. For one, amount in controversy should be negatively related to outcome. Construction disputes, unlike the small claims disputes discussed earlier, often turn on millions of dollars. Standardized contracts are the rule. Unlike small claims mediation, in which, by definition, small amounts are at stake, in the construction domain millions of dollars are usually at issue. Arbitration is usually the method used and one award can exceed the total of all claims in one small claims court. In addition to amount in controversy, complexity should be negatively related to the probability of settlement: as in any other institutional process the more issues considered in the mediation, the less likely mediation should end in full settlement.

Likewise, judging from the previous research, the type of dispute should have some effect: payment disputes should end more often in settlement than design disputes. If research on labor mediations can be accepted as a model, payment disputes should be positively related to settlement, and design disputes, which reflect more value judgments, should be negatively related to successful settlement. Moreover, the longer the dispute takes, the less likely settlement should end successfully. Here the reasoning is that if disputes cannot be worked out relatively quickly, one of the key characteristics of mediation, then the dispute probably will not

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[132] In any empirical examination of social processes, depth of measurement must be balanced against breadth of coverage. Since the purpose here is to develop an explanation for construction mediations which draws on several diverse influences, as developed originally in divorce and labor settings, the measurement problem is particularly acute. For this reason, all influences on mediation effectiveness cannot be included in one model. As could be expected, some will measure the same concept, and thus should be deleted, or previous theory might suggest that one variable is a key consideration. Here, the basic model is an integration of earlier models developed by Kochan & Jick, *supra* note 5, at 211 (labor mediations) and by Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 119–121. *See also supra* note 5 and accompanying text.

settle. Still, a strong case could be made that the longer a mediation takes, the more parties will get to know the other side's issues in detail.

When the number of parties is the issue, the most plausible hypothesis seems to be that the more parties involved, the less likely the settlement will end successfully. Construction disputes often involve many parties. For example, insurers are often involved as well as reinsurers, design professionals, owners, contractors, and mortgage holders. Having this many parties probably should have some negative effect on the final outcome in the mediation.

As incorporated in this model and following the lead in labor mediation research, mediator intervention and mediator background should have a strong effect on mediation outcome. For example, in construction disputes, in which issues often center on complex amalgams of design, engineering, and administration, mediators may need to possess a related disciplinary background if settlement is the ultimate outcome. If mediators lack such training and expertise, disputants may feel the mediators lack the capabilities for a successful mediation of complex issues. Does a mediator with design experience resolve more construction disputes than a mediator without such experience? Does an attorney as mediator resolve more disputes than others technically trained in design?

Specific steps taken by the mediator should translate into increased or decreased settlement. If advisers express their views on the law and facts of the issues, does this encourage parties to resolve their differences and settle the dispute? Does this "substantive/press" tactic end in more settlements in construction mediation? Likewise, it is unclear what effect caucusing, or consulting with third parties, might have on the final outcome. A greater diversity of techniques employed by the mediator should also translate into increased settlement. In addition, the number of advisers should affect the final outcome negatively. While panels consisting of multiple arbitrators may work well in an arbitration setting, in mediation the more advisers, the less likely that successful settlements will result.

Procedural status should likewise determine mediation outcome. In particular, knowing the party who initially requested the meditation should influence final outcome. If the parties chose mediation, as opposed to having it "forced" on them by contract or by the court, settlement is more likely. Parties would feel they had a part in the process. Similarly, if parties set the rules for the mediation—i.e., develop them with the other parties—settlement should be easier to achieve: parties might feel they developed fair "rules of the game."

Likewise, timing of dispute should have a strong positive effect on outcome. By analogy to divorce and labor mediation, suit or arbitration demand should increase the pressure on parties to resolve their issues. If viewed as an intensity measure, the more intense the dispute, the more

likely mediations should settle. Extensive discovery, as is the trend in litigation, should also influence final mediation outcome. For mediation, the more known about the parties through discovery, the more likely an effective mediation outcome.

B. *Implementing the Model: Devising Useful Methods and Measures*

To examine outcome in construction mediations, a question from the survey (representing whether or not the mediation settled) was regressed using logistics regression (LOGIT) analysis[133] on a set of independent variables identified in Table 1. The data, however, was intended more as a general survey of non-binding methods of dispute resolution in the construction bar, and less as a specific instrument to assess mediation outcome.[134]

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[133] *See generally* JOHN H. ALDRICH & FORREST D. NELSON, LINEAR PROBABILITY, LOGIT, AND PROBIT MODELS (1989). LOGIT analysis is appropriate where the dependent variable is categorical, especially where dichotomous, as is the situation here (settlement versus no settlement). For an application in a dispute resolution setting, *see* McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 29.

[134] Consequently, the analysis here is constrained by what measures were already included in the survey. Effectively, this amounts to secondary analysis of survey data. Secondary analysis refers to the accepted process of overlaying a theoretical model on data not specifically collected for that purpose.

Table 1: Definitions and measures for dependent and independent variables

VARIABLE NAME	DEFINITION
Dependent variable	
SETTLE.DICH	Equals 1 if mediation settled in full; O if no settlement.
Independent variables	
Situational Case Characteristics	
LN.AMT	Equals natural logarithm of amount in controversy, expressed in 1990 dollars.
LN.PTY	Equals natural logarithm of number of parties involved in mediation.
LENGTH.MED	Equals 0 if mediation proceeding lasts one day or less (median split); 1 if greater than or equal to two days.
CHANGES	Equals 1 if construction dispute centered on design changes; 0 otherwise.
DELAYS	Equals 1 if construction dispute centered on project delays; 0 otherwise.
PAYMENT	Equals 1 if construction dispute centered on payment; 0 otherwise.
DEFECT	Equals 1 if construction dispute centered on defective work; 0 otherwise.
COMPLEX	Equals 1 if only one disputed issue was addressed in the construction mediation, 2 if two issues were addressed, and so on until 8 if eight issues were submitted to mediation.
Mediator Characteristics and Interventions	
NUM.MED	Equals 0 if one advisor present at the mediation (median split); 1 if two or more advisors present.
ATTY.MED	Equals 1 if mediator was an attorney; 0 otherwise (e.g., professor, design professional, claims expert, contractor).
MED.VIEWS	Equals 2 if mediator expressed views on factual and legal issues in the dispute; 1 otherwise.

Table 1: Definitions and measures for dependent and independent variables

VARIABLE NAME	DEFINITION
TECHNIQ.NUM	Equals 1 if two or more techniques were used by the mediator (median split); 0 if one or no technique was used by the mediator.
CAUCUS	Equals 1 if caucuses undertaken between each party and the adviser; 0 otherwise.
REVIEW	Equals 1 if mediator undertook review of job records and other documentation; O otherwise.
VISIT	Equals 1 if mediator undertook jobsite visit; 0 otherwise.
CONSULT	Equals 1 if mediator undertook consultation with independent experts or reference works; 0 otherwise.
MED.QUAL	Equals 1 if mediator skills viewed as excellent, 2 if good, 3 if fair, and 4 if poor.
Procedural Characteristics	
REQD.ADR	Equals 1 if parties agreed to mediation; 0 if mediation was required by prior contract or by court.
SUIT.FILED	Equals 2 if lawsuit or arbitration demand filed prior to mediation; 1 otherwise.
DISC.USED	Equals 1 if some discovery (e.g., full discovery, document discovery, depositions, interrogatories, or requests for admission); 0 if no discovery used.
RULES.REQD	Equals 1 if parties developed own mediation rules and procedures; 0 if AAA Mediation Rules, CPR Rules, or rules of the court used.

As shown in the table, outcome was categorized into settlement or no settlement. Such a measure was accepted over other measures for three reasons. First, it was sound theoretically, since it was reflected in the most

reliable measure of Lim and Carnevale's three measures of mediation outcome: settlement.[135] Second, several researchers have adopted this measure, both in divorce and labor settings, strengthening its selection here.[136] Third, rate of settlement was included on the earlier ABA Forum survey. This source represented research on mediation with a sample size larger than almost any other mediation study and was by far the largest construction mediation investigation. The benefits of using rate of settlement thus outweighed its disadvantages.

Although definitions for the independent variables used in the study are presented in Table 1, a few deserve further explanation.[137] For example, to assess situational case characteristics, a series of dummy variables was implemented to tap these effects. The measure for complexity (COMPLEX) represents the sum of eight specific issues identified that were covered in the dispute: (1) changes; (2) delays; (3) differing site conditions, (4) payment;[138] (5) defective work; (6) job site administration; (7) personal injury or property damage; or (8) some other problem. COMPLEX thus ranges from 1 (only one issue covered) to 8 (multiple issues covered). This measure should prove adequate to evaluate the effect of multiple issues on mediation success.[139]

Measuring mediator characteristics was likewise a blend of depth and breadth.[140] Variables to assess the effect of the number of mediators and their backgrounds are self-explanatory. A series of dummy variables was

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[135] *See* Lim & Carnevale, *supra* note 7 and accompanying text.

[136] *See, e.g.*, Thoennes & Pearson, *Divorce Mediation*, *supra* note 5; Kochan & Jick, *supra* note 5.

[137] Not included in this study are variables measuring the trust and confidence in the mediator, or of the experience of the mediator. Overall quality of mediator is probably related to this dimension of mediator effectiveness. In addition, power relationships were not included in the study because the survey did not include such relationships, and measuring such relationships would introduce too many problems.

[138] PAYMENT resembles BILL COLLECTION, a variable used in an analysis of small claims mediation by McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 30 ("Whether the dispute involved an unpaid bill to a business or professional.").

[139] Kochan & Jick, *supra* note 5, at 213 (measure of intensity created by summing respondent evaluations of several sources of impasse—*e.g.*, lack of desire to settle, inability to pay, degree of hostility between parties).

[140] Kochan & Jick, *supra* note 5, at 216 n. 3 (In measuring mediator strategies there remains "an important array of strategies which are not susceptible to analysis . . . because they are: (1) specific to the individual mediator, (2) totally unplanned or accidental events that lie outside the control of the mediator, (3) so situationally specific that they form no pattern across cases, or (4) dynamic—i.e., the strategy changes as the mediation process moves from its start to the finish.").

included to evaluate specific common mediator techniques. TECHNIQ.NUM, however, represents the diversity and range of mediator strategies actually undertaken, calculated as the sum of the various potential interventions identified on the survey (CAUCUS,[141] REVIEW, VISIT, and CONSULT).[142] Specific indicator variables were used to assess the individual effect of the mediator strategies. MED.VIEWS represents "whether the mediator used outcome prediction (an informal adviser opinion)."[143] MED.QUAL was included to make comparisons to the index for mediator quality used by Kochan and Jick for labor mediators in New York state.[144]

C. *Descriptive Results for Explanatory Model*

Table 2 presents the descriptive results for the variables used in this study.[145] As shown in the table, slightly less than two thirds of the cases (64%) were settled in full, a result on par with studies of divorce and labor mediations.[146] The mediations under investigation here were both small and large, complex and simple, and include a diverse set of procedural circumstances. While earlier studies were limited to examinations of small claims mediation, a diverse set of amounts in dispute is represented here.

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[141] CAUCUS approximates "more therapeutic" measures developed by Sibley & Merry, *supra* note 40, at 20; *see also* Shapiro et al., *supra* note 6, at 105 ("whether the mediator met separately with each party").

[142] Kochan & Jick, *supra* note 5, at 240, offer a similar measure of mediator "strategy."

[143] Originally suggested by Shapiro et al., *supra* note 6, at 104–05.

[144] Kochan & Jick, *supra* note 5, at 219 ("An index of mediator quality was obtained directly from the ratings of the union and management negotiators.").

[145] For review of the theoretical model, see *supra* note 5 and accompanying text.

[146] *See, e.g.*, Hiltrop, *Mediator Behavior*, *supra* note 6, at 85; Hiltrop, *Successful Factors*, *supra* note 6, at 245; McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 249; Brett & Goldberg, *supra* note 6, at 55 (73% of coal union settled in the mediation conference); Hinchey, *supra* note 39, at 30 (success rates for mediation, mini-trial and dispute resolution boards at 70 to 90%); *but cf.* The Bureau of National Affairs, Inc., *Appendix B: Settlement Week 1989—The Superior Court of the District of Columbia May 15-19, 1989*, *in* SETTLEMENT WEEK: A PRACTICAL MANUAL FOR RESOLVING CIVIL CASES THROUGH MEDIATION B-1, B-6, B-13 (Harold Paddock ed., 1990) (only 33% of mediated cases settled in full; 42% of contract cases settled) [hereinafter, SETTLEMENT WEEK]; *see generally* Jessica Pearson, *An Evaluation of Alternatives to Court Adjudication*, 7 JUSTICE SYS. J. 420, 430 (1982) ("More typically, mediation programs report agreements in 40-65% of the cases mediated.").

Table 2: Descriptive statistics for dependent and independent variables

VARIABLE	PERCENT OR MEAN	STD DEV	RANGE
SETTLE.DICH	.64	.48	0,1
LN.AMT	13.61	1.97	6.40, 18.42
LN.PTY	1.30	.68	.69, 4.25
LENGTH.MED	.51	.50	0, 1
CHANGES	.40	.49	0, 1
DELAYS	.42	.49	0, 1
PAYMENT	.41	.49	0, 1
DEFECT	.60	.49	0, 1
COMPLEX	2.46	1.60	1, 8
NUM.MED	.09	.28	0, 1
ATTY.MED	.65	.48	0, 1
MED.VIEWS	1.28	.45	1, 2
TECHNIQ.NUM	.14	.34	0, 1
CAUCUS	.65	.48	0, 1
REVIEW	.26	.44	0, 1
VISIT	.10	.30	0, 1
CONSULT	.09	.29	0, 1
MED.QUAL	1.75	.93	1, 4
REQD.ADR	.66	.47	0, 1
SUIT.FILED	1.13	.33	1, 2
DISC.USED	.79	.41	0, 1
RULES.USED	.41	.49	0, 1

NOTE: See Table 1 for definitions

Results for amount in controversy are eye-opening. For analytic purposes, Table 2 contains the logarithmic values for amount in controversy (LN.AMT) and number of parties (LN.PTY).[147] Untransformed results

[147] In statistical analysis, transformations are often made on variables with non-normal distributions, usually those with extreme skewness or kurtosis. For amount in controversy, the kurtosis coefficient was 44.15 and the skewness coefficient was 5.79. For the number of parties involved, the kurtosis coefficient was 39.24 and the skewness coefficient was 5.05.

show the median amount in controversy was $10 million, and the mean was $4 million, with construction disputes ranging from amounts as low as $600 to as much as $100 million. Likewise, the median number of parties involved was 3, and the mean was 4.9, with a range from 2 to 70 parties. Most of the disputes concerned construction defects (DEFECT), and most disputes considered slightly more than two issues (COMPLEX). Just under half (40.5%) considered only one issue. Slightly more than half of the mediation took two days or more (LENGTH.MED) to complete.

Usually there was only one mediator (NUM.MED) trained as an attorney (ATTY.MED) who expressed views infrequently on the legal and factual issues in the case (MED.VIEWS). Caucusing was the most common intervention technique (CAUCUS), followed by reviewing (REVIEW), and even less often by visitation with the parties (VISIT) and consultation with reference works or outside experts (CONSULT). Usually, only one technique (TECHNIQ.NUM) was invoked by mediators to resolve disputes. Overall, participants viewed the mediator as high quality (51.8%) (MED.QUAL), with most indicating their mediator was "high quality."

Mediation was required by the courts or by contract less frequently than was agreed to by the parties (REQD.ADR). A suit or arbitration demand was almost always filed before the mediation was undertaken (SUIT.FILED). Discovery was the rule in almost eighty percent of the cases (DISC.USED), and party-developed rules (RULES.USED) for mediation were used slightly less frequently than outside rules (e.g. AAA).

Overall, these results illustrate a typical construction dispute, with large dollar amounts at stake, attorney mediators at the helm consulting with third parties, and outside rules being applied to the situation, often a derivative result of the standardized construction contract.

D. *Estimation Results for the Model*

Table 3 presents the estimated coefficients and measures of fit for the SETTLE.DICH LOGIT model. Six variables entered the final model:

(1) LN.AMT (amount in controversy);
(2) LENGTH.MED (length of mediation in days);
(3) TECHNIQ.NUM (number of techniques used by mediator);
(4) MED.QUAL (mediator quality);
(5) DISC.USED (extent of discovery); and
(6) RULES.USED (development of mediation rules).

Statistically, these are the variables that best explain settlement of construction disputes. Judging by most measures, the model fits the data

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Both were outside the normal range ($-2 < x < 2$). Logarithmic transformations effectively resolved these problems.

extremely well, with both GFI and -2 Log Likelihood non-significant (a calculated pseudo-R^2 was .51). Overall, the estimated equation provides a reasonably strong statistical model for dichotomous outcomes with multiple dichotomous and several continuous independent variables.

Table 3: Logistic regression estimates for settlement of construction disputes (SETTLE.DICH)

PARAMETER	VARIABLE ESTIMATE	SE	EXP(B)
LN.AMT	-305	.097	.737
LN.PTY			
LENGTH.MED	.668	.3561	.950
CHANGES			
DELAYS			
PAYMENT			
DEFECT			
COMPLEX			
NUM.MED			
ATTY.MED			
MED.VIEWS			
TECHNIQ.NUM	.852	.4922	.345
CAUCUS			
REVIEW			
VISIT			
CONSULT			
MED.QUAL	-1.337	.187	.263
REQD.ADR			
SUIT.FILED			
DISC.USED	.718	.375	2.051
RULES.USED	1.729	.359	5.634
Constant	5	.5171	.298
(15 d.f.)	-12.783 ($p < .619$)		
-2LLR	273.666 ($p < .785$)		
n	301		

Table 4 shows that the model predicts the final mediation outcome very well, especially at classifying settlement decisions (versus non-settlement). For example, the six-variable equation correctly classified eighty-six percent

of the cases that settled.[148] The classification rate for non-settlement was significantly less (63%) although still significantly better than what would occur by chance (36%).[149] The most significant result overall is the relatively few variables entering the model, although two variables from each of the three conceptual areas (situation, mediator, and procedure) entered the model.

Table 4: Classification results for construction mediation outcome (SETTLE.DICH).

n = 301; GFI = 283.292 (p < .647)			
	PREDICTED		
	No Settle	Settle	Percent Correct
OBSERVED No Settle	67	48	62.62%
OBSERVED Settle	27	167	86.08%
		Overall	77.67%

1. *The Influence of Structure*

As expected, length of the proceeding (LENGTH.ADR) was positively related to settlement, controlling for the other influences. The longer the process lasted, the more likely the mediation would settle in full. As shown by the table, mediations that took on average two or more days were about ninety-five percent more likely to settle. As shown by the EXP(B), log likelihood ratio, the effect of mediation length was small by comparison to the other significant effects. Holding the type of dispute and number of parties constant, the length of the proceeding emerged as significant, suggesting that, contrary to some of the previous literature, successful mediations take time.

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[148] *But cf.* Kochan & Jick, *supra* note 5, at 228 (classification of 64% of the cases was "more than adequate"); Thoennes & Pearson, *Divorce Mediation*, *supra* note 5, at 121–22 (overall only 48% of the cases correctly classified, but 67% of full settlements correctly classified); McEwen & Maiman, *Achieving Compliance*, *supra* note 6, at 32 (81.6% of cases correctly classified with 18 independent variables).

[149] The figure for 36% is calculated as follows: If, on average, 64% of the cases settle, as was the case here, then 36% will not, assuming nothing else is known about the mediation.

Amount in controversy (LN.AMT) was negatively related to full settlement. The larger amount in controversy, the less likely the mediation would be settled.[150] As shown by the log likelihood ratio for LN.AMT, this effect would be about seventy percent.

Oddly enough, type of dispute had no statistical effect on outcome. None of the dummy variables used to assess type of dispute entered the model at any of the accepted levels of significance. Neither PAYMENT, nor DEFECT, nor DELAY entered the model, which suggests that disputes about construction delay are as likely to settle as payment disputes, holding constant other factors in the model. The sheer number of issues being considered (COMPLEX) also had no discernable effect on outcome. Nor did the number of parties involved (LN.PTY) have any statistically significant effect on outcome.

Moreover, none of these influences were seriously inter-correlated. For example, the Pearson r Statistic (a measure of univariate correlation) between complexity of the dispute (COMPLEX) and amount in controversy (LN.AMT) was .2621 ($p < .01$), suggesting that only seven percent [$(.2621)_2$] of the variance in complexity was accounted for by amount in controversy. Hence, the view that amount in controversy is a useful proxy for complexity of dispute received little support. While the correlation coefficient between number of parties (LN.PTY) and complexity (COMPLEX) was -.0218, the correlation was not statistically significant at any of the conventional levels. Again, the results suggest complexity of the dispute is distinct from the number of parties involved.

2. *The Influence of Mediator*

Only two variables measuring mediator characteristics and interventions entered the model: TECHNIQ.NUM (a measure of the number of specific techniques or intervention strategies used by the mediator); and MED.QUAL (a participant measure of mediator quality, with 4 being the lowest quality mediator).

The diversity of measures undertaken by the mediator (TECHNIQ.NUM) was positively related to settlement of construction disputes. As the log likelihood ratio suggests in Table 3, settlement was nearly twice as likely when two or more specific mediation strategies were used by the mediator. The more measures used, the more likely settlement resulted.

None of the specific mediation interventions, however, entered the equation with any significance. For example, when mediators caucused

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[150] SETTLEMENT WEEK, *supra* note 145, at B-14 (cases less than $10,000 settled 64% of the time in mediation, but cases over $1,000,000 settled only 20% of the time).

(CAUCUS), reviewed records (REVIEW), visited the job site (VISIT), and consulted with independent experts or reference works (CONSULT), settlement was just as likely as if the mediators had not undertaken these specific interventions, holding constant other influences. For this sample, type of mediator intervention did not have any effect on final outcome. When mediators expressed their views on the legal and factual issues in the case, settlement was not more likely to occur (MED.VIEWS). Nor was settlement more likely to occur when the mediator was an attorney (ATTY.MED) or if there was more than one mediator for the dispute (NUM.MED). Thus, for this data, functional background had little effect on overall settlement.

Respondents seem to give more weight to the overall quality of the mediator and the perceived attempts to settle, rather than to mediator background or number of mediators: for this reason, mediator quality was significantly related to final settlement outcome (MED.QUAL).[151] As could be expected, the worse the perceived quality of the mediator, the less likely the dispute would be settled. An explanation for this may be that respondents are simply correlating good settlements with good mediators. However, if this is what occurs, then respondents are ultimately defining mediation outcomes as more than settlement and non-settlement. Settlement was significantly associated with high-quality mediators.

3. *The Influence of Procedure*

Of all the variables in the model, the source of the mediation rules used (RULES.USED) was, by far, the best predictor of mediation settlement. If rules developed by the AAA, CPR, or some other institution (including the court) were used, settlement was significantly less likely to occur than when parties developed their own rules. One explanation might be that the process of developing the rules forms a critical prelude to the actual (and successful) mediation. If rules can be hammered out successfully between and among the parties, as opposed to accepting some prepared or standardized rules, then outcome seems already predetermined. As shown in Table 3, controlling for other features of the process, settlement is approximately five times more likely when parties develop their own rules.

Extent of discovery (DISC.USED) was also significantly related to final outcome, as shown in Table 3. If discovery had not occurred, settlement was nearly twice as likely not to occur. If discovery occurred, whether document discovery or full discovery, settlement was far more

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[151] *But cf.* Kochan & Jick, *supra* note 5, at 227 (finding a positive relationship between quality of mediator and probability of settlement, although not statistically significant at the 5% level).

likely to occur. An explanation seems to be that parties are seeking a level playing field, and access to information derived from discovery helps assure this equality.

Interestingly, whether mediation was forced on the parties (REQD.ADR) or they agreed to it on their own had no statistically significant impact on settlement. It might be that parties worry little about how they enter mediation, but once in mediation, they believe the rules must be fair. Also not statistically significant is SUIT.FILED, a proxy for the intensity of the dispute or the pressure to settle.[152] For these cases, whether a suit or arbitration demand had been filed did not affect the final mediation outcome, a result somewhat consistent with the significance of LENGTH.MED (length of the mediation). Taken together, it may be that the successful mediation takes time whether or not imminent action is threatened.

E. *Implications for ADR*

The model developed here for construction mediation effectiveness differs considerably from models suggested for divorce and labor mediation. The most important influence was procedure. Mediator strategies and innovations were not as important in explaining the final outcome of a particular case. Case characteristics were only moderately influential in explaining the final settlement outcome in construction mediations.

These results suggest that issues of fairness are key considerations for participants in construction mediations. The variables entering the model appear to tap more issues of equity (how the rules were developed and what information is available) than pressure by the opponent (whether a suit had been filed) or source of the mediation experience (whether forced by contract or the court).[153] Perhaps because construction mediations have considerable amounts in dispute, parties may seek to assure the process is fair and the mediator attempts a variety of intervention techniques. It does not seem important for successful construction mediations that the dispute turn on design or payment. Nor does mediation outcome seem to turn on caucusing, consultation, or the mediator's indication of the law and facts in the case.

A key mediator activity that translated into an increased likelihood of settlement was diversity of interventions. Disputes ending successfully were

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[152] *But cf.* Kochan & Jick, *supra* note 5, at 227 (identifying no statistically significant relationship between dispute intensity and probability of settlement but a statistically significant relationship between dispute intensity and probability of settlement).

[153] Kochan & Jick, *supra* note 5, at 236 ("[O]ur conclusion is . . . that the parties, rather than the mediators, play the dominant role in shaping the mediation process.").

characterized by mediators with reputations for quality and a large array of mediation techniques. Parties may have perceived the diversity of techniques as constant reorientations that consequently force them to reevaluate their positions. Constant refocusing and a barrage of tactics on the mediator's part seem to prompt increased settlement in construction disputes.

V. CONCLUSION

The determinants of settlement for construction mediations were few in number, but very powerful in terms of impact on final outcome. For researchers interested in mediation, the results show that consideration of all three sets of variables is critical. Situation, mediator, and procedure influenced mediation effectiveness. For researchers and practitioners alike, the relevance of procedure cannot be overlooked. Settlement seems affected little by the number of parties, the number of advisers, type of issue, and even the intervention techniques implemented by the mediator. However, as the research presented here suggests, settlement is greatly influenced by the particular rules of the mediation process. For construction disputes, therefore, parties are concerned with who sets the stage and develops the rules. For those interested in applying mediation to disputes, the results here demonstrate that certain cases, particularly those with large amounts at stake, will probably settle less often. However, as the data here suggests, procedure is a prelude to successful dispute resolution no matter the setting or field.