How Should the Courts Know Whether a Dispute is Ready and Suitable for Mediation? An Empirical Analysis of the Singapore Courts' Referral of Civil Disputes to Mediation

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In line with international developments in court-connected mediation, the Singapore courts have strongly supported the use of mediation and have taken steps to encourage litigants to attempt mediation. This article features the first empirical analysis of Singapore courts' referral of civil cases to mediation. Although focused on Singapore, the results of the study inform the referral policies of other judiciaries that similarly engage in the practice of referring cases for mediation. The study uses a rigorous method to shed light on crucial factors to be considered by courts

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in referral practice and design of mediation programs. The research demonstrates that the timing of referral, stage of litigation, and level of contentiousness between the disputants collectively exert a significant influence on the likelihood of settlement at mediation. These variables, along with the quantum of claim, are likely to have an impact on the participants' perception of mediation success. Other key variables affecting the mediation outcome relate to the mediation process, such as the time taken to complete the mediation and whether the mediator has legal training. The study shows that the courts' referral practices have to be informed by a nuanced assessment of these factors, rather than being focused on timing and stage of referral.

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I. Introduction

The evolution of mediation has usually resulted from courts' active involvement. Judiciaries across the globe have created court-connected mediation programs as well as incentives for litigants to attempt mediation before proceeding for a trial. The experience of the Singapore courts closely mirrors these international developments: the support of the courts in encouraging the use of mediation was pivotal to the growth of the Singapore Mediation Movement several decades ago. Since then, Singapore courts' practices in referring cases to mediation have evolved substantially. The resolution of cases through mediation now forms a core part of the work of the courts in achieving "Appropriate Dispute Resolution."[1]

As the courts become more intimately connected with the mediation process, crucial questions have emerged concerning how judicial practices to encourage mediation may be best shaped to achieve a positive mediation outcome. This article features the very first empirical analysis of the Singapore courts' referral of civil cases to mediation. Although focused on Singapore, the results of the study could also benefit and inform the referral policies of other judiciaries that similarly engage in the practice of referring cases for mediation. Through statistical analysis, the research sheds light on the critical factors that the courts should consider in designing their referral practice and mediation programs in order to maximize settlement

1. Chief Justice Sundaresh Menon, Address at Global Pound Conference Series 2016 – Singapore, Shaping the Future of Dispute Resolution & Improving Access to Justice, (Mar. 17, 2016) (transcript available at https://www.supremecourt.gov.sg/Data/Editor/Documents/[Final]%20Global%20Pound%20Conference%20Series%202016%20-%20'Shaping%20the%20Future%20of%20Dispute%20Resolution%20%20Improving%20Access%20to%20Justice'.pdf).

rates and user satisfaction. Unlike earlier correlational studies, it uses logistic regression to help model the likelihood of settlement and high user satisfaction rates based on changes in variables.

Our research demonstrates that the timing of referral, stage of litigation, and level of contentiousness between the disputants are closely related, and that they collectively exert a significant influence on the likelihood that any mediation will settle. These factors are also likely to influence the participants' perception of mediation success. The quantum of claim is another significant factor to be considered in referral of cases for mediation. We therefore suggest that the courts' referral practices be informed by a nuanced assessment of all these factors, rather than simply on the timing and stage of referral. Apart from referral practice, the judiciary should also be cognizant of other aspects of the mediation program exerting a substantial impact on settlement outcome, such as the time taken to complete the mediation and whether the mediator has legal training.

Part II of this article surveys earlier studies, highlighting the variables that have been found to affect mediation outcomes and the current gaps in the research. Parts III to V present the results of the analysis of more than 600 civil cases in the Supreme Court and State Courts, first separately and then together. Part VI then discusses how our findings have furthered the earlier body of research and shed new insights on the courts' referral practice.

II. Earlier empirical research on mediation referrals

Most previous studies have sought to determine the factors leading to a high likelihood of resolution and high levels of party satisfaction. However, this task is not easy, because the relevant variables may mutually influence each other and change over time.[2] Despite these constraints, there are notable findings that have collectively emerged from previous research highlighting the following variables that impact mediation outcome: the timing and stage of referral, the manner in which a case is referred for mediation, the level of contentiousness between the parties, the quantum of the claim, the legal training of the mediator, and the duration of the mediation. We summarize them in three broad categories: factors relating to the courts'

2. Kathy Mack, National Alternative Dispute Resolution Advisory Council, Court Referral to ADR: Criteria and Research (2003) (available at https://www.ag.gov.au/LegalSystem/AlternateDisputeResolution/Documents/NADRAC%20Publications/Court%20Referral%20to%20ADR%20-%20Criteria%20and%20Research.pdf). *See also* Hilary Astor & Christine M. Chinkin, Dispute Resolution in Australia 277–79 (LexisNexis Butterworths Sydney, 2d ed. 2002).

referral process, characteristics of the dispute, and factors relating to the mediation process.

A. *Factors relating to the referral process*

1. *Timing and stage of referral*

Our present research focuses principally on the impact of the timing of referral on mediation outcomes. In this respect, several studies have identified the age of the case as a significant factor. Empirical research on civil cases in Ohio courts found that settlement was more likely when mediation was held soon after the case was filed than when mediation began later.[3] A study of civil cases in Illinois similarly found that the likelihood of settlement was higher when mediation took place sooner (within 18 and 24 months of filing) rather than later. However, the timing of referral did not appear to influence the parties' satisfaction levels.[4]

Previous studies also examined timing with reference to the stages of litigation. The Ohio research showed that cases were less likely to settle if there were pending applications for dismissal, summary judgment or other grounds; no relationship was found between the status of discovery and the likelihood of settlement.[5]

Some commentators have argued that timing is more likely to be a proxy for other factors, such as emotional readiness to negotiate and whether the parties have adequate information about the dispute.[6] Alternative concepts such as "ripeness"[7] and "dispute age" have thus been proposed.[8] The term "ripeness" connotes various elements that lead to the dispute as well as the disputants' readiness for

3. Roselle L. Wissler, *Court-Connected Mediation in General Civil Cases: What We Know from Empirical Research*, 17 OHIO ST. J. DISP. RESOL. 641, 677 (2001–2002).

4. Keith Schildt et al., *Major Civil Case Mediation Pilot Program*, 17th Judicial Circuit of Illinois: Preliminary Report 15 (1994).

5. *See* Wissler, *supra* note 3, at 677–78.

6. *See* MACK, *supra* note 2, at 40. Mack highlights that timing is a dynamic variable, as a dispute that is not amenable to mediation at one stage may become more suitable at another time due to the changes in other more significant factors. *Id*. *See also* ASTOR, *supra* note 2, at 280; TANIA SOURDIN, ALTERNATIVE DISPUTE RESOLUTION 110–13 (3rd ed. 2008).

7. ASTOR, *supra* note 2, at 280 (stating that the concept of "ripeness" includes other factors such as emotional readiness to negotiate or settle and information needs). *See also* SOURDIN, *supra* note 6, at 110–13, 258.

8. TANIA SOURDIN, MEDIATION IN THE SUPREME AND COUNTY COURTS OF VICTORIA 63–64 (2009) (arguing that the dispute age—the age of dispute measured from when the cause of action arises—may be more strongly associated with mediation outcome than case age). *See also* TANIA SOURDIN & TANIA MATRUGLIO, EVALUATING MEDIATION – NEW SOUTH WALES SETTLEMENT SCHEME 2002 (2004) (finding that settlement was

mediation. Unlike the Ohio and Illinois studies, studies exploring ripeness seem to suggest that the likelihood of settlement will increase with a later rather than earlier time of referral. Timing of referral is thus a complex issue that is influenced by different factors and has to be examined in conjunction with other variables.

As the impact of the timing of referral has yet to be studied in the Asian context, and is very relevant to any general approach on referral, our study analyzes the possible impact of the age of the case and the stage of referral on mediation outcomes, bearing in mind that timing could be a proxy for other variables.

2. *Mode of referral*

Much of the research on the courts' referral process has focused on the extent of the court's involvement in the referral decision. In this respect, empirical studies are inconclusive about the impact of compulsory referral on settlement and satisfaction rates.[9] A UK study suggested that mandatory referral hinders parties' readiness to negotiate, which may then negatively affect settlement rates.[10] In a similar vein, court-directed mediations in the New South Wales Courts have been found to settle at lower rates than did voluntary mediations.[11] In sharp contrast, another researcher found high levels of satisfaction and high settlement rates in mandatory court-

more likely for disputes that were less than 3.6 years old and 3 years old in the Victoria courts and New South Wales courts respectively).

9. *See* Mack, *supra* note 2, at 54.

10. Hazel Genn, *What is Civil Justice For? Reform, ADR and Access to Justice*, 24 YALE J. L. & HUMAN. 397, 406 (2012); GENN ET AL., TWISTING ARMS: COURT REFERRED AND COURT LINKED MEDIATION UNDER JUDICIAL PRESSURE 52 (2007) ("The mediation settlement rate among ARM cases at 53% was, however, lower than that found in the recent evaluation of the mediation scheme in Birmingham, where 64% of 282 cases mediated between 2001 and 2004 settled at the mediation and where cases appeared to be entering the scheme more often on the basis of self-referral rather than judicial suggestion."). *See also* Timothy Hedeen, *Coercion and Self-Determination in Court-Connected Mediation: All Mediations are Voluntary, but Some are More Voluntary than Others,* 26 JUST. SYS. J. 273, (2005) (referring to Timothy Hedeen, The Influence of Referral Source Coerciveness on Mediation Participation and Outcome, Dec. 2001, unpublished Ph.D. dissertation, Syracuse University) (finding that mediations in court-referred cases were two-thirds as likely to settle as cases referred from non-court, non-law enforcement agencies. Similarly, mediations in law enforcement referrals were found to be only four-fifths as likely to reach settlement as non-court, non-law enforcement mediations).

11. Vicki Waye, *Mandatory mediation in Australia's civil justice system*, 45 COMMON L. WORLD 214, 221 (2016) (referring to the differing settlement rates between voluntary and mandatory mediation cases in New South Wales and to similar trends noted in Genn's earlier study of the UK courts).

annexed mediation in the Victoria courts.[12] The Ohio study reported no significant difference in settlement rates or perceptions of fairness between mandatory and voluntary referrals.[13]

That said, the extent of voluntariness of referral exists on a continuum. There is no simple, dichotomous distinction between voluntary and mandatory entry into mediation. The courts' encouragement to use mediation may take the form of a mere suggestion, an encouragement coupled with possible adverse costs orders for unreasonable refusal, or a court order to use mediation.[14] The impact of the mandatory referral on the mediation outcome will vary according to the continuum of voluntariness. In the light of these nuances, our study also examines whether the manner of referral – which may vary in terms of level of coerciveness – has any impact on settlement outcome and perception of mediation success.

B. *Characteristics of the dispute*

1. *Level of contentiousness*

One potentially important feature of a dispute is "the degree of escalation of a conflict," or the level of contentiousness.[15] This factor has been examined with reference to the state of the parties' relationship. A study involving family mediations in Victoria concluded that couples with high levels of contentious behavior and "antecedent anger" were less likely to reach a successful mediation outcome.[16] By contrast, this factor was not found to be significant in the examination of Ohio civil disputes. The most influential variable in the latter

12. *See* SOURDIN, *supra* note 8, at 162–63. *See also* James Spigelman AC, Hon. J. J., Address to the LEADR dinner, University and Schools' Club, Sydney, (9 Nov. 2000) in David Spencer & Michael Brogan, MEDIATION LAW AND PRACTICE 271 (2006) (The Chief Justice of New South Wales has also noted that there was no difference in success or user satisfaction between compulsory and non-compulsory mediation in the Australian state of Victoria., stating, "I am advised that in Victoria no difference in success rates or user satisfaction between compulsory and non-compulsory mediation has been noted. Not all research or anecdotal evidence is to this effect.").

13. *See* Wissler, *supra* note 3, at 697. *See also* Dorcas Quek, *Mandatory Mediation: An Oxymoron? Examining the Feasibility of Implementing a Court-Mandated Mediation Program*, 11 CARDOZO J. OF CONFLICT RESOL. 479, 483 (2010) (likewise, it has been highlighted with respect to earlier research that parties who entered mediation reluctantly still benefited from the process).

14. *Quek, supra* note 13, at 488.

15. Genn, *supra* note 10, at 406. *See also* MACHTELD PEL, REFERRAL TO MEDIATION: A PRACTICAL GUIDE FOR AN EFFECTIVE MEDIATION PROPOSAL 1 (2008) (stating that "the degree of escalation of a conflict is an important indicator of the applicability and potential effectiveness of mediation").

16. Andrew Bickerdike & Lyn Littlefield, *Divorce Adjustment and Mediation: Theoretically Grounded Process Research*, 18 MEDIATION Q. 181, 192 (2000).

study was the degree of disparity between the parties' positions at the start of mediation.[17] Another factor closely linked to contentiousness – how much liability was strongly contested – was also found to influence the mediation outcome, albeit to a lower extent. The level of acrimony between the disputants also had an impact on the success of the mediation measured in terms of party satisfaction. Relatedly, the Victoria courts' research found that the parties' perceptions of mediation "success" are probably dependent on how realistic their expectations are concerning the mediation.[18]

The degree of contentiousness thus appears to be a potentially crucial variable affecting mediation outcome. Previous research reflects the diverse ways in which the intensity of conflict may be examined. Our study explores the significance of this variable by considering the impact of the mediator's perception of the level of contentiousness between the parties at the start of the mediation, and the number of contested interlocutory applications at the time of referral.

2. *The quantum of the claim*

Many courts' mediation policies seem to assume that settlement is more likely with a lower quantum of claim.[19] Mediation programs are thus widespread in many small claims courts. However, there is little empirical research to verify such a belief. One study found that a mediation is less likely to end in settlement when there is a larger quantum of claim, but the scope of its research was limited to the construction industry.[20] Another study of a U.S. federal district court found no relationship between the amount of damages sought and

17. *See* Wissler, *supra* note 3, at 675–76. An analysis of U.S. cases found that the existence of a "jackpot syndrome" attitude—inflated expectations about receiving a very favorable outcome at a trial—decreased the likelihood of settlement at mediation. MACK, *supra* note 2, at 66; *see also* Frank E.A. Sander & Stephen Goldberg, *Fitting the Forum to the Fuss: A User-Friendly Guide to Selecting an ADR Procedure,* 10 NEGOT. J. 49, 59 (1994); *see also* Jeane M. Brett et al., *The Effectiveness of Mediation: An Independent Analysis of Cases Handled by Four Major Service Providers*, 12 NEGOT. J. 259, 262 (1996).

18. SOURDIN, *supra* note 8, at 21.

19. *See, e.g.,* Lord Justice Briggs, *Civil Court Structure Review: Final Report (July 2016),* at 46–47 (recommending setting up an online court incorporating ADR for disputes below £25,000.

20. Douglas A. Henderson, *Mediation Success: An Empirical Analysis*, 11 OHIO ST. J. ON DISP. RESOL. 105, 144 (1996).

party satisfaction rates, but relates to the use of early neutral evaluation instead of mediation.[21] Our present research examines the effect quantum of claim has on settlement outcomes and perceptions of mediation success in Singapore civil cases.

3. *Type of dispute*

Few previous studies have determined the types of claims that are most likely to settle at mediation.[22] In any event, even if notable trends may be discerned for certain types of claims, further analysis will be needed to identify the unique characteristics of these cases and how different types of disputes are mediated.[23] Our study, therefore, also examines the nature of the claim to be mediated as a potentially significant variable.

C. *Factors relating to the mediation process*

1. *The mediator's attributes*

Earlier research has examined many qualities within a mediator that could directly influence the outcome of a case.[24] With respect to court-connected mediation, Wissler found that the mediator's prior mediation experience significantly influenced the likelihood of settlement.[25] Genn has observed that the mediators' skills, including making pre-appointment contact and having sufficient preparation, can contribute to settlement.[26]

The historical data in our research does not reveal details about the mediators' approaches, experience and qualifications. As such, the present study explores the impact of the mediator's attributes with reference to broad categories concerning the type of mediator and whether the mediator has legal training.

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21. Julie Macfarlane, COURT BASED MEDIATION FOR CIVIL CASES: AN EVALUATION OF THE ONTARIO COURT (GENERAL DIVISION) ADR CENTRE 62 (1995).

22. *See* Wissler, *supra* note 3, at 675–96; MACK, *supra* note 2, at 61 (observing from previous research that "it appears that the type of case as a variable does not consistently correlate with likelihood of success in those research studies which included different case types"). One Australian study found that cases where litigants sought a declaration from the court were less likely to be finalized at mediation as compared to land, property or probate disputes; SOURDIN, *supra* note 8, at 66.

23. SOURDIN, *supra* note 8, at 71.

24. *See, e.g.,* James Stark & Douglas Frenkel, *Changing Minds: The Work of Mediators and Empirical Studies of Persuasion*, 28 OHIO ST. J. ON DISP. RESOL. 263 (2013); Daniel Klerman & Lisa Klerman, *Inside the Caucus: An Empirical Analysis of Mediation from Within*, 12 J. OF EMPIRICAL LEGAL STUDIES 4 (2015).

25. *See* Wissler, *supra* note 3, at 678–79.

26. *See* Genn et al., *supra* note 10, at 103–05.

2. *The duration of the mediation*

The duration of the mediation has yet to be assessed in existing research. Genn's study concentrated on other aspects of the mediation process, including the disputants' experience with mediation and their attitudes, as well as the lawyers' experience and conduct.[27] Sourdin's study of the Victoria courts suggests that the disputants' satisfaction with the overall case duration is related to their expectations about duration but does not directly evaluate the impact of mediation duration.[28] The Singapore Supreme Court case data includes the length of mediation in terms of number of hours. The data from the Singapore State Courts' cases reflects the number of mediation sessions, which is broadly indicative of the duration of the mediation. The current research, therefore, seeks to ascertain the impact of this factor on both satisfaction levels and the likelihood of settlement.

III. The Current Study

It is evident that the earlier research is extremely varied and suggests numerous possibilities in regards to which factors are most important in achieving a successful mediation outcome. In this first study of the referral of Singapore court cases to mediation, described in detail below, we seek to understand the significance of factors that can inform the referral process, particularly the timing of referral. The study also considered the impact of other variables relating to the characteristics of the disputes and the mediation process, given the opportunities presented by the rich data available in both courts.

A. *Research questions*

There are primarily two research questions in this empirical study. First, whether a court case is more likely to have a successful mediation outcome when it is referred to mediation as early as possible, and at an earlier stage of the court proceedings. Second, whether there are other factors that have a significant impact on the outcome of mediation in terms of settlement outcome and the participants' experience in mediation.

B. *Research method*

Our research examines data drawn from the electronic records of civil cases in the Supreme Court and State Courts, coupled with data

27. *See id.*, at 91–95, 112–14.
28. *See* Sourdin, *supra* note 8, at 124–25.

and survey returns provided by the Singapore Mediation Center ("SMC").[29] Given the varying practices and contexts of both courts' cases, we have separately analyzed the data from the Supreme Court and the State Courts. There is a collective analysis of both courts' data only in respect of common variables, such as the quantum of the claim and the timing of referral of a case for mediation.

Previous empirical studies described in the preceding section have generally used the Pearson Correlation Coefficient or the Chi Square test to examine the association between variables and mediation outcomes.[30] While these are useful tests indicating the strength of association, they do not help model mediation outcomes in light of changes in specific variables. These methods are also limited to analyzing one factor at one time, which fails to take into account the fact that several variables could concurrently influence the mediation outcome in varying degrees.[31] Our study, therefore, utilizes logistic regression to model how the probability of a successful mediation outcome is affected by the variables examined. Unlike correlational methods, the results from this approach have predictive value and have the potential to be an invaluable tool for crafting future policies. Furthermore, this method casts light on the true significance of a variable when controlling for other variables that could also influence the mediation outcome. This study includes as many variables as possible from the historical data to help us accurately understand the impact of each factor.

C. *The courts' practices in referring civil disputes to mediation*

The Singapore courts operate under a common law system. The Supreme Court comprises the two superior courts in Singapore: The Court of Appeal, which is the court of last resort, and the High Court. The State Courts comprise all the subordinate courts in Singapore, including District Courts, Magistrates' Courts and Small Claims Tribunals. We first outline the practices of the Supreme Court and the State courts in referring civil disputes to mediation.

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29. This study does not include data regarding family and criminal disputes.

30. *See, e.g.,* Wissler, *supra* note 3, at 647 n.13 (using Pearson Correlation to determine whether certain features of the cases are associated with the outcome of mediation); *see also* SOURDIN & MATRUGLIO, *supra* note 8, at 16–19 (using Chi Square test to examine whether there is a relationship between certain case characteristics and whether the case is settled at mediation).

31. JACOB COHEN & PATRICIA COHEN, APPLIED MULTIPLE REGRESSION-CORRELATION ANALYSIS FOR THE BEHAVIORAL SCIENCES 41, 79, 111–13 (Psychology Press, 2d ed. 2009).

1. *Supreme Court*

At the Supreme Court, the judges and registrars generally refer appropriate cases to mediation at the SMC.[32] Separately, in all writs filed where a memorandum of appearance is entered, the SMC sends a letter to the parties explaining the benefits of mediation and inviting them to consider it as an option for dispute resolution.[33]

In appropriate cases, parties will be encouraged by a registrar or judge to consider mediation at pre-trial conferences or other hearings both at the High Court and Court of Appeal levels.[34] For writs filed on or after December 1st 2013, a routine letter is sent by the court containing an "ADR Form"[35] before the first pre-trial conference. The ADR Form contains fields for the parties to indicate whether mediation has taken place previously or will be taking place.

In 2013, the Practice Directions of the Supreme Court introduced a process to allow parties to file an "ADR Offer" to register their willingness to participate in ADR. The party receiving the ADR Offer has 14 days to file a "Response to ADR Offer" stating whether or not he agrees to the other party's proposals, and if not, requiring him to state detailed reasons for his unwillingness or make counterproposals. The failure by a party to file a Response to ADR Offer within the stipulated time is taken to mean that the party is unwilling to participate in ADR without providing any reasons. Courts may consider these documents in exercising their discretion as to costs.[36] There

32. If the case is heard by the Singapore International Commercial Court, it will not be referred for mediation to the SMC but rather to the Singapore International Mediation Center.

33. Teh Hwee Hwee, Deputy Registrar of the Supreme Court of Singapore, Mediation Practices in ASEAN – The Singapore Experience, presented at the 11th General Assembly of the ASEAN Law Association (2012) (transcript available at http://www.aseanlawassociation.org/11GAdocs/workshop5-sg.pdf). This practice occurs save for exceptional situations, including that default judgment has been entered, a notice of discontinuance has been filed, the matter is sealed and there is a stay of proceedings pending arbitration. *Id.*

34. Sundaresh Menon, Chief Justice of Singapore, Response at the Opening of the Legal Year 2014 (Jan. 3, 2014) (transcript available at https://www.sal.org.sg/Portals/0/PDF%20Files/Speeches/OLY%202014%20CJ's%20Speech.pdf); *see also* Sundaresh Menon, Mediation and the Rule of Law: Keynote Address at the Law Society Mediation Forum (Mar. 10 2017) (transcript available at https://www.supremecourt.gov.sg/Data/Editor/Documents/Keynote%20Address%20-%20Mediation%20and%20the%20Rule%20of%20Law%20(Final%20edition%20after%20delivery%20-%20090317.pdf).

35. "ADR" refers to alternative dispute resolution.

36. Revised Rules of the Court, G.N. No. S 71, O. 59 r.5(1)(c) (1996) (Sing.); Supreme Court Practice Directions (Amendment No. 35(c)(5)) (2013) (Sing), available at http://www.supremecourt.gov.sg/docs/default-source/default-document-library/legislation-and-directions/amendment-to-the-practice-directions-dec-13-(marked).pdf.

have been further amendments to the Practice Directions after the collection of data for this survey, but they represent further refinements to the practices already employed without introducing new referral techniques.[37]

2. *State Courts*

The State Courts generally have jurisdiction over civil claims below S$250,000.[38] For more than two decades, the courts have provided ADR services such as mediation and neutral evaluation through the State Courts Center for Dispute Resolution ("SCCDR") and actively encouraged disputing parties to use ADR as early as possible.[39]

There has been a "presumption of ADR" in place for all civil disputes since 2012.[40] This means that disputes are routinely referred for a mode of ADR unless a party chooses to opt out. All claims relating to motor accidents and personal injury undergo early neutral evaluation in the SCCDR.[41] These types of cases are not part of the present study, which focuses on referrals to mediation.

Other types of cases are usually referred for mediation at the "summons for directions hearing," a pre-trial conference held four months after the writ of summons has been filed.[42] In 2014, a simplified process was introduced for claims under the Magistrate's Court's jurisdiction, which are generally below S$60,000 in quantum.[43] "Case management conferences" are scheduled for these cases at an

37. *See* Supreme Court Practice Directions, Amendment No. 35(b)(2) (2016) (Sing.) (highlighting the professional duty of lawyers to advise on different ways of resolving a dispute using an appropriate ADR process, providing guidelines on deciding when and which mode of ADR is appropriate, and modifying the Response to ADR Offer to require the lawyer and client to certify that (1) ADR has been explained to the client and that (2) the client is aware of possible adverse costs orders in the event of unreasonable refusal to use ADR); *see also* Supreme Court Practice Directions, Amendment No. 158 (2017) (Sing.) (introducing a protocol for medical negligence cases, requiring parties to complete the ADR Offer and Response early in the case under the supervision of the judge, and modifying the ADR Offer and Response to ADR Offer to include signatures by an authorized representative of an insurance company, if one is involved).

38. S$ is a reference to Singapore dollar; S$1 is roughly equivalent to U.S. $0.75. *XE Currency Converter: United States Dollar to Singapore Dollar*, XE CORPORATION (April 11, 2018), https://www.xe.com/currencyconverter/convert/?Amount=1&From=USD&To=SGD.

39. *See generally* Supreme Court Practice Directions, *supra* note 36.

40. *Id*.

41. *See* State Courts Practice Directions, app. A Form 7 (2018) (Sing.) (available at https://www.statecourts.gov.sg/Lawyer/Pages/StateCourtsPracticeDirections.aspx),

42. *See* State Courts Practice Directions, *id.* at 35–36.

43. *Id*.

early stage to explore ways to resolve the dispute. At these conferences, the court is empowered to order the parties to attempt a form of ADR.[44]

Parties must file an "ADR Form" before the summons for directions, pre-trial conference and case management conference.[45] This form provides information on different modes of ADR and requires parties and their lawyers to indicate whether they wish to use any form of ADR.[46] The judge will only refer a matter to the SCCDR when all the parties consent to attempt mediation, except for Magistrate's Court cases, where the judge may order the parties to undergo the process.[47] Apart from the above contexts, the State Courts judges may encourage the parties to attempt mediation at any other hearing such as a pre-trial conference in preparation for summary judgment.[48]

It is evident that both courts' referral practices share common features, such as having a judge suggest the use of mediation. They also appear to be informed by assumptions concerning the importance of certain factors to the mediation outcome. We turn next to analyze cases in the Supreme Court, cases in the State Courts and cases in both courts.

IV. Examining the cases referred by the Supreme Court to mediation

A. *The data*

We examined a dataset drawn from civil cases that were referred by the Supreme Court to the SMC for mediation and completed mediation in 2014 and 2015. Earlier cases were not included due to changes in court policy relating to mediation in 2013. The total number of cases considered was 235. We also considered the survey returns completed by the parties, their lawyers and the mediator at the end of the mediation. The survey returns were supplemented by other information provided by the SMC relating to the outcome of the mediation and the mediators' profiles.

44. *Id.* at 20, 36; *see also* Rules of Court, Order 108 rule 3 (Cap 322) (2014) (Sing.).

45. *Id*.

46. State Courts Practice Directions, *supra* note 37; *see also* Rules of Court, *supra* note 36, Order 108 rule 3.

47. *Id*.

48. The ADR Form need not be filed in these other situations.

B. *The dependent variables*

The dependent variables were the settlement outcome of the mediation (or resolution), and the perception of mediation success. The first was derived from SMC's records. The second was based on the answers of disputants and their lawyers to three survey questions:

(a) How effective was the mediator as a whole? (the "Effectiveness Rating") (this question was asked of the parties and their lawyers);
(b) Are you satisfied with the mediation or outcome of the mediation? (the "Satisfaction Rating") (this question was asked of the parties and their lawyers); and
(c) Would you recommend mediation to others? (the "Recommendation Rating") (this question was asked only of the parties).

The survey responses for all the ratings are on a scale from 1 to 5. We averaged the participants' responses to arrive at an outcome measure for each case.

C. *The independent variables*

We considered ten independent variables. Variables (1) to (3) relate to the referral process, while variables (4) to (10) relate to the characteristics of the dispute. The final two variables relate to the mediation process.

1. *Time of referral*

This number was derived by computing the number of months between the date when the defendant filed a memorandum of appearance and the date of the referral to mediation. If there was more than one defendant, the latest date of appearance was used because this signified when all the defendants were committed to the dispute.

2. *Stage of referral*

There were 13 stages for this variable. In general, a lower number indicates an earlier stage of the litigation process. Furthermore, the stages were combined in two ways in order to examine the impact of key milestones in the litigation process – before trial (codes 1 to 10) compared to after trial (codes 11 to 13); and before discovery (codes 1 to 7) compared to after discovery (codes 8 to 13).

Figure 1: Stage of referral for Supreme Court

Code	Stage of proceedings
1	Close of pleadings without interlocutory application filed
2	Pending summary judgment/striking out hearing
3	After summary judgment/striking out hearing
4	Pending other interlocutory application hearing
5	After other interlocutory application hearing
6	Pending Registrar's Appeal (appeal from interlocutory application)
7	After Registrar's Appeal decision
8	After discovery
9	After AEICs (affidavits of evidence-in-chief) exchanged
10	After setting down for trial
11	At hearing of trial or originating summons
12	After trial and pending appeal hearing
13	At appeal hearing

3. *Mode of referral*

There were six modes of referral based on the common ways of referral used in the Supreme Court.[49] Since this variable examines the extent of disputant choice, the modes were also combined to reflect three different degrees of voluntariness – referral by a judge or registrar (codes 4 and 5); referral by court correspondence (codes 2, 3 and 6); and self-referral (code 1).

49. State Court Practice Directions, *supra* note 41; *see also* Rules of Court, *supra* note 36, Order 108 rule 3.

Figure 2: Mode of Referral in Supreme Court

Code	Mode of referral	Comments
1	Self-referred	The parties mutually agree to use mediation and voluntarily approach the SMC without any suggestion made by the court to use mediation.
2	Routine Letter sent by Civil Registry	An ADR Form is sent for the parties' consideration. Directions on the completion and submission of the ADR Form may be given by the Registrar at the first or subsequent pre-trial conference.[50]
3	Referral from Supreme Court to SMC each month	The SMC sends a letter to the parties to invite them to consider mediation.
4	Referral by Assistant Registrar ("AR")	This may take place at a pre-trial or case management conference or at any hearing conducted by an AR at the High Court or Court of Appeal level.
5	Referral by Judge	This may take place at a pre-trial conference, case management conference or at any hearing conducted by a Judge at the High Court or Court of Appeal level.
6	Letter sent by Court of Appeal Registry	The Court of Appeal Registry may send a letter to the parties after an appeal has been filed to invite them to consider mediation.

4. *Filing of ADR Offer*

This variable reflects whether an ADR Offer has been filed in a case. It indicates that at least one party is willing to attempt mediation and is taking the formal step of filing a document to place the offer on record. This variable is similar to the preceding factor in indicating voluntariness in choosing mediation.

The next two variables examine the degree of contentiousness between the disputants.

5. *Number of contested interlocutory applications*

The number of contested interlocutory applications is counted at the point of referral. It is meant to reflect the extent of litigation that

50. *See* Supreme Court, *Pre-Trial Conference*, http://www.supremecourt.gov.sg/rules/court-processes/civil-proceedings/pre-trial-matters/pre-trial-conference-(ptc) (last visited Mar. 4, 2018).

has taken place and, consequently, the level of acrimony between the disputing parties.[51]

6. *Level of contention as ranked by mediator*

This variable relies on the mediator's assessment of the parties' relationship. The results for the level of contention are derived from the mediator's answer on a scale from 1 to 5 to the survey question: "How contentious was the relationship between the parties at the start of the mediation session?"

7. *Quantum of claim*

This variable is derived from what the plaintiff enters into the electronic system as damages sought in the statement of claim. If the claim is not quantified, a "nil" entry is entered.

8. *Nature of claim*

This value is also derived from information entered by parties in the electronic system. We collapsed the data into the seven categories below.

Figure 3: Nature of Claim in Supreme Court

Code	Nature of claim included in this category
Banking and Credit	Claims involving negotiable instruments, shares and guarantees
Building and Construction	General construction claims
Companies	Claims involving joint ventures, partnerships and companies
Contract	Claims involving breach of contract, sale of goods or provision of services, employment claims, property claims and tenancy claims
Equity and Trusts	Claims involving constructive and resulting trusts and restitution
Negligence	These include professional negligence claims and motor accident claims
Others	Any other claims not falling into the above categories, including intellectual property, administrative and constitutional law, admiralty and shipping, arbitration, defamation, probate and administration and other claims in tort

51. We excluded consented applications such as summons to amend pleadings.

9. *Mediator type*

This variable compares mediator type in two ways: mediators who are former or current judges of the Supreme Court, compared to mediators who are not from the judiciary;[52] and legally trained compared to non-legally trained mediators.

10. *Number of hours taken for mediation*

This final variable is derived from SMC's records on the number of hours each mediation lasted.

D. *The results*

The results below were first reached through bivariate regression for each of the independent variables (Figures 4 and 5). A bivariate regression examines only one independent variable at a time and provides an estimated indication of the significance of a given factor on the mediation outcome. These results are, however, limited by the inability of the analysis to account for the effect of other factors, for which a multivariate regression would allow. We therefore controlled for as many independent variables as possible, in order to create a multivariate model of regression that ascertains which variables have substantial association with both the settlement outcome and the parties' perception of mediation success.

52. In general, only certain Senior Judges of the Supreme Court mediate for the SMC. These are Supreme Court judges who have formally retired and been re-appointed to assist the Bench. There are other SMC mediators who are retired Judges or former Judicial Commissioners of the Supreme Court.

Figure 4: Estimated Odds Ratios for Bivariate Logistic Regression of Settlement Outcome, by 10 variables in Supreme Court Cases

	Cases not settled n=83	**Cases settled n=152**	**Crude Odds Ratio (with 95% Confidence Interval)**
Median Time of Referral (with interquartile range) (months)	5 (6)	3 (6)	0.99 (0.97, 1.02)
Stage of Referral			
No. of cases before trial	75	143	Reference Group
No. of cases after trial	8	9	0.59 (0.22, 1.59)
No. of cases before discovery	46	84	Reference Group
No. of cases after discovery	37	68	1.01 (0.59, 1.72)
Mode of Referral			
No. of cases referred by Judge/Registrar	52	99	Reference Group
No. of cases referred by correspondence	11	22	1.05 (0.47, 2.33)
No. of cases with self-referral	20	31	0.81 (0.42, 1.57)
Filing of ADR Offer			
	n=82	*n=150*	
No. of cases without ADR Offer filed	62	107	Reference Group
No. of cases with ADR Offer filed	20	43	1.25 (0.68, 2.34)
	n=21	*n=43*	
No. of cases without ADR Response not filed	4	11	Reference Group
No. of cases with ADR Response filed	17	32	0.68 (0.17, 2.35)
Median Number of Contested Applications (with interquartile range)	0 (2)	0 (1)	NA (quadratic relationship)*
Level of Contention Perceived by Mediator			
No. of cases with low rating (Rated 1 – 3)	26	57	Reference Group
No. of cases with high rating (Rated 4 – 5)	29	66	1.02 (0.65, 1.61)
Median Quantum of Claim (in S$100,000s, with interquartile range)	10.0 (10.6) *n =68*	5.8 (6.8) *n=119*	0.99 (0.97, 1.00)**
Nature of Claim	-	-	not significant
Type of Mediator			
	n=82	*n=148*	
No. of cases mediated by non-Judge	74	144	Reference Group
No. of cases mediated by Existing or Former Judge	8	4	0.26 (0.07, 0.88)*
No. of cases mediated by legally trained mediator	67	117	Reference Group
No. of cases mediated by non- legally trained mediator	11	22	1.15 (0.53, 2.59)
Median number of hours of mediation (with interquartile range)	7.5 (3.5) n=48	6.5 (3.5) n=105	1.17 (1.03, 1.34)*

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Unless otherwise indicated above, the numbers of settled and unsettled cases for each variable are 152 and 83 respectively. The differences are due to incomplete data for certain variables. The significant variables were confirmed under logistic regression and an additional Wilcoxon Rank-Sum test.

Figure 5: Bivariate Linear Regression of Perception of Mediation Success, by 9 variables in Supreme Court Cases

	Average Effectiveness Rating		Average Satisfaction Rating		Average Recommendation Rating	
	N	**Beta (95% Confidence Interval)**	**N**	**Beta (95% Confidence Interval)**	**N**	**Beta (95% Confidence Interval)**
Time of Referral (in months)	179	0.00 (-0.01, 0.01)	179	-0.01 (-0.02, 0.01)*	174	0.00 (-0.01, 0.02)
Stage of Referral	179		179		174	
Before Discovery	107	Reference Group	107	Reference Group	103	Reference Group
After Discovery	72	0.05 (-0.09, 0.20)	72	-0.14 (-0.37, 0.08)	71	0.01 (-0.22, 0.23)
Mode of Referral	179		179		174	
By Judge / Registrar	116	Reference Group	116	Reference Group	115	Reference Group
By Correspondence	27	-0.13 (-0.32, 0.07)	27	-0.12 (-0.43, 0.19)	26	-0.17 (-0.50, 0.15)
Self-Referral	36	0.06 (-0.12, 0.24)	36	-0.17 (-0.45, 0.11)	33	-0.08 (-0.37, 0.21)
Number of Contested Applications	179	-0.01 (-0.06, 0.03)	179	-0.04 (-0.11, 0.03)	174	0.00 (-0.07, 0.07)
Number of hours of mediation	140	0.02 (0.00,0.05)	140	0.00 (-0.05, 0.04)	139	0.00 (-0.04, 0.05)
Level of Contention Perceived by the Mediator	170		170		167	
Low Rating (1 – 3)	80	Reference Group	80	Reference Group	78	Reference Group
High Rating (4 – 5)	90	-0.02 (-0.16, 0.13)	90	-0.19 (-0.42, 0.03)	89	-0.15 (-0.38, 0.08)
Quantum of Claim (in S$100,000s)	142	0.10^{-3} (-2.10^{-3}, 2.10^{-3})	142	-1.10^{-3} (-4.10^{-3}, 2.10^{-3})	138	0.10^{-3} (-3.10^{-3}, 4.10^{-3})
Nature of Claim	179	not significant	179	not significant	179	not significant
Type of Mediator	166		166		161	
Legally Trained	142	Reference Group	142	Reference Group	137	Reference Group
Not Legally Trained	24	-0.21 (-0.42, 0.00)*	24	-0.04 (-0.36, 0.28)	24	-0.54 (-0.86, -0.22)**

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

All bivariate relationships were also tested with Wilcoxon ranked test or Kruskal–Wallis where applicable.

The variable of filing of ADR offer was excluded due to the data being insufficient in respect of all measures for perception of success of mediation.

1. *Time and stage of referral*

The median time of referral is 4 months after an appearance is entered. This reflects the Supreme Court's practice of sending correspondence and convening early pre-trial conferences to discuss ADR options. Although the median time for cases that did not settle was higher than those that settled, there was no statistically significant relationship between the time of referral and settlement outcome (Figure 4).

However, Figure 5 shows a substantial connection between time of referral and the Satisfaction Rating.[53] Cases with a longer timing of referral tend to have less satisfied disputants and lawyers.

The stage of litigation was not associated with either settlement outcome or perception of mediation success. As seen from Figure 4, there is no significant difference in the settlement rates whether a case is referred before or after discovery, or whether it is referred before or after a trial. In relation to perceptions of mediation success, the data presented an ambiguous picture. More of the cases with high ratings were referred for mediation before discovery than after discovery. However, the same trend could also be observed for the cases with low Satisfaction and Recommendation Ratings. Linear regression confirmed that there was no significant relationship between stage of referral and any of the three success indicators.

2. *Mode of Referral*

Most cases were referred by a judge or registrar (151 cases or 64%), followed by self-referral (51 cases or 22%) and then by way of correspondence (33 cases or 14%). There were largely similar settlement rates for each of these modes of referral. Regression analysis reflected the lack of statistically significant relationships between the mode of referral and the settlement outcome, and between mode of referral and perceptions of mediation success.

3. *Filing of ADR Offer*

An ADR Offer was not filed in 73% of the cases. Where an ADR Offer was filed, an ADR Response would be filed 77% of the time.[54] However, there was no relationship between whether an ADR Offer

53. Spearman Rank Correlation test showed significance ($p < 0.05$). There was no connection between time of referral and the Recommendation and Effectiveness ratings.

54. In all but two of these ADR Responses, the other party had agreed to mediation.

or ADR Response was filed and the likelihood of settlement at mediation. There was also no association between the filing of an ADR Offer and the perception of mediation success.[55]

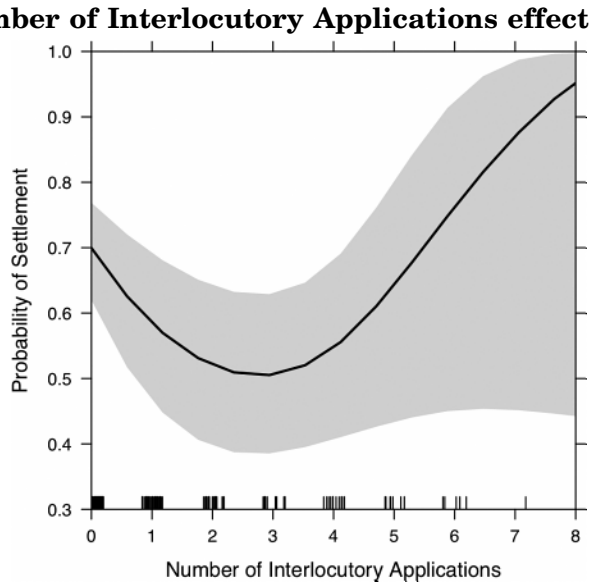
4. *Number of Contested Applications*

It is noteworthy that 60% of the settled cases had no contested applications, while 17% had only one contested application. This may relate to the early stage at which cases are generally referred for mediation. The regression analysis in Figure 4 indicates that this is an important variable influencing settlement outcome. The estimated probability of settlement falls as the number of interlocutory applications increases from 0 to 3 (Figure 6).[56] There was, however, no relationship between this factor and the three ratings reflecting perceptions of mediation success. This variable will be further examined below in our final multivariate analysis.

55. The data was too sparse to draw conclusions in relation to the Effectiveness Rating.

56. Note that this variable has a quadratic relationship with settlement outcome. The curve reverses direction after more than three contested interlocutory applications. Cases with 6 or more applications are estimated to have higher probabilities of settlement than those with no applications. Nevertheless, the wide confidence intervals for these higher number of applications demonstrate much uncertainty.

Figure 6: Probability Effect Plot for Number of Contested Interlocutory Applications and Probability of Settlement in Supreme Court Cases (with 95% Confidence Interval)



5. *Level of Contentiousness as ranked by Mediator*

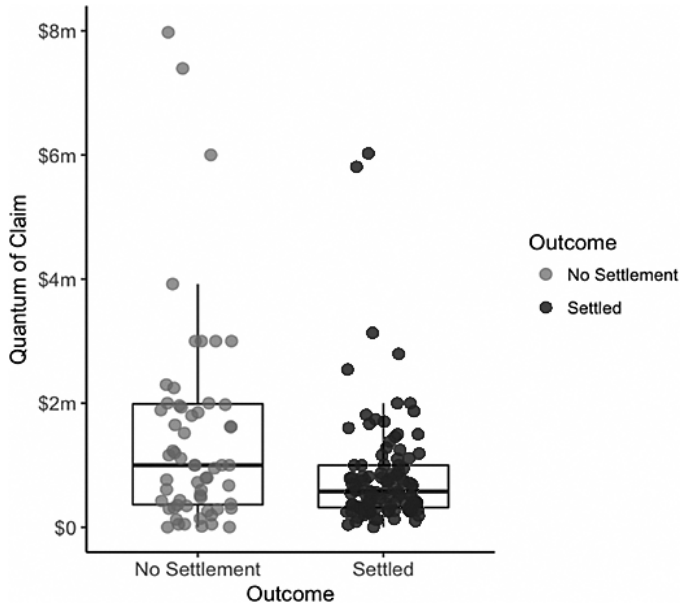
The most common score given by mediators regarding the level of contentiousness between the parties at the start of the mediation is 4, followed by 3 and 5. The data also shows that 53% of the cases that were not settled had a high rating of contentiousness, which is comparable to 54% of the settled cases having a high rating. Unlike the number of contested applications, the mediator's assessment of the level of contentiousness was not found to have a significant impact on settlement outcome.

6. *Quantum of Claim*

Most of the cases considered by this study were below S$1 million in value. The median quantum of claim was approximately S$702,720. Figure 7 below shows that the cases that were not settled tend to involve a higher quantum of claim than the settled cases, suggesting that quantum of claim could have an impact on settlement outcome. The settled cases also tend to cluster below the amount of

S$650,000. Statistical analysis showed that there was indeed a significant relationship between the quantum of claim and the settlement outcome (Figure 4), but no association between quantum of claim and perceptions of mediation success (Figure 5).

Figure 7: Box plot of quantum by settlement outcome in Supreme Court Cases



7. *Nature of Claim*

Most of the cases fell under the "Contract" category. The general trend shows that more cases will settle than will not settle in most categories, except for banking and credit claims. Nonetheless, no significant relationship could be found between any type of claim and settlement outcome or perceptions of mediation success. This could be due to a large number of categories, which may require an even larger dataset to perform a more statistically reliable analysis.

8. *Mediator Type*

In this pool of cases, the majority of mediators were not either current or former Judges (218 cases compared to 12 cases). For this analysis, the cases that were co-mediated by different types of

mediators were excluded.[57] Although regression analysis suggests an association between a judge mediator and an ultimate settlement, the sparse data (with only 12 cases mediated by existing or former judges) suggests that the results could be tenuous. Whether or not the mediator has legal training also does not appear to influence settlement outcome.

The mediator type variable had a considerable impact on parties' perception of mediation success. Legal training had a signification association with the Effectiveness and Recommendation Ratings, but not with the Satisfaction Rating. The Effectiveness Rating and Recommendation Rating decreased by 0.21 points and 0.54 points respectively when the case was handled by a mediator who is not legally trained.

9. *Number of hours spent on mediation*

According to Figure 4, a longer time spent in mediation seems to have a positive impact on the likelihood of settlement at mediation. With each increment of one hour, the probability of resolution increases by 19%. However, this finding may be of limited weight, as there were only 153 observations for this variable out of a total of 235 Supreme Court cases examined.

10. *Final analysis using multiple variables*

In order to control for other variables, multivariate regression models were created to examine settlement outcome and perceptions of mediation success.

For settlement outcome, the model used the variables of timing of referral, stage of referral and number of contested applications. The level of contentiousness and quantum of claim — the potential confounding factors for the relationship between time or stage and the settlement outcome — were omitted due to the high proportion of incomplete observations, while other variables such as referral mode, filing of ADR Offer and type of mediators were excluded due to the limited sample size.[58] There was no significant association between any of these variables and settlement outcome in the multivariate

57. This was because of the limited number of observations with low ratings for co-mediated cases. For example, there were only three co-mediated cases with a score of 3 or below for the Recommendation Rating.

58. It should be noted that a smaller data set of 233 cases was used to build the multivariate model as each of the cases had to have usable and complete data in relation to all the variables built into the model.

model. Neither were there any significant variables in the multivariate analysis of the perception of mediation success.[59]

In summary, the trends observed in the Supreme Court cases are largely exploratory, due to the relatively low number of observations. This was expected, given the smaller caseload of the Supreme Court compared with the State Courts. The final analysis controlling for other factors underscores the importance of level of contentiousness to the perception of mediation success, a point that will be discussed below in Section VII. We turn next to an examination of the State Courts' cases.

V. Examining the cases referred by the State Courts for mediation

A. *The data*

The study of State Court cases has generally similar variables to the Supreme Court study, but the context varies because the mediation services are provided by the SCCDR instead of private mediators (as at the SMC). We examined 489 civil cases that completed the mediation process in 2015. We excluded cases that are routinely handled by the SCCDR using the neutral evaluation process, including accident and most injury claims.

B. *The dependent variable*

The sole dependent variable examined here is the settlement outcome of the case. While there were also survey returns in cases mediated by volunteers, the number was below 100 and insufficient to yield a meaningful statistical analysis. Settlement outcome was coded according to the table below. Since we were examining the settlement outcome of cases that went through the mediation process, we excluded 198 cases that were scheduled for mediation but had a "vacated" outcome. These cases did not proceed further in the mediation process for a variety of reasons.[60]

59. The numbers of observations used for the multivariate models for Satisfaction Rating, Effectiveness Rating and Recommendation Rating were 158, 158 and 155, respectively.

60. Based on information provided by the State Courts, some of these reasons include: (a) where a party or parties withdraw consent to mediate; (b) where a party or parties are not ready to mediate; (c) where a party or parties fail to attend the first or subsequent mediation sessions without valid reasons; and (d) where the case is fully disposed of by a concurrent interlocutory application (e.g. summary judgment is granted or the claim/defence is struck out) or by default, such as by operation of an unless order.

Figure 8: Settlement Outcome for State Courts

Code	Settlement Outcome	Type of outcomes included in this category
1	Settled	The outcome in the case file is entered as "settled".
0	Not settled	The outcome in the case file has been entered as "not settled". Cases with "vacated" outcome are not included.

C. *The independent variables*

There are eight independent variables. Variables (1) through (3) relate to the referral process, variables (4) to (6) concern characteristics of the dispute, and the final two variables relate to the mediation process.

1. *Time of referral*

As with the first study, this variable was calculated in terms of number of months between referral and the defendant's entry of appearance.

2. *Stage of referral*

The ten stages for this variable are similar to the first study.

Figure 9: Stage of Referral for State Courts

Code	Stage of proceedings
0	Before close of pleadings
1	Close of pleadings without any interlocutory application filed
2	Pending summary judgment or striking out hearing
3	After summary judgment or striking out hearing
4	Pending other interlocutory application hearing
5	After other interlocutory application hearing
6	Pending RA (appeal from interlocutory application)
7	After RA decision made
8	After discovery (list of documents filed)
9	After affidavits of evidence-in-chief have been exchanged
10	After setting down for trial

3. *Mode of referral*

The following eight ways of referral are the common ways in which a case is referred for mediation within the State Courts.

Figure 10: Mode of Referral in State Courts

Code	Mode of referral	Comments
1	Request for Court Dispute Resolution has been filed by the disputing parties ("Self-Referral"≠)	The parties mutually agree to use mediation and file a request. Unlike the other modes, there is no suggestion made by a judge to use mediation.
2	Referral by Judge at Summons for Directions hearing	The parties have to indicate in an "ADR Form" whether they wish to use a mode of ADR. The judge will refer the case for ADR unless any party opts out.[61]
3	Referral by Judge at pre-trial conference convened 4 months after writ	All District Court cases are called for this PTC 4 months after the writ is filed to discuss ADR options. The ADR form also has to be filed.[62]
4	Referral by Judge at summary judgment or striking out pre-trial conference	A PTC is routinely convened when a summary judgment or striking out application is filed. The judge convening the PTC may encourage parties in appropriate cases to consider using mediation.
5	Referral by Judge at interlocutory application apart from summary judgment or striking out	Judges hearing other interlocutory applications may also encourage parties to use mediation. Referral is made with the parties' consent.
6	Referral by Judge at pre-trial conference convened after setting down and before trial	This is a PTC convened to set trial dates. A judge may also suggest the use of mediation at this stage.
7	Referral by Judge at case management conference("CMC") for Magistrate's Court case	CMCs are convened 50 days after the filing of the defense for Magistrate Court's cases filed after 1 November 2014. The parties have to file the ADR Form, and the judge may recommend or order the use of mediation.[63]
8	Referral by Judge at pre-trial conference for Specially Managed Civil List	These PTCs are called to specially manage complex District Court claims above S$100,000.[64]

4. *Number of contested interlocutory applications*

As with the preceding study, this variable was derived from the total number of contested interlocutory applications filed for the case and reflects the level of contentiousness between the disputants.

61. State Courts Practice Directions, *supra* note 41, at 26, 36 (stating that there are potential adverse cost implications under Order 59 rule 5(1)(c) of the Rules of Court (Cap 322) if the court deems a party to have opted out for unsatisfactory reasons).

62. *Id.* at 36.

63. *Id.* at 20; Rules of Court, *supra* note 36, at 108 (Cap 322).

64. State Courts Registrar's Circular, No.3 (2009) (Sing.) (available at https://www.statecourts.gov.sg/Lawyer/Documents/RC3of2009.pdf).

5. *Quantum of claim*

This is the amount of claim that is entered by the plaintiff in the electronic system. Most cases have a number below S$250,000, which is the upper limit of the District Court's civil jurisdiction.

6. *Nature of claim*

The electronic system has preset options for a plaintiff to choose to describe the claim at the point of filing. These were collapsed into the fifteen types of claims listed below.

Figure 11: Nature of Claim in State Courts

Code	Nature of claim included in this category
Banking and Credit	Claims involving negotiable instruments, shares and guarantees
Building and Construction	General construction claims
Companies	Claims involving joint ventures, partnerships and companies
Contract	Claims involving breach of contract that do not fall under specific categories of loans, sale of goods or provision of services
Defamation	This is a specific nature of claim that can be selected in the electronic system
Employment	This is a specific nature of claim that can be selected in the electronic system, usually involving breach of employment contracts
Equity and Trusts	Claims involving constructive trusts, resulting trusts and restitution
Loans	Claims involving friendly loans or moneylending
Negligence	Most of these claims are professional negligence claims. Negligence claims in motor accidents and industrial accidents are excluded as these are dealt with by way of neutral evaluation instead of mediation.
Property	Claims involving sale of property and property damage; claims involving probate and administration
Provision of Services	Claims in relation to contracts for provision of services including renovation, consultancy, transportation and other works
Sale of Goods	Claims for goods sold and delivered; claims for loss and damage to goods
Tenancy and Hire Purchase	Claims relating to breach of tenancy agreement, refund of rental deposit, claim for rental arrears; claims in hire purchase
Tort	Tortious claims not falling in the categories of defamation or negligence, including conversion, assault and battery and nuisance.
Others	Any other claims not falling into the above categories

7. *Mediator type*

In general, District Court claims are mediated by judges, while Magistrate Court claims are handled by volunteers who are qualified lawyers and mediators. Hence, this variable has two items – judge mediator and volunteer mediator.

8. *Number of mediation sessions*

This variable is meant to reflect the approximate time taken to complete the mediation. Each mediation session is usually fixed for half a day or 3 hours.[65] If necessary, further sessions are convened. Not all subsequent sessions would take a half day, as some of these sessions only involve the parties giving a quick update on the status of their negotiations. The exact number of hours for each session was not recorded. Hence, the number of mediation sessions is used instead to reflect the duration of the mediation. Whenever it was possible to infer from the electronic records that no mediation took place, or there was only a short update without mediation, that session was excluded from the total number of sessions.

D. *Method*

A similar approach was adopted as the earlier study. Our analysis starts with bivariate logistic regression that examines the relationship between each independent variable and the probability of settlement. In our final multivariate analysis, we control for as many independent variables as possible to shed light on the variables that have the greatest association with the likelihood of settlement.

65. Singapore State Courts, *Preparing for Mediation*, STATECOURTS.gov, (Nov. 03, 2015), https://www.statecourts.gov.sg/Mediation_ADR/Pages/Preparing-for-Mediation.aspx.

E. *The results*

1. *Time and stage of referral*

Figure 12: Estimated Odds Ratios for Bivariate Logistic Regression of Settlement Outcome, by Time of Referral and Stage of Referral in State Courts Cases

	Cases not settled n=135	**Cases settled n=354**	**Crude Odds Ratio (95% Confidence Interval)**
Median Time of Referral (with interquartile range)	4.0 (3.5)	4.0 (3.0)	0.96 (0.93, 1.00)
Time of Referral by Category			
0 to 6 months	101	287	1.00 (Reference Group)
Above 6 to 12 months	22	44	0.70 (0.41, 1.36)
Above 12 months	12	23	0.67 (0.33, 1.45)
Stage of Referral			Overall p-value: 0.01
Before or at close of pleadings with no interlocutory application	69	227	1.00 (Reference Group)
Interlocutory stage	51	84	0.50 (0.32, 0.78)**
After discovery	15	43	0.87 (0.46, 1.71)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
The significant variables were confirmed under logistic regression and an additional Wilcoxon Rank-Sum test.

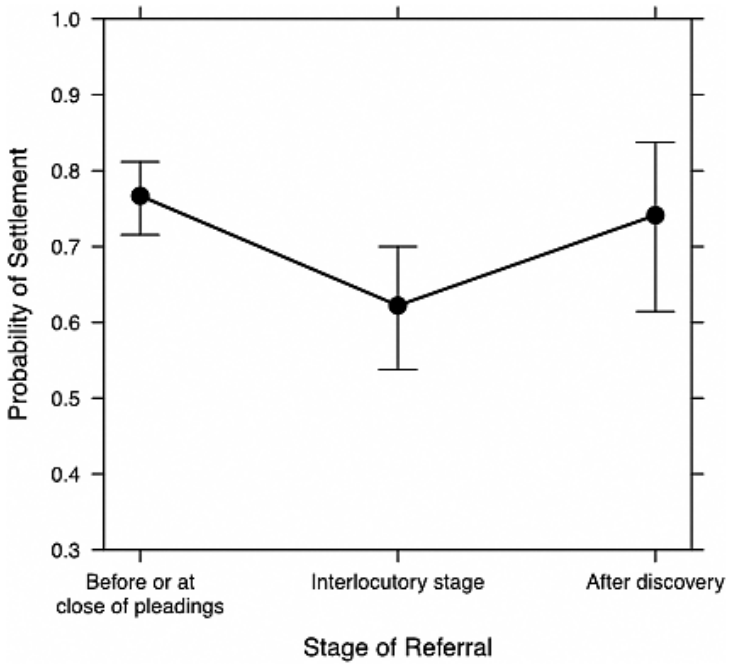
Figure 12 shows that a high number of cases are referred for mediation relatively early, with the median time of referral being four months after appearance. Similarly, a high proportion of cases — 60.5% — were referred for mediation at the close of pleadings stage, without any interlocutory application having been filed. These numbers reflect the State Courts' policy of encouraging disputants to attempt alternative dispute resolution as early as possible. Nevertheless, the timing of referral was not found to have a significant association with the settlement outcome.

After the stages of referral were collapsed into three broad stages, a significant association was found between stage of referral and the likelihood of resolution.[66] In particular, the cases are 50%

66. There were also no significant results when the stages were collapsed in other ways (referral before discovery versus referral after discovery; referral before close of pleadings versus referral after close of pleadings; referral at summary judgment and

less likely to reach a settlement when they are referred for mediation at the interlocutory stage rather than before or at the close of pleadings. There was no significant difference in likelihood of settlement outcome between cases referred after discovery and cases referred at the close of pleadings.

Figure 13: Probability Effect Plot for Three Stages of Referral and Likelihood of Settlement in State Courts Cases (with 95% Confidence Interval)



This preliminary analysis strongly suggests that settlement is more likely when a case is referred for mediation before the interlocutory stage.[67] This variable will be further examined below when controlling for other factors.

other interlocutory stage compared to referral after interlocutory application decided; referral after discovery compared to referral after affidavits of evidence-in-chief are exchanged).

67. We note that these results have yet to control for other factors that may confound the association between time of referral and settlement result.

Figure 14: Estimated Odds Ratios from Bivariate Logistic Regression of Settlement Outcome for Other Variables in State Courts Cases

	Cases not settled n=135	**Cases settled n=354**	**Crude Odds Ratio (with 95% Confidence Interval)**
Mode of Referral			
Referred by Judge	103	263	1.00 (Reference Group)
Self-referred	32	91	1.11 (0.71, 1.79)
Median Number of Contested Applications (with interquartile range)	0 (1)	0 (0)	0.77 (0.60, 1.00)*
Median Quantum of Claim (in S$10,000s, with interquartile range)	4.6 (10.3)	3.5 (6.6)	0.96 (0.94, 0.99)*
Quantum of claim according to categories			
No. of cases ≤ S$60,000	76	235	1.00 (Reference Group)
No. of cases > S$60,000	59	119	0.65 (0.44, 4.03)*
Type of Mediator			
Judge	98	231	1.00 (Reference Group)
Legally Trained Volunteer	37	123	1.41 (0.92, 2.20)
Nature of Claim	-	-	(not significant)
Number of mediation sessions (quadratic variable)			*Probability of settlement (95% confidence interval)****
1 sessions			0.80 (0.75, 0.85)
4 sessions			0.63 (0.60, 0.70)
6 sessions			0.59 (0.45, 0.67)
10 sessions			0.70 (0.44, 0.87)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
The significant variables were confirmed under logistic regression and an additional Wilcoxon Rank-Sum test.

2. *Mode of referral*

The highest percentage of referrals (43%) was done through the judge's discussion with lawyers at the summons for directions stage. A sizeable percentage (25%) of the cases also proceeded for mediation through the parties' joint request. However, there was no significant difference in settlement rates between referral by judges and parties' request for mediation.

3. *Number of contested interlocutory applications*

A large proportion of the cases examined (74%) did not have any contested applications when they proceeded for mediation; 23% of the disputes had one to two contested applications. A higher number of contested applications were found to have a significantly negative impact on settlement outcome. With each increment of one contested application, the probability of settlement decreases by 23%.[68] This therefore appears to be a crucial factor affecting settlement outcome.

4. *Quantum of claim*

63.6% of the claims were below S$60,000 and within the general jurisdiction of Magistrate's Court cases. The median quantum of claim was S$36,000. The quantum of claim was strongly associated with settlement outcome; every increase in S$10,000 decreased the likelihood of settlement by 4%. When the cases were further examined according to two categories – below S$60,000 and above S$60,000 – we found that the likelihood of a claim above S$60,000 reaching a settlement was 35% lower than a claim below S$60,000.

5. *Type of mediator*

In this study, the judges mediated a larger proportion of cases (67.2%) compared to the volunteer mediators. However, there was no significant relationship found between this variable and the mediation outcome.

6. *Nature of claim*

A large number of cases in this dataset related to provision of services (25%), contractual disputes (18%), sale of goods (12%) and employment disputes (13%). Nonetheless, no statistically significant relationship could be found between any particular nature of claim and settlement outcome. This could be due to a large number of categories, which calls for a much larger dataset to perform more statistically reliable analysis.

68. A Wilcoxon Rank-Sum test was also done, which also found that the difference between the two median numbers of contested applications was statistically significant (p-value=0.043).

7. *Number of mediation sessions*

Finally, we examined the impact of the time taken to complete mediation, reflected in the number of mediation sessions. As explained above, not every subsequent mediation session may necessarily be held for half a day. As far as possible, such sessions were excluded from the total number.

There is a significant association between the number of mediation sessions and the likelihood of resolution; the probability of settlement decreases as the number of mediation sessions increases from 0 to 6.[69] This finding is once again premised on the assumption that no other factor has a confounding impact on the relationship between this variable and whether the case ultimately resulted in settlement.

Figure 15: Estimated Odds Ratios from Multivariate Logistic Regression of Settlement Outcome by 7 variables in State Courts Cases

Variable	Crude Odds Ratio (95% Confidence Interval)
Time of referral	0.99 (0.95, 1.04)
Stage of referral	Overall p-value = 0.12
Interlocutory stage	0.58 (0.34, 0.98)
After discovery	0.79 (0.41, 1.58)
Number of contested applications	0.87 (0.64, 1.21)
Mode of referral – self-referral	1.25 (0.78, 2.05)
Quantum of claim	0.97 (0.94, 1.00)
Type of mediator – volunteer mediator	0.88 (0.53, 1.46)
Number of mediation sessions (as quadratic variable)	1.04 (1.01, 1.08)** [70]
	Probability of settlement
1 mediation sessions	0.80 (0.75, 0.85)
4 mediation sessions	0.64 (0.56, 0.71)
6 mediation sessions	0.60 (0.50, 0.69)
10 mediation sessions	0.72 (0.46, 0.89)

Nagelkerke R-squared: 0.084; Likelihood ratio test p-value < 0.001
N = 489
* p < 0.05; ** p < 0.01; *** p < 0.001

69. Upon closer analysis, the number of mediation sessions was found to be a quadratic variable. This means that there was no direct linear relationship between probability of settlement and the number of sessions. The likelihood of resolution appears to increase after more than six sessions.

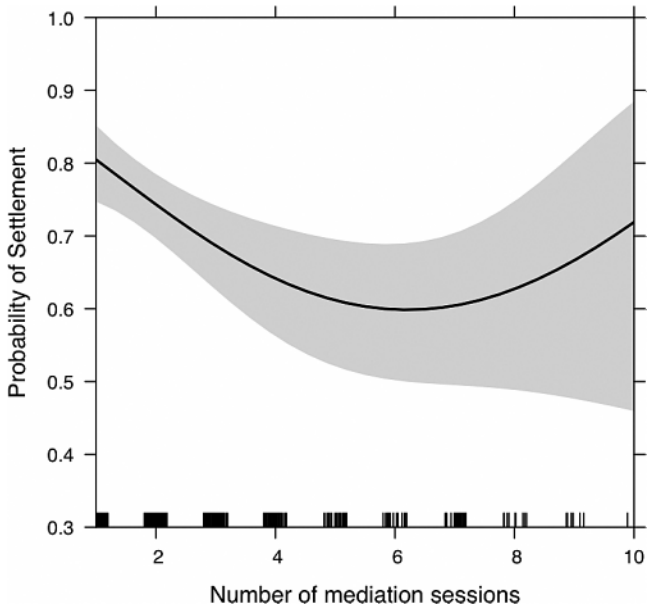
70. Based on the likelihood ratio test, the overall p-value for the effects of number of mediation sessions is 0.01.

8. *Final analysis using multiple variables*

A multivariate logistic regression model was constructed to control for all the independent variables, as illustrated in Figure 15.[71]

The number of mediation sessions was found to have the strongest impact on the likelihood of settlement. The probability of resolution decreases as the number of sessions increases from 0 to 6 and thereafter increases. The plot below illustrates how the number of mediation sessions has an impact on the likelihood of settlement.[72]

Figure 16: Probability Effect Plot for Significant Variable in State Courts Cases (with 95% Confidence Interval)



The stage of referral, quantum of claim and the number of contested applications were no longer significant when other variables

71. The variable of nature of claim was omitted from the multivariate regression model because there were too many categories in this variable to contribute to meaningful statistical analysis.

72. As the latter is a quadratic instead of a linear factor, the plot in Figure 16 shows a curve that reverses direction after there are more than six mediation sessions. Nevertheless, the wide confidence interval when the number exceeds six sessions leaves us rather uncertain about the magnitude of effects for these higher values of number of sessions. Additionally, the estimated probability of settlement only exceeds that for cases with one application as the number of applications reaches 12.

were controlled for. However, it is very likely that the variables of time of referral, stage of referral and number of contested applications have mutually influenced one another. Earlier studies have suggested that the time of referral is intimately connected with other factors concerning the "ripeness" of a case for mediation, including the emotional readiness to negotiate and the need for more information.[73] Upon further testing, we found significant correlation among these three variables, which confirmed the close interaction between them.[74] Since the individual impact of these three closely related variables could have been obscured by multicollinearity in the above regression, a likelihood ratio test for the combined effects of the three variables was conducted. In this analysis, the three variables cumulatively exerted a significant influence on the settlement outcome.[75]

VI. Examining the factors affecting settlement outcome in the combined data from the Supreme Court and State Courts

We have thus far separately analyzed each court's data because of their differing practices in referring cases to mediation. Our final study combined the data for both courts in relation to their common variables and studied only the dependent variable of settlement outcome. The six independent variables used were: time of referral; stage of referral; quantum of claim; type of mediator; nature of claim and number of contested applications. Certain adjustments were made to ensure commonality in the data drawn from both courts. For instance, we excluded Supreme Court cases that were led by mediators without legal qualifications, because only legally qualified mediators are able to mediate civil disputes in State Courts. The two types of mediators being examined were judges (or ex-judges) and legally trained mediators who were not associated with the judiciary. The categories of nature of claim were also re-organized into 11 common categories.[76] In addition, we did not include mode of referral

73. *See* Sourdin, *supra* note 8.

74. This is based on Kendall's Tau rank correlation test for variables of time of referral and number of contested interlocutory applications (correlation coefficient of 0.25, p-value < 0.001); Kruskal–Wallis test for the association between stage of referral and time of referral (p-value <0.001); and the association between stage of referral and number of contested interlocutory applications (p-value < 0.001).

75. The overall p-value for all three variables was 0.04.

76. These were banking and credit; building and construction; companies; contract; defamation; employment; property; sale of goods or services; torts; and other claims.

because of the differing practices in both courts. We examined a total of 620 cases with complete observations for all variables.

We were particularly interested in ascertaining whether the timing and stage of referral emerge as significant factors affecting the likelihood of settlement. Based on bivariate regression shown in Figure 14, time and stage of referral have a significant impact on settlement. With each increment of one month's delay in referral, the likelihood of settlement declines by 3%. In comparison, stage of referral has a stronger impact. The probability of resolution is markedly lower (41%) for referral at the interlocutory stage compared to close of pleadings without any applications filed.

Apart from time and stage of referral, the quantum of the dispute and the number of contested applications emerged as influential variables. Every S$100,000 increment in the quantum of claim reduced the likelihood of settlement by around 2%. Similarly, a case is 22% less likely to resolve with each additional contested application.

Figure 17: Estimated Odds Ratio from Bivariate Logistic Regression of Settlement Outcome (Combined Courts' Cases)

	Cases not settled n= 185	**Cases settled n= 435**	**Crude Odds Ratio (95% Confidence Interval)**
Median Time of Referral (with interquartile range)	4 (5)	4 (3)	0.97 (0.94, 0.99)*
Stage of Referral [77]			Overall p-value < 0.01
No. of cases at or before close of pleadings without interlocutory applications	87	260	1.00 (Reference Group)
No. of cases with interlocutory application filed	64	97	0.51 (0.34, 0.76)***
No. of cases after discovery and before trial	34	78	1.17 (0.79, 1.74)
Median Quantum of Claim (in S$100,000s, with interquartile range))	0.8 (2.2)	0.5 (1.3)	0.98 (0.97, 0.99)*
Type of Mediator			
Judge/ex-judge mediator	105	234	1.00 (Reference Group)
Legally qualified mediator	80	201	1.13 (0.80, 1.59)
Median Number of Contested Applications (with interquartile range)	0 (1)	0 (1)	0.78 (0.67, 0.91)**
Nature of Claim	-	-	Not significant

The significant variables were confirmed through both logistic regression and additional Wilcoxon Rank-Sum test.
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

In the final multivariate regression controlling for all variables shown in Figure 18 below,[78] quantum of claim remained as a critical variable; with each increment of S$100,000, the probability of resolution dropped by 1%.

77. Only 6 cases were referred for mediation after trial. This figure was small and not significant, so it was excluded from the table.

78. The variable "nature of claim" was omitted from the multivariate regression model because the number of categories was too large to contribute to meaningful statistical analysis.

Figure 18: Estimated Odds Ratio from Multivariate Logistic Regression of Settlement Outcome, by 5 Variables (Combined Courts' Cases)

Variable	Crude Odds Ratio (95% Confidence Interval)
Time of referral	0.99 (0.95, 1.02)
Stage of referral – Interlocutory stage	Overall p-value = 0.06
- Interlocutory stage	0.60 (0.39, 0.91)
- After trial	0.89 (0.54 1.51)
Number of contested applications	0.90 (0.74, 1.11)
Type of mediator – Legally trained mediator	1.16 (0.80, 1.70)
Quantum of claim (in S$100,000s)	0.99 (0.97, 1.00)*

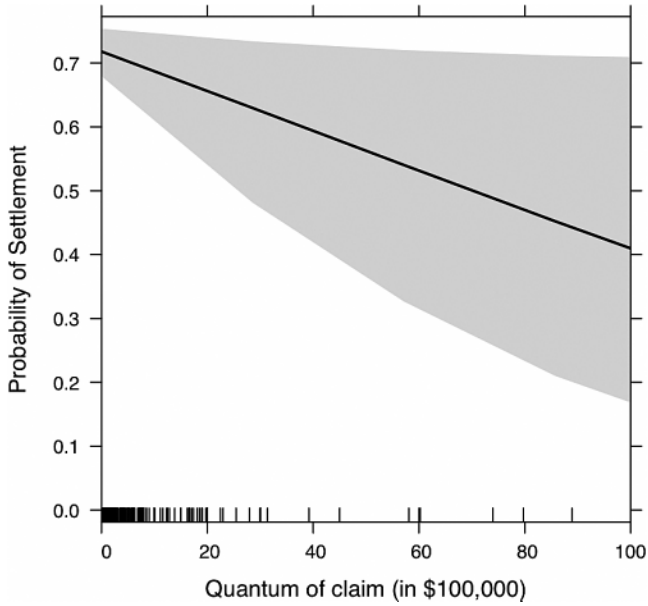
Nagelkerke pseudo R-squared: 0.05; Likelihood ratio test p-value= <0.001; N= 620
* p < 0.05; ** p < 0.01; *** p < 0.001

While time of referral, stage of referral and number of contested applications were statistically significant in our preliminary analysis, none of them remained influential in the final regression. Similar to the State Courts study, significant correlations were found amongst the three variables. After the variables were combined, their cumulative influence on settlement outcome was found to be substantial when controlling for other variables,[79] a result that is strikingly similar to the State Courts study.

The effect of the quantum of claim on the probability of settlement is illustrated below.

79. The overall p-value for all three variables was 0.01.

Figure 19: Probability Effect Plot for Significant Variable in Combined Courts' Cases (with 95% Confidence Interval)



VII. Discussion of Results and Implications on Referral Practices

A. *Factors affecting settlement outcome*

1. *Timing and stage of referral*

The main hypothesis being tested is that referral to mediation at an earlier time and stage of litigation is more likely to lead to settlement. No conclusive findings emerged from the Supreme Court study due to the limited data available. Time and stage of referral were found to be significant only in the bivariate regression of the combined courts' data, but not in the final multivariate regression of all the datasets.

Based on these results, the following conclusions can be drawn:

(i) Earlier referral of cases is associated with a higher likelihood for resolution at mediation.

(ii) Settlement is also more likely when mediation is attempted at the close of pleadings stage without any interlocutory application filed. The likelihood of settlement decreases once pre-trial applications are filed.

(iii) Nonetheless, the final multivariate analyses of the combined and State Courts' studies strongly suggest that there are more critical variables than the timing and stage of referral.

These findings on the benefits of early referral correspond with other studies, such as Wissler's findings that cases were more likely to settle if there were fewer months between the mediation and when the case was filed, and findings showing that court cases were less likely to settle if there were pending interlocutory applications.[80]

2. *Ripeness of a dispute for mediation – time, stage and level of contentiousness*

More importantly, the present research reflects how timing of referral is likely to be one of several related variables that impinge on the "ripeness" of the dispute for mediation. As explained earlier, researchers have put forward the concept of "ripeness" as a more appropriate way to assess when a dispute is ready for mediation. This concept takes into account several factors apart from absolute time, such as emotional readiness to negotiate. In our studies, stage of referral, time of referral and number of contested applications had a strong collective impact on the probability of settlement in both the State Courts data and the combined data, despite none of the individual variables emerging as statistically significant in the final regression. In other words, it is difficult to determine the exact factors steering the cumulative impact of these mutually related variables. This finding strongly supports the notion of ripeness comprising several inter-related factors. Each variable should not be considered in isolation without a holistic assessment of other factors relating to ripeness.

The present research demonstrates how the time of referral, stage of referral and extent of contested litigation are relevant indicators of the readiness of a case for mediation. This result is not unsurprising given the relationship between the variables. A case is less likely to settle once it enters the interlocutory stage. This is probably attributable to the presence of contested applications. The number of contested applications is a good indicator of the contentiousness of

80. Wissler, *supra* note 3, at 677–78 (citing studies that used the Pearson correlation test). Australian studies have also found that settlement of cases was more likely for disputes that were less than 3.6 and 3 years old in the Victoria and New South Wales courts, respectively. *See* SOURDIN, *supra* note 8, at 64; *Mediation in the Supreme and County Courts of Victoria,* at 63; SOURDIN & MATRUGLIO, *supra* note 8, at 16.

the litigation proceedings. A high degree of contested litigation probably entrenches disputants in their positions and makes them less open to arriving at a mediated resolution. The presence of one or more contested application decreases the odds of settlement by 22% (in the combined data) and 23% (for the State Courts data) when the effects of other variables are not adjusted for. Although firm conclusions cannot be drawn from the Supreme Court data, it is also notable that level of contentiousness is associated with settlement outcome in the bivariate analysis. Furthermore, a greater extent of litigation naturally results in a longer lapse of time before the parties are referred for mediation. A longer time of referral in turn undermines the chances of settlement, possibly because of the further reinforcement of the parties' opposing positions. As evident from the combined courts' study, prolonging time of referral for an additional month results in a 3% drop in likelihood of settlement when other variables are not taken into account. It is therefore evident that the three variables mutually reinforce one another in affecting the mediation outcome.

While the regression analysis could not definitively show which of these three variables are determinative, it is likely that the number of contested applications plays a prominent role in influencing mediation outcome. Both the combined courts' and State Courts data suggest that settlement is less likely at the interlocutory stage, when there were pending or completed summary judgments, other applications or appeals concerning pre-trial applications. The cases at this interlocutory stage had one to three contested applications. It is hence highly likely that the contested applications at the interlocutory stage exert a negative impact on mediation outcome rather than time or stage per se.

These overall results attest to the prudence of the Supreme Court and State Courts' policies of encouraging the use of mediation at an early stage, before interlocutory applications have been filed. Additionally, they lend credence to the simplified litigation process for Magistrate's Court claims that are generally below S$60,000.[81] A limited number of contested applications may be filed in such cases, and the courts convene case management conferences at the close of pleadings stage to discuss dispute resolution options.

81. Under the Rules of Court, a limited number of interlocutory applications may be filed in such cases, and the court convenes early case management conferences to discuss ADR options. *See* Rules of Court, *supra* note 36.

While these results naturally apply to Singapore courts, they are also instructive for other courts that actively manage the litigation activities within civil disputes and encourage the use of mediation. The courts' exercise of its discretion in referral of cases does not hinge on a simple inquiry as to the timing and stage of the case proceedings. Instead, there must be sensitivity to other factors that could aggravate the acrimony between the parties, including the impact of an increase in pre-trial applications and the potentially alienating effect of prolonged litigation proceedings. These factors are significant in ascertaining when a case is "ripe" for mediation. Some studies have highlighted the parties' and lawyers' preference to complete discovery before attempting mediation.[82] However, it is likely for multiple contested discovery applications to be filed by this stage. The time elapsed could further take an emotional toll on the parties involved. The courts would need to balance the disputants' need for information against the potentially damaging effects of prolonged pre-trial litigation.

The findings could also assist the courts in evaluating the prudence of referring cases to mediation while critical pre-trial applications are pending. One of the most contentious applications is for summary judgment or striking out of a claim. The present results suggest that it would be preferable not to wait until such applications are filed before the court suggests the use of mediation. The degree of acrimony and uncertainty arising from this unresolved application is likely to greatly reduce the likelihood of settlement. In a similar vein, Wissler earlier found that cases were less likely to settle when there were pending motions for summary judgments or dismissal.[83] These findings cumulatively point to the reduced likelihood of a successful mediation when there are pending interlocutory applications that are hotly contested.

3. *Other factors influencing settlement outcome*

The other significant factors influencing settlement outcome relate to the characteristics of the dispute and the mediation process, rather than the ripeness of a case for mediation.

82. *See* SOURDIN, *supra* note 8.
83. Wissler, *supra* note 2, at 677–78.

4. *The quantum of claim*

Bivariate regression of the Supreme Court data and multivariate regression of the combined courts' data show a substantial association between the amount of the claim and the likelihood of settlement. In respect of the combined courts data, every S$100,000 increment in the quantum of dispute decreases the probability of settlement by 1%. This could be due to greater complexity in the disputes or the higher stakes involved in settling a claim of a higher quantum. This finding is consistent with earlier law and economics studies examining decisions to settle or litigate within the civil justice system. Shavell's model posited that a plaintiff is likely to settle if the expected value of succeeding in court is at least as large as the estimated legal costs. A larger size of claim is probably more likely to cover one's legal costs, and could thus explain the decreasing likelihood of settlement.[84] Conversely, it is highly likely for a person's legal costs to exceed the relatively smaller size of a claim in the State Courts, and thus settlement is more probable for these claims.

It is apposite that the State Courts, which handle civil claims below S$250,000, has a different approach from the Supreme Court in encouraging the use of mediation. It characterizes its approach as a "presumption of ADR", which translates to cases being referred for ADR unless any disputant opts out.[85] Moreover, the court is empowered to order the use of mediation for cases below S$60,000. The Supreme Court's approach, while undoubtedly active in encouraging the use of mediation, does not go as far as the "opt-out" approach. In addition, only the State Courts have court-provided mediation services at highly subsidized rates, while cases in the Supreme Court proceed for private mediation services outside the courts. This differentiated and graduated approach across courts is validated by the finding showing that settlement is less likely as the quantum of claim increases.

There are also notable findings within each court's data concerning quantum of claim. In the State Courts study, there was a substantial 35% increase in the chances of settlement for disputes below

84. *See generally*, Steven Shavell, *Suit, Settlement, and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. LEGAL STUD. 55 (1982) (discussing how different system of cost allocation will also affect the decision to settle or proceed to trial); *see also* Phillip J. Mause, *Winner Takes All: A Re-Examination of the Indemnity System*, 55 IOWA L. REV. 26 (1969).

85. *See* State Courts Practice Directions, *supra* note 41, at para 35 (stating that a presumption of ADR applies, involving the court referring appropriate matters to ADR as a matter of course at the earliest possible time, unless the parties opt out).

S$60,000, compared to claims of higher quantum (without controlling for other factors). This finding validates the State Courts' policy of more active referral of cases below S$60,000 to mediation. While the analysis was not conclusive in the Supreme Court study owing to the smaller number of observations, it is noteworthy that the median amount for the settled cases fell at S$575,700, and probability of settlement seemed to decline for higher claims. The Supreme Court could therefore consider more targeted encouragement of mediation of cases around and below the value of S$500,000.

5. *Time taken to complete the mediation*

The State Courts study shows that the variable with the greatest impact on settlement outcome is the number of mediation sessions. The likelihood of settlement generally decreases with a higher number of mediation sessions, although it also increases when the number of mediation sessions is unusually high. By contrast, the bivariate analysis of the Supreme Court cases suggests that the likelihood of settlement rises by 17% with each increase of one hour spent on the mediation in SMC. An important difference between the conduct of mediations in the SMC and the State Courts is that SMC mediations are scheduled for an entire day, whereas the mediations in the State Courts usually take half a day or less, with further sessions being scheduled if necessary. These results could possibly be explained by a loss of momentum whenever a half-day mediation is postponed to another day and mediation is conducted over multiple sessions instead of a single session.

The significance of this finding should not be overstated, as the Supreme Court finding is derived only from bivariate analysis without controlling for other factors, and has a rather low number of observations. Nevertheless, it remains a notable finding that underscores the benefit of concluding a mediation with as few sessions as possible and allowing as much time as needed for the mediation to complete in one day. The constraints in court resources naturally render it difficult to arrange for court mediations to be scheduled for one entire day. However, given the potential significance of this factor, it is an important aspect for the courts to consider when designing mediation programs. The impact of time constraints and loss of momentum within court-connected mediation could be further explored.

B. *Factors affecting satisfaction levels in mediation*

Settlement outcome is only one element of the outcome of mediation. Participant satisfaction at the mediation is equally crucial. This could only be examined from the Supreme Court cases, as there were insufficient survey returns from the State Court cases. Therefore, the observations below do not constitute firm conclusions and have to be further ascertained with a larger dataset.

1. *Timing and Stage of Referral*

Only timing of referral, but not stage of referral, was found to have an association with the disputants' satisfaction rates based on the initial bivariate regression. This result accords with common experience: the longer the time taken before a case is referred to mediation, the more stress is placed financially and emotionally on the parties to the litigation.

While the variable of timing had no impact on settlement outcome in the bivariate regression, it had a connection with perception of mediation success. Prolonging the timing of referral is hence much more likely to negatively affect satisfaction rates than the likelihood of resolution. Although mediation may still produce a positive outcome in terms of settlement, a party may well feel less satisfied with the mediation because of the costs and time taken to resolve the matter. This is notable, as earlier research has not conclusively shown how a longer timing of referral could influence the participants' experience in the mediation.[86] Unfavorable views of the mediation process readily diminish court users' confidence in mediation and will eventually pose challenges to the courts' policy of encouraging the use of mediation. It is thus in the courts' interests to refer cases for mediation as early as possible to ensure that disputants to have a positive experience.

2. *The type of mediator*

The other notable point is the significant effect of the type of mediator on the disputants' experience in terms of the Recommendation Rating and Effectiveness Rating. It is possible that legally trained mediators are associated with higher ratings because of their familiarity with the legal context of the dispute and their ability to use that knowledge to their advantage when managing the mediation process.

86. SOURDIN, *supra* note 8, at 124–25.

It is common for disputants to rely heavily on lawyers in civil disputes, and they could consequently prefer a mediator who also has legal training to one without. This area would be an interesting subject for another study to determine the specific characteristics that distinguish legally trained mediators from mediators without legal training in relation to court-connected mediation.

C. *Which variables should inform the courts' referral practices?*

This article set out to determine the crucial factors that could inform the courts' referral policies and design of mediation programs. The above results have established the importance of referring a case for mediation at an early stage (before the interlocutory stage) and at a time when there are as few contested applications as possible. These factors have been shown to have a considerable impact on the likelihood of settlement and perception of mediation success. Disputes of relatively lower quantum are also more amenable to resolution by mediation, and the courts should accordingly be more active in encouraging the use of mediation for such cases. The mode of referral and type of dispute do not appear to matter as much as the above factors, though specific trends could be discerned for each courts' cases.

There are also two notable variables that are instructive for the design of court-connected mediation programs. First, the duration and continuity of the mediation are likely to have an impact on the success of the mediation. It seems more beneficial for the mediation to be completed in as few separate sessions as possible. Second, the Supreme Court litigants show significantly greater satisfaction rates with mediators with legal training, a finding that warrants greater investigation.

D. *Limitations of this study*

There are many other variables relating to the mediation process that potentially affect mediation outcome, such as the type of mediation interventions, the mediation style, the disputing parties' familiarity with mediation and the lawyers' experience with the process. However, we have not been able to control for all these variables in our research, since they were not available from the historical data being examined. Hence, while our results suggest the importance of considering certain factors when referring cases to mediation, there

may be other significant variables that also affect the outcome of mediation. The impact of the factors closely related to the mediation process may only be better understood based on quantitative and qualitative studies of prospective rather than historical cases.

Following from this, we also stress that our findings are premised on specific contexts of court-connected mediation. The important factors affecting settlement outcome of State Courts disputes operate in the context of mediation taking place in a dispute resolution center situated within the State Courts, and a certain style of mediation that has been described in the courts' Code of Ethics on Court Mediation.[87] Likewise, the results of the Supreme Court study must be understood in the context of cases being handled by private mediators of SMC who may have diverse styles of mediation. The findings should therefore not be broadly generalized to all court-connected mediations without considering how mediation takes place in the relevant program.[88]

In terms of cultural limitations, we note that our study examines numerous variables that would likely not be affected by cultural context, including time and stage of referral, quantum of claim, and so on. However, one variable that may be impacted by culture is that of the legal training of the mediator. In Asian cultures, mediators tend to be perceived as figures of authority and their substantive expertise could be viewed as a crucial trait.[89] It is possible that in other cultures, the legal training of a mediator may not have that significant an impact on mediation outcomes.

Notwithstanding the above constraints, the present research has controlled for a wide range of factors such as the type of mediator, number of mediation sessions, quantum of claim and nature of claim. Logistic regression, rather than correlational analysis, has been used to model the probability of settlement or satisfaction based on changes in the independent variables. This method of analyzing historical data is most informative in helping predict the impact of the variables for future cases. Finally, a relatively large dataset has been used for the State Courts study (close to 500) and the combined

87. State Courts, *Code of Ethics and Basic Principles of Court Mediation,* https://www.statecourts.gov.sg/CivilCase/Documents/CodeOfEthics-and-BasicPrinciplesOnCourtMediation-190314.pdf (last visited July 24, 2017).

88. Mack also highlighted how the results of empirical research may be limited to a specific court context, which cannot be easily transposed to other judiciaries. *See* Mack, *supra* note 2, at 14.

89. *See generally* JOEL LEE & TEH HWEE HWEE, AN ASIAN PERSPECTIVE ON MEDIATION (2009); *See also* Joel Lee, *Culture and Its Importance in Mediation,* 16 PEPP. DISP. RESOL. L.J. 317, 328–38 (2016).

courts study (more than 600), which makes for rather robust statistical analysis. In sum, the findings are very significant in informing policies for court referral of cases to mediation.

VIII. Conclusion

This research represents the first comprehensive appraisal of the Singapore courts' referral policies for civil disputes. Using logistic regression, the research has controlled for as many factors as possible to discern which are the most critical in influencing the mediation outcome. The courts' practice of encouraging the early use of mediation has been strongly validated by our findings showing how a higher level of contentiousness, prolonged time of referral, and a later stage of referral are likely to result in a poorer mediation outcome measured in terms of settlement outcome and user satisfaction levels. The courts' referral process has been shown to be as crucial as the mediation process in creating a positive mediation experience for disputants. The intimate connection between the extent of litigation activity and the readiness for mediation also cannot be disregarded such that, to the extent possible, litigation activity should be minimized before mediation takes place. The referral process is undoubtedly a delicate yet impactful exercise that must be informed by a sound understanding of the disputants' dynamic responses to the court proceedings and the complexity of the dispute. We hope that the findings of this research will guide judiciaries as they perform the nuanced task of bringing disputants to the mediation table.