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An Empirical Analysis of the Use of the Intent Test to Determine Parentage in Assisted Reproductive Technology Cases

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An Empirical Analysis of the Use of the Intent Test to Determine Parentage in Assisted Reproductive Technology Cases

Abstract

States have been slow to adopt model acts regarding assisted reproductive technology (ART), or to draft ART legislation of their own, leaving most parents of ART children without a clear path to obtain legal parentage. As a result, when a child conceived via ART is born, the adults involved must turn to the courts to make a determination as to legal parentage. These courts have used a variety of approaches to determine legal parentage in ART cases, which along with the inherent discretion involved in judicial decisions absent clear precedent or statute has led to unpredictable, and sometimes inequitable, findings regarding parentage of ART children. This Article seeks to uncover what bases courts have used to determine parentage of ART children and whether courts have, perhaps unwittingly, developed a consensus as to how to best determine parentage of children conceived via ART.

This Article provides the results of a first-of-its-kind study of every case on Westlaw addressing parentage of ART children. Each case was coded and analyzed based on what test the court used to determine legal parentage of an ART child and what factors of each case were statistically significant in making that determination. The empirical evidence demonstrates two facts: (1) courts have used five different tests to determine parentage of ART children; and (2) regardless of the test used by the court, in over 74% of the cases, the outcome of the case was the same as if the intent test had been used.

Part II of this Article describes the methodology of the study, including how the relevant cases were identified and how those cases were coded and analyzed. Part III identifies the various tests courts have used to determine parentage in ART cases. This Part also describes each test and provides examples of how courts have applied each test. Finally, Part IV presents the data, noting which aspects of the cases were statistically relevant to the courts' determinations and demonstrating courts' tendencies to vest legal parentage in the intended parents, even if the court does not apply the intent test by name.

Keywords

assisted reproductive technology, family law, children, parentage, empirical studies

Disciplines

Family Law

ARTICLE

AN EMPIRICAL ANALYSIS OF THE USE OF THE INTENT TEST TO DETERMINE PARENTAGE IN ASSISTED REPRODUCTIVE TECHNOLOGY CASES

Mary Patricia Byrn* & Lisa Giddings**

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I. INTRODUCTION

Twenty-four years ago, Professor Marjorie Shultz introduced the intent test as a means to determine parentage of children conceived via assisted reproductive technology (ART).¹ According to Professor Shultz, when a child is conceived via ART, the person(s) that intended to bring the child into the world and raise the child should be the child's legal parent(s).² Only three years after the publication of Professor Shultz's article, the California Supreme Court applied this "intent test" in *Johnson v. Calvert*.³ In *Johnson*, both the surrogate that gestated the child and the woman that provided the egg used to conceive the child claimed to be the child's legal mother.⁴ The court held that the genetic mother was the legal mother because she was the woman who, when the child was conceived, intended to raise the child.⁵ Since then, every model act that has been drafted in the United States to address issues that arise when children are conceived via ART has incorporated the intent test to determine legal parentage.⁶

Unfortunately, states have been slow to adopt these model acts, or to draft ART legislation of their own, leaving most parents of ART children without a clear path to obtain legal parentage.⁷ As a result, when a child conceived via ART is

1. Marjorie Maguire Shultz, *Reproductive Technology and Intent-Based Parenthood: An Opportunity for Gender Neutrality*, 1990 WIS. L. REV. 297, 322–25.

2. *Id.* at 323 ("Within the context of artificial reproductive techniques, intentions that are voluntarily chosen, deliberate, express and bargained-for ought presumptively to determine legal parenthood.").

3. *Johnson v. Calvert*, 851 P.2d 776, 782 (Cal. 1993).

4. *Id.* at 778.

5. *Id.* at 782 ("[A]lthough the [Uniform Parentage] Act recognizes both genetic consanguinity and giving birth as means of establishing a mother and child relationship, when the two means do not coincide in one woman, she who intended to procreate the child—that is, she who intended to bring about the birth of a child that she intended to raise as her own—is the natural mother under California law.").

6. See, e.g., UNIF. PARENTAGE ACT §§ 703, 801, 807 (amended 2002), 9B U.L.A. 71, 77–78, 84 (Supp. 2012) (determining parentage based on intent when a child is conceived via alternative insemination or when gestational surrogacy is used); MODEL ACT GOVERNING ASSISTED REPROD. TECH. §§ 602–03 (2008), available at <http://apps.americanbar.org/family/committees/artmodelact.pdf> (providing model legislative provisions that determine parentage based on intent when a child is conceived via assisted reproduction); see also Gestational Surrogacy Act, 750 ILL. COMP. STAT. ANN. 47/15 (LexisNexis 2010) (determining parentage based on intent when gestational surrogacy is used).

7. See Naomi Cahn, *The New Kinship*, 100 GEO. L.J. 367, 388 (2012) (noting that while some states have adopted some form of ART legislation, approximately thirty "states either have no statute or have statutes diverging significantly" from the model statutes). When a child is conceived via sexual reproduction, the determination of legal

born, the adults involved must turn to the courts to make a determination as to legal parentage. These courts have used a variety of approaches to determine legal parentage in ART cases, which—along with the inherent discretion involved in judicial decisions absent clear precedent or statute—has led to unpredictable, and sometimes inequitable, findings regarding parentage of ART children. This Article seeks to uncover what bases courts have used to determine parentage of ART children and whether courts have, perhaps unwittingly, developed a consensus as to how to best determine parentage of children conceived via ART.

This Article provides the results of a first-of-its-kind study of every case on Westlaw addressing parentage of ART children. Each case was coded and analyzed based on what test the court used to determine legal parentage of an ART child and what factors of each case were statistically significant in making that determination. The empirical evidence demonstrates two facts: (1) courts have used five different tests to determine parentage of ART children;⁸ and (2) regardless of the test used by the court, in over 74% of the cases, the outcome of the case was the same as if the intent test had been used.⁹

Part II of this Article describes the methodology of the study, including how the relevant cases were identified and how those cases were coded and analyzed. Part III identifies the various tests courts have used to determine parentage in ART cases. This Part also describes each test and provides examples of how courts have applied each test. Finally, Part IV presents the data, noting which aspects of the cases were statistically relevant to the courts' determinations and

parentage is relatively clear under state statutes. See Mary Patricia Byrn & Jenni Vainik Ives, *Which Came First the Parent or the Child?*, 62 RUTGERS L. REV. 305, 332–34 (2010) (“The current parentage system is founded on the assumption that the genetic mother and father should be the legal parents of children conceived through sexual reproduction.”). In every state, the genetic mother, as evidenced by giving birth to the child, is the legal mother. *Id.* at 332–33; see also James G. Dwyer, *A Taxonomy of Children’s Existing Rights in State Decision Making About Their Relationships*, 11 WM. & MARY BILL RTS. J. 845, 859 & n.28 (2003) (supplying a comprehensive list of state statutes that define the legal mother as the woman who gave birth to the child). State statutes also seek to quickly identify the genetic father as the legal father via a series of presumptions. See Byrn & Ives, *supra*, at 333–34. With the use of ART, determining parentage is more complex because up to five individuals can be directly involved in the creation and conception of a child: (1) the sperm provider; (2) the egg provider; (3) the gestating mother; (4) the intended mother; and (5) the intended coparent. *Id.* at 340 & n.174.

8. See *infra* Table 1.

9. See *infra* Table 7b and accompanying text.

demonstrating courts' tendencies to vest legal parentage in the intended parents, even if the court does not apply the intent test by name.

II. METHODOLOGY—FIFTY-STATE CASE SURVEY

The purpose of this study was twofold. First, the study sought to determine on what bases courts have decided ART parentage cases. Second, the study considered whether the results in ART parentage cases tended to favor the intended parent(s). In addition, the study identified which factual aspects of a case, if any, were statistically significant relative to the determination of parentage. This Part describes the methodology used throughout the study, including how the data set was developed, how the cases were coded, and how the data was analyzed.

A. *The Data Set*

The first step in this study was developing the Westlaw search strategy to collect and compile the relevant cases. A comprehensive search term was developed to be inclusive of all methods of ART.¹⁰ This search term was entered into the Westlaw search engine for all cases.¹¹ The results of this search formed the initial case record. The initial case record was enlarged by performing a review of the cases citing and cited by each case in the initial search. Additional relevant cases were added to the record. To further develop the record, and in an attempt to ensure that as many relevant cases as possible were reviewed and included, a search of relevant Westlaw Key Numbers was also performed.¹²

The cases in this record were then reviewed for relevance to the study. Cases that determined a procedural issue that was unrelated to a determination of parentage were removed from the case record. For example, a case that determined standing of an intended parent was included, whereas a case

10. The comprehensive search term was as follows: ("ASSIST! REPRODUCT!" IVF "IN VITRO FERTILIZATION" "EGG DON!" "SPERM DON!" SURROGACY) & (PARENTAGE "PARENTAL STATUS" "LEGAL PARENT" "NATURAL PARENT" "PARENT CHILD RELATIONSHIP") & (DETERMINE ESTABLISH) /P (INTENT! GENETIC! "BEST INTEREST CHILD").

11. One limitation on the number of cases included is simply that not all cases are reported in Westlaw.

12. These included 289k20: Partnership, Creation of Relation in General; 76Hk15: Children Out-of-Wedlock, Assisted Reproduction, Surrogate Parenting; and 76Dk274.5: Child Custody, Assisted Reproduction, Surrogate Parenting.

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that was dismissed for lack of jurisdiction was not.¹³ The final case record consisted of 208 cases.¹⁴ All 208 cases were then coded according to the factors set forth below.

B. Coded Factors

In order to gain an understanding of the relationship among certain factors in each case and the overarching relationships and trends between the cases, the cases were coded for important factors based on an empirical studies approach known as “content analysis.”¹⁵ Each case was coded for several factors, including the following¹⁶:

- State;
- Year decided;
- Method of ART used;
- Intended parents’ marital status;
- Intended parents’ sexual orientation;
- Approach used by the court to determine parentage; and
- Whether the judicial decision result was the same as the intent test.¹⁷

13. To determine if a case is relevant for this study, the case was reviewed to ensure that the issue in the case was parentage of a child conceived by ART. Cases that did not fit this description were not included, nor were cases that primarily resolved issues related to the disposition or use of cryopreserved genetic tissue.

14. The record was further limited only to the case opinion decided by the highest court at the time of collection, October 22, 2012.

15. Content analysis is a method of empirical study in which the researcher collects a set of cases, systematically reviews them to record the material factors in each opinion, and further reviews the collection for statistical meaning among such factors. See Mark A. Hall & Ronald F. Wright, *Systematic Content Analysis of Judicial Opinions*, 96 CALIF. L. REV. 63, 64 (2008).

16. Additional coded factors were (1) whether or not the parties in the proceeding were adversarial; (2) which parties were asserting parentage; (3) surrogate’s marital status (if applicable); (4) intended parents’ genetic and/or gestational contribution to the ART process; (5) instrument used to demonstrate the parties’ intentions; (6) initial action and main issue(s) to be decided by the court (the issue is always relevant to the determination of parentage, but at times is phrased differently; for example, in some cases the main issue to be decided was child support, however, a determination of parentage was necessary first); (7) procedural posture and holding; (8) statutes used, if any; (9) precedent used, if any; (10) action by the court; (11) the name and gender of the judge; (12) dissenting opinion, if any; (13) concurring opinion, if any; (14) if published; (15) Westlaw KeyCite designation; and (16) Westlaw Key Number related to ART.

17. Intent for purposes of this study was measured by the intent of the parties prior to or contemporaneous with conception, generally recorded in some kind of instrument or other evidence communicated at trial, for example, testimony regarding conduct of the parties involved.

These factors can be divided into two general categories: (1) factual data—those coded factors that consist of factual information provided by the court in its opinion such as the year decided—and (2) substantive data—those coded factors that required interpretation. The substantive data consists of what approach the court used to determine parentage and whether the result would have been the same had the intent test been used. To ensure the record for the substantive data was as accurate and replicable as possible, one person did all of the coding. Any questions regarding coding were discussed and resolved in regular meetings with the principal Author. Particularly important was the coding for cases in which the judge considered multiple tests to determine parentage. In these cases, the substantive data was coded in favor of the test the court considered to be the most determinative.¹⁸ Finally, all of the coding discussed in this Article was checked by the principal Author.

C. *Statistical Analysis*

The coded cases were then analyzed to determine the factors that were significant in terms of the determination of parentage. In Part IV, tables are provided that show the significance of the type of ART used,¹⁹ the relationship status of the parties using ART,²⁰ and the jurisdictional location of the court.²¹ In order to establish statistical significance, Chi-squared tests were conducted. A Chi-squared test is used to determine if there is a significant relationship between groups of categorical variables.²² In each Chi-squared test, we assumed a null hypothesis of independence between the variables in question. If a Chi-squared probability was less than or equal to 0.05, the null hypothesis was rejected. In other words, if the Chi-squared probability was less than or equal to 0.05, it was concluded that a statistically significant relationship existed between the row variable and column variable. That is, the relationship between the variables was not random. If the Chi-squared probability was greater than 0.05, it was concluded that there was no significant

18. This process of regular questioning and independent double-checking of the record was performed to ensure that the coding was consistent and replicable so that ultimately the results of this study are reliable.

19. See *infra* Table 4.

20. See *infra* Table 5.

21. See *infra* Table 6.

22. JOSEPH F. HEALEY, *THE ESSENTIALS OF STATISTICS* 264 (2d ed. 2010).

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relationship between the row variable and the column variable.

III. JUDICIAL APPROACHES TO DETERMINING PARENTAGE IN ART CASES

In the 208 cases included in this study, judges used five different tests to determine legal parentage of children conceived via ART: (1) applying a state statute; (2) relying on public policy; (3) determining what was in the best interests of the child; (4) awarding parentage to the genetic parents; and (5) awarding parentage to the adults that, at the time of conception, intended to raise the child. Each of these approaches is described below.

A. *Determining Parentage by Applying a State Statute*

The statutory approach bases a parentage determination on legislation adopted in the state in which the case is adjudicated. Many states, for example, have adopted ART statutes to deal with parentage in the context of a heterosexual, married couple who conceives a child via alternative insemination.²³ A majority of states, however, do not have statutes explicitly addressing parentage determinations involving a large portion of ART cases that come before the courts today such as cases involving in vitro fertilization (IVF), surrogacy, known gamete donors, or same-sex couples.²⁴ In these cases, some judges have found ways to determine legal parentage of children conceived via various

23. See, e.g., MINN. STAT. ANN. § 257.56 (West 2007) (stating that upon consent, the husband is treated as the legal father of a child conceived by his wife through alternative insemination); OR. REV. STAT. § 109.243 (2011) (describing the relationship of a child conceived from alternative insemination to the mother's husband).

24. See Kristine S. Knaplund, *Children of Assisted Reproduction*, 45 U. MICH. J.L. REFORM 899, 899–900, 918, 928–29 (2012); Marjorie M. Shultz, *Taking Account of ARTs in Determining Parenthood: A Troubling Dispute in California*, 19 WASH. U. J.L. & POL'Y 77, 79, 86–87, 100 & nn.77–78 (2005) (noting that many states have adopted the 1973 Uniform Parentage Act, which does not address ART, and only a few states have adopted new statutes, including the 2002 Uniform Parentage Act, that specifically address ART issues); see also Linda S. Anderson, *Adding Players to the Game: Parentage Determinations When Assisted Reproductive Technology Is Used to Create Families*, 62 ARK. L. REV. 29, 33–37 (2009) (discussing the legislative silence as to parentage determinations of children born via ART, other than the marital paternity presumption when alternative insemination is used); Darra L. Hofman, "Mama's Baby, Daddy's Maybe." *A State-by-State Survey of Surrogacy Laws and Their Disparate Gender Impact*, 35 WM. MITCHELL L. REV. 449, 454–60 (2009) (discussing the lack of statutory authority for parentage determinations in ART disputes, particularly where surrogacy is used, and presenting a table of the status of surrogacy agreements in the states and the District of Columbia).

ART methods by applying statutes not originally intended for that purpose. Courts have applied statutes in ART cases in three different circumstances: (1) the court simply applies an ART statute that is directly on point; (2) the court applies an ART statute to a factual situation not contemplated by the statute; or (3) the court applies a non-ART statute to an ART situation.

The first variation of the statutory approach is straightforward, with the court merely applying a statute according to its terms.²⁵ The most common ART statute deals with alternative insemination.²⁶ Most of these statutes automatically vest the husband with legal parentage when his wife conceives a child using alternative insemination, even if the husband's sperm was not used.²⁷ A few states also have clear legislation governing parentage determinations in ART cases beyond alternative insemination.²⁸ Illinois, for example, has enacted a Gestational Surrogacy Act, which outlines the requirements for establishing legal parentage in the intended parents when a child is gestated by a surrogate.²⁹ Although under these more progressive ART statutes the persons vested with legal parentage are the intended parents, for the

25. See, e.g., *Anonymous v. Anonymous*, 1991 WL 57753, at *1, *19 (N.Y. Sup. Ct. Jan. 18, 1991) (holding that a husband was not obligated to pay child support unless he had consented, in writing, to the artificial insemination as was required under New York domestic relations law).

26. See *Byrn & Ives*, *supra* note 7, at 340 n.177 (stating that two-thirds of the states have alternative insemination statutes); *Shultz*, *supra* note 1, at 309 n.33, 372 (noting that alternative insemination has existed for decades and many states have statutes governing it).

27. *Byrn & Ives*, *supra* note 7, at 319; Richard F. Storow, *Parenthood by Pure Intention: Assisted Reproduction and the Functional Approach to Parentage*, 53 HASTINGS L.J. 597, 623 (2002); see, e.g., MINN. STAT. ANN. § 257.56 (West 2007) ("If, under the supervision of a licensed physician and with the consent of her husband, a wife is inseminated artificially with semen donated by a man not her husband, the husband is treated in law as if he were the biological father of a child thereby conceived.").

28. E.g., Gestational Surrogacy Act, 750 ILL. COMP. STAT. ANN. 47/15 (LexisNexis 2010); NEV. REV. STAT. ANN. § 126.045 (LexisNexis 2010) (naming the intended parents as the legal parents of a child born via a gestational surrogate so long as they are married and both are also the genetic parents of the child); N.D. CENT. CODE § 14-18-08 (2009) (declaring that the intended parents are the legal parents of a child born to a gestational surrogate, and negating any potential parental status in the surrogate or her husband, if any); TEX. FAM. CODE ANN. § 160.756 (West 2008) (establishing legal parentage in the intended parents when a gestational surrogacy agreement is validated by the court prior to the start of the ART procedure).

29. Gestational Surrogacy Act, 750 ILL. COMP. STAT. ANN. 47/15 (LexisNexis 2010). A gestational surrogate is a woman not genetically related to the child "who carries out the gestational function and gives birth to a child for another . . . and who relinquishes any parental rights she may have upon the birth of the child." BLACK'S LAW DICTIONARY 1106 (9th ed. 2009); see also Helene S. Shapo, *Assisted Reproduction and the Law: Disharmony on a Divisive Social Issue*, 100 NW. U. L. REV. 465, 477 (2006).

purposes of this study, if a court applied a state statute, the case was coded as determining parentage by applying a state statute.

The second variation of the statutory approach occurs when a court applies an ART statute to a factual situation that does not explicitly fit the text of the statute or the explicit intent of the drafters of the statute. Although some states have an alternative insemination statute, the language of these statutes suggests that they apply in very limited circumstances.³⁰ A typical alternative insemination statute provides that the husband is the legal father when he consents in writing to the insemination of his wife, by a licensed physician, using donated sperm.³¹ Despite the limiting language of these statutes, courts have applied them beyond situations that meet all of the factual requirements. These statutes have been used to determine parentage of children conceived via alternative insemination to single persons,³² same-sex couples,³³ and parties that otherwise did not strictly comply with the statutory requirements.³⁴ For example, the Oregon Court of Appeals used this variation of the statutory approach when it expanded the application of its alternative insemination statute.³⁵ Although the language of its alternative insemination statute is limited to a husband and wife,³⁶ the court extended the statute to include the same-sex

30. Byrn & Ives, *supra* note 7, at 340.

31. *E.g.*, MINN. STAT. ANN. § 257.56 (West 2007); OR. REV. STAT. § 109.243 (2011); *see also* Storrow, *supra* note 27, at 623–24 (stating that “[u]nder all statutes that define the paternity ramifications of artificial insemination by donor, the husband of an artificially inseminated woman is the father of the resulting child if he consented to the insemination,” and noting that “[t]he typical method of demonstrating consent is through a signed writing”).

32. *E.g.*, *In re Adoption of Michael*, 636 N.Y.S.2d 608, 609 (Sur. Ct. 1996) (holding that New York’s alternative insemination statute, N.Y. DOM. REL. LAW § 73 (McKinney 2010), which works to bar sperm donors from asserting any parental rights, applied to a single woman, despite the statutory language referring only to married women).

33. *E.g.*, *In re Parentage of Robinson*, 890 A.2d 1036, 1037–38, 1042 (N.J. Super. Ct. Ch. Div. 2005) (applying New Jersey’s alternative insemination statute, N.J. STAT. ANN. § 9:17-44 (West 2002), to a same-sex female couple, declaring both intended mothers as legal parents, though only one woman was biologically related to the child conceived through alternative insemination, they were not married, and the statutory language referred only to “a wife” and “her husband”).

34. *E.g.*, *Lane v. Lane*, 912 P.2d 290, 295–96 (N.M. Ct. App. 1996) (finding the intended father who did not consent in writing to the alternative insemination of his wife as required by New Mexico’s alternative insemination statute, N.M. STAT. ANN. § 40-11-6 (2006) (repealed 2009), was nevertheless the legal father).

35. *Shineovich v. Kemp*, 214 P.3d 29, 39–40 (Or. Ct. App. 2009).

36. OR. REV. STAT. § 109.243 (2011).

domestic partner of a woman who gave birth to a child conceived via alternative insemination.³⁷

In the third variation of the statutory approach, courts apply non-ART statutes, such as second-parent adoption statutes or paternity presumptions, beyond their explicit legislative terms to determine parentage in an ART case.³⁸ In *Elisa B. v. Superior Court*, for example, the Supreme Court of California used this statutory approach when it applied a legislative paternity presumption in a gender-neutral manner.³⁹ In that case, Elisa disputed her obligation to support twins born to her former same-sex partner on the basis that she was not genetically related to the twins or otherwise determined to be the twins' legal mother.⁴⁰ Applying a paternity presumption included in the California Uniform Parentage Act,⁴¹ the court held that Elisa was a legal parent because she actively participated in causing the conception of the children with the understanding that she would raise them jointly with the birth mother, and she received the children into her home and openly held them out as her own.⁴²

Of the cases analyzed in this survey, 51.92% used the statutory approach as the basis for the judicial decision.⁴³ Over 63% of these cases would have had the same parentage outcome had the intent test been used.⁴⁴

B. Determining Parentage Based on Public Policy

In states where no ART statutes exist and courts choose not to apply statutes in unintended ways, some courts have turned to public policy to determine parentage of ART children.⁴⁵ The public policy approach is different than the

37. *Shineovich*, 214 P.3d at 32, 39–40 (finding that the women otherwise complied with the statutory requirements of consent and that the parties intended to coparent the child).

38. *E.g.*, *Adoption of B.L.V.B.*, 628 A.2d 1271, 1272–76 (Vt. 1993) (applying Vermont's second-parent adoption statute to a same-sex couple, allowing for a joint adoption without terminating the parental rights of the biological intended mother).

39. *Elisa B. v. Superior Court*, 117 P.3d 660, 664–70 (Cal. 2005).

40. *Id.* at 663–64.

41. California Uniform Parentage Act, CAL. FAM. CODE § 7611(d) (West Supp. 2013) (presuming parentage when an individual “receives the child into his home and openly holds out the child as his natural child”).

42. *Elisa B.*, 117 P.3d at 670.

43. *See infra* Table 1.

44. *See infra* Table 7b (excluding traditional surrogacy).

45. *See T.F. v. B.L.*, 813 N.E.2d 1244, 1249–51 (Mass. 2004); *In re Baby M*, 537 A.2d 1227, 1234, 1246–47 (N.J. 1988) (“We invalidate the surrogacy contract because it conflicts with the law and public policy of this State.”).

statutory approach in that it is based on a general application of statutory principles. The statutory approach identifies a specific statute and applies its elements directly or by analogy to the case at hand, whereas the public policy approach identifies more general legislative principles and uses these principles to determine parentage.⁴⁶

The public policy approach was used in *In re Baby M* to invalidate a traditional surrogacy agreement and establish that the surrogate, not the intended mother, was the legal mother of the child.⁴⁷ There was not a statute directly on point in the state of New Jersey and, rather than applying a non-ART statute, the court concluded that the “surrogacy contract is based on[] principles that are directly contrary to the objectives of our laws.”⁴⁸ The court reasoned that the public policies underlying various state parentage statutes, including policies against the separation of a child from its genetic mother, prohibiting the payment of money in connection with adoption, and preventing a child from being raised by both of its “natural parents” prevented the court from enforcing the surrogacy contract.⁴⁹

The public policy approach was also used in *Debra H. v. Janice R.*, a case in which the court found that two women who entered a civil union in Vermont were both parents of the child born during the civil union.⁵⁰ The couple separated when the child was two years old, and the nonbiological mother sought custody and visitation rights.⁵¹ The New York court found that, as a matter of public policy, New York courts should recognize parentage created by a Vermont civil union and declared both women to be legal parents of the child.⁵²

Of the cases surveyed, 8.17% used public policy as the basis of the judicial decision.⁵³ Over 64% of these cases would

46. Compare *In re Baby M*, 537 A.2d at 1240, 1246–47 (employing the public policy approach by applying New Jersey’s “policies expressed in [its] comprehensive laws” to evaluate a surrogacy agreement), with *In re Baby Doe*, 353 S.E.2d 877, 878–79 (S.C. 1987) (applying an ART statute to determine parentage in an alternative insemination case).

47. *In re Baby M*, 537 A.2d at 1234. A “traditional surrogacy contract” is one in which the “surrogate agrees to be inseminated with . . . sperm, and to carry the pregnancy to term.” Weldon E. Havins & James J. Dalessio, *Reproductive Surrogacy at the Millennium: Proposed Model Legislation Regulating “Non-Traditional” Gestational Surrogacy Contracts*, 31 MCGEORGE L. REV. 673, 675 (2000).

48. *In re Baby M*, 537 A.2d at 1240, 1246–47, 1250.

49. *Id.* at 1246–50.

50. *Debra H. v. Janice R.*, 930 N.E.2d 184, 196 (N.Y. 2010).

51. *Id.* at 186.

52. *Id.* at 196–97.

53. See *infra* Table 1.

have had the same parentage outcome had the intent test been used.⁵⁴

C. Determining Parentage Based on the Best Interests of the Child

When determining legal parentage, the best interests of the child (BIOC) approach relies on a case-by-case factual inquiry into what is in the best interests of the child based on certain factors. Though these factors are often codified in a statute, the BIOC approach has been categorically differentiated from the statutory approach for purposes of this study due to its particular focus on a postbirth factual investigation.

In *Rubano v. DiCenzo*, the BIOC approach was used to resolve a case in which a woman petitioned for a declaration of parentage with respect to the biological child of her former same-sex domestic partner.⁵⁵ The petitioner was deemed by the court to be a de facto parent entitled to certain legal parental rights, including visitation, because it was in the best interests of the child.⁵⁶ The court summarized its BIOC inquiry stating that the biological mother could not “arbitrarily terminate” the de facto parental relationship the intended mother had with the child, a relationship that the biological mother intended to create and “fostered for many years.”⁵⁷

Of the cases surveyed, 15.87% used the BIOC approach as the basis of the judicial decision.⁵⁸ Over 76% of these cases would have had the same parentage outcome had the intent test been used.⁵⁹

D. Determining Parentage Based on Genetics

The genetic test determines legal parentage based on a genetic relationship with the child.⁶⁰ The court in *Belsito v. Clark* articulated the genetic test when it analyzed the relative parental rights of two intended parents who were also the genetic parents, against the interests of a gestational

54. See *infra* Table 7b (excluding traditional surrogacy).

55. *Rubano v. DiCenzo*, 759 A.2d 959, 961–63, 976–77 (R.I. 2000). “Although *Rubano* never adopted the child, for four years she lived together with *DiCenzo* and both of them raised the boy as their son.” *Id.* at 961.

56. *Id.* at 975–76.

57. *Id.* at 976.

58. See *infra* Table 1.

59. See *infra* Table 7b (excluding traditional surrogacy).

60. *Belsito v. Clark*, 644 N.E.2d 760, 763 (Ohio Ct. C.P. 1994).

surrogate.⁶¹ According to the court, “[i]f the genetic providers have not waived their rights and have decided to raise the child, then they must be recognized as the natural and legal parents.”⁶² Under this analysis, the act of giving birth, by a gestational surrogate for example, is “subordinate and secondary to genetics.”⁶³ In *Belsito*, therefore, the two genetic providers were declared the child’s legal parents.⁶⁴

Of the cases surveyed, only 3.37% used genetics as the basis of the judicial decision.⁶⁵ Over 83% of these cases would have had the same parentage outcome had the intent test been used.⁶⁶

E. Determining Parentage Based on Intent

The intent test vests legal parentage in the party or parties that affirmatively intended to conceive and raise a child, and “[b]ut for their acted-on intention, the child would not exist.”⁶⁷ The persons who intended to conceive and raise the child are held responsible for the care and support of that child, even if they later attempt to avoid such responsibility,⁶⁸ thereby avoiding a situation in which a child could be found to have no legal parents⁶⁹ or an unwitting donor or surrogate could be found legally responsible for the child.

In *Johnson v. Calvert*, the landmark case that articulated the intent test, the court determined legal maternity as between the intended mother and the gestational carrier.⁷⁰ Both women wanted to be declared the legal mother.⁷¹ Both women also had a legally recognized maternal relationship

61. *Id.* at 761–64.

62. *Id.* at 767.

63. *Id.*

64. *Id.*

65. *See infra* Table 1.

66. *See infra* Table 7b (excluding traditional surrogacy).

67. *Johnson v. Calvert*, 851 P.2d 776, 782 (Cal. 1993).

68. *See Levin v. Levin*, 645 N.E.2d 601, 604–05 (Ind. 2004) (determining that a man who consented to insemination of his former wife during their marriage was the legal father of the child that resulted from insemination and, therefore, was responsible for paying child support).

69. *See, e.g., Buzzanca v. Buzzanca (In re Marriage of Buzzanca)*, 72 Cal. Rptr. 2d 280, 282, 293–94 (Ct. App. 1998) (reversing the lower court’s declaration that the child born to a gestational surrogate, and conceived using anonymously donated sperm and ova, had no legal parents; finding instead that the intended parents are the legal parents).

70. *Johnson*, 851 P.2d at 778, 782; *see also* PHYLLIS CHESLER, *MOTHERS ON TRIAL: THE BATTLE FOR CHILDREN AND CUSTODY* 341 (2d ed., rev. & updated 2011).

71. *Johnson*, 851 P.2d at 778.

with the child—the intended mother as the genetic mother and the gestational carrier as the birth mother.⁷² To break this maternity “tie,” the court looked to the parties’ intent at the outset of the arrangement.⁷³ The court ultimately declared that the intended mother was the legal mother, saying “[the woman] who intended to procreate the child—that is, she who intended to bring about the birth of a child that she intended to raise as her own—is the natural mother.”⁷⁴ Since *Johnson* was decided in 1993, courts have continued to use and broaden the scope of the intent test. For instance, in 1994, a New York court applied the intent test and determined that an intended mother was a legal parent when she had no genetic relationship with the child but had intended to bring the child into the world and raise the child.⁷⁵ More recently, the intent test has been applied in a series of cases in Connecticut to recognize legal parentage of the intended parent(s) in both same-sex and opposite-sex couples that used gestational surrogacy, even if the intended parent(s) had no genetic relationship to the child.⁷⁶

Of the cases surveyed, 20.67% used the intent test as the basis of the judicial decision.⁷⁷

72. *Id.* at 781–82.

73. *Id.* at 782.

74. *Id.*

75. *McDonald v. McDonald*, 608 N.Y.S.2d 477, 480–81 (App. Div. 1994).

76. *See Goad v. Arel*, No. FA074025574, 2007 WL 4711515, at *1 (Conn. Super. Ct. May 24, 2007); *Wray v. Samuel*, No. FA074024921, 2007 WL 4711519, at *1 (Conn. Super. Ct. Apr. 20, 2007); *Caliendo v. Mariano*, No. FA074023465S, 2007 WL 4711520, at *1 (Conn. Super. Ct. Jan. 4, 2007); *Caird v. Lugo*, No. FA064017776, 2006 WL 5242383, at *1 (Conn. Super. Ct. Feb. 2, 2006); *DiComo v. Hopkins*, No. FA054007885S, 2005 WL 6007836, at *1 (Conn. Super. Ct. Mar. 7, 2005); *Velardo v. Murray*, No. 485648, 2004 WL 5506691, at *1 (Conn. Super. Ct. Jan. 22, 2004); *Friend v. Lugo*, No. CV020467901, 2002 WL 34370247, at *1 (Conn. Super. Ct. Aug. 20, 2002); *Hatzopoulos v. Murray*, No. FA020460329S, 2002 WL 34370245, at *1 (Conn. Super. Ct. Feb. 15, 2002); *Vogle v. Kirkbride*, No. FA 02-0471850, 2002 WL 34119315, *1 (Conn. Super. Ct. Dec. 18, 2002). *Compare Griffiths v. Taylor*, No. FA084015629, 2008 WL 2745130, at *1, *3, *5 (Conn. Super. Ct. June 13, 2008) (using a statutory approach, the court came to the same conclusion had the intent test been used, finding the two intended fathers that used a gestational surrogate were legal parents of that child), *with Oleski v. Hynes*, No. KNLFA084008415, 2008 WL 2930518, at *3, *5, *8, *11, *18–19 (Conn. Super. Ct. July 10, 2008) (using a statutory approach, the court came to a different result than had the intent test been used, finding that only the intended father with a genetic relationship was the legal father of the children born via a gestational surrogate, and that the other intended father was not entitled under Connecticut law to be named as the children’s parent on their birth certificates).

77. *See infra* Table 1.

IV. RESULTS AND DISCUSSION

Using the Chi-squared test, the coded factors for each case were analyzed. Three of the coded factors proved to be statistically significant: (1) the type of ART used; (2) the relationship status of the parties using ART; and (3) the jurisdictional location of the court.⁷⁸ Each of the factors was analyzed in relation to the approach used by the court to determine parentage. The results of this statistical analysis are below.

Table 1 provides descriptive statistics about the bases for judicial decisions in cases that analyzed parentage of ART children. Results are examined both before and after 1993, the year in which the California Supreme Court decided *Johnson v. Calvert*,⁷⁹ the landmark intent test case mentioned supra.⁸⁰ With N representing the number of cases in our sample that fall under the specified condition, of the 208 cases in the study, in 108 cases (51.92%) the judge relied on a statute to make her decision, 17 (8.17%) were based on public policy, 33 (15.87%) were decided based on BIOC, 7 (3.37%) were decided based on genetics, and 43 (20.67%) were based on intent.

Table 1. Basis for Judicial Decision, Pre- and Post-1993

	Entire Sample (N = 208)	Pre-1993 (N = 36)	Post-1993 (N=172)
Basis for Judicial Decision			
Statute	N = 108 (51.92%)	N = 22 (61.11%)	N = 86 (50.00%)
Public Policy	N = 17 (8.17%)	N = 4 (11.11%)	N = 13 (7.56%)
BIOC	N = 33 (15.87%)	N = 7 (19.44%)	N = 26 (15.12%)
Genetics	N = 7 (3.37%)	N = 0 (0.00%)	N = 7 (4.07%)
Intent	N = 43 (20.67%)	N = 3 (8.33%)	N = 40 (23.26%)
Source: Authors' data and calculations. N is the number of cases in our sample that fall under the specified condition.			

78. See *infra* Table 2.

79. *Johnson*, 851 P.2d at 776.

80. See *supra* text accompanying notes 70–74.

Table 2 explores factors that had a statistically significant impact on judicial decisions in ART cases, including the type of ART used, the relationship status of the parties using ART, and the jurisdictional location of the court (identified by circuit).

The majority of the 208 cases examined involved alternative insemination (60.10%). Ninety-four (45.19%) of the cases involved lesbian couples. The cases occurred in all twelve circuits, with the most cases (fifty-six) occurring in the Second Circuit. The cases were coded by state, but the sample sizes by state were too small to analyze statistically. The state cases were grouped by circuit for the Chi-squared tests.

Table 2. Factors Potentially Influencing Judicial Decisions, Pre- and Post-1993

	Entire Sample (N = 208)	Pre-1993 (N = 36)	Post-1993 (N=172)
Type of ART			
Alternative Insemination	N = 125 (60.10%)	N = 27 (75.00%)	N = 98 (56.98%)
In Vitro Fertilization	N = 23 (11.54%)	N = 0 (0.00%)	N = 23 (13.95%)
Gestational Surrogacy	N = 46 (21.74%)	N = 2 (5.56%)	N = 44 (25.15%)
Traditional Surrogacy	N = 14 (6.73%)	N = 7 (19.4%)	N = 7 (4.30%)
Relationship Status			
Married Heterosexual Couples	N = 76 (36.54%)	N = 25 (69.44%)	N = 51 (29.65%)
Unmarried Heterosexual Couples	N = 13 (6.25%)	N = 1 (2.78%)	N = 12 (6.98%)
Lesbian Couples	N = 94 (45.19%)	N = 8 (22.20%)	N = 86 (50.00%)
Gay Male Couples	N = 10 (4.81%)	N = 0 (0.00%)	N = 10 (5.81%)
Single Female	N = 12 (5.77%)	N = 2 (5.56%)	N = 10 (5.81%)
Single Male	N = 3 (1.44%)	N = 0 (0.00%)	N = 3 (1.44%)

Circuit Court			
First ⁸¹	N = 14 (6.73%)	N = 0 (0.00%)	N = 14 (8.14%)
Second ⁸²	N = 56 (27.92%)	N = 14 (38.89%)	N = 42 (24.42%)
Third ⁸³	N = 23 (11.06%)	N = 3 (8.33%)	N = 20 (11.63%)
Fourth ⁸⁴	N = 12 (5.77%)	N = 3 (8.33%)	N = 9 (5.23%)
Fifth ⁸⁵	N = 11 (5.29%)	N = 1 (2.78%)	N = 10 (5.81%)
Sixth ⁸⁶	N = 23 (11.06%)	N = 3 (8.33%)	N = 20 (11.63%)
Seventh ⁸⁷	N = 13 (6.25%)	N = 2 (5.56%)	N = 11 (6.40%)
Eighth ⁸⁸	N = 6 (2.88%)	N = 0 (0.00%)	N = 6 (3.49%)
Ninth ⁸⁹	N = 33 (15.87%)	N = 6 (16.67%)	N = 27 (15.70%)
Tenth ⁹⁰	N = 10 (4.81%)	N = 3 (8.33%)	N = 7 (4.07%)
Eleventh ⁹¹	N = 6 (2.88%)	N = 0 (0.00%)	N = 6 (3.49%)
District of Columbia ⁹²	N = 1 (0.48%)	N = 1 (2.78%)	N = 0 (0.00%)
Source: Authors' data and calculations.			

Table 3 provides descriptive information on the type of ART compared to the relationship status of the persons using

81. The First Circuit includes the following states (with the number of cases in each state in parentheses): Maine (three), Massachusetts (eleven), New Hampshire (zero), Puerto Rico (zero), and Rhode Island (one).

82. The Second Circuit includes the following states: Connecticut (twenty-four), New York (thirty-five), and Vermont (two).

83. The Third Circuit includes the following states and territory: Delaware (two), New Jersey (twelve), Pennsylvania (eleven), and the Virgin Islands (zero).

84. The Fourth Circuit includes the following states: Maryland (two), North Carolina (five), South Carolina (one), Virginia (four), and West Virginia (zero).

85. The Fifth Circuit includes the following states: District of the Canal Zone (zero), Louisiana (two), Mississippi (zero), and Texas (nine).

86. The Sixth Circuit includes the following states: Kentucky (three), Michigan (one), Ohio (eighteen), and Tennessee (two).

87. The Seventh Circuit includes the following states: Illinois (six), Indiana (five), and Wisconsin (two).

88. The Eighth Circuit includes the following states: Arkansas (two), Iowa (zero), Minnesota (three), Missouri (one), Nebraska (one), North Dakota (zero), and South Dakota (zero).

89. The Ninth Circuit includes the following states and territory: Alaska (zero), Arizona (three), California (twenty-four), Guam (zero), Hawaii (zero), Idaho (zero), Montana (zero), Nevada (zero), Oregon (four), and Washington (three).

90. The Tenth Circuit includes the following states: Colorado (three), Kansas (two), New Mexico (three), Oklahoma (zero), Utah (two), and Wyoming (zero).

91. The Eleventh Circuit includes the following states: Alabama (one), Florida (six), and Georgia (one).

92. The District of Columbia Circuit includes the District of Columbia (one).

ART. In the 208 ART cases published on Westlaw, married heterosexual couples relied primarily on gestational surrogacy (40.79%), unmarried heterosexual couples relied mostly on alternative insemination (53.85%), lesbian couples relied primarily on alternative insemination (88.30%), and single females relied mostly on alternative insemination (75.00%). Understandably, both gay male couples and single males relied exclusively on surrogacy (100.00%).

Chi-squared tests for significance were added to the rows and columns of Table 3. Significance is denoted by an asterisk (*) in the cell. Reading from left to right, looking at the Significance Test column, the Chi-squared test establishes if, for example, in the 208 cases examined, married heterosexual couples are equally likely to use alternative insemination, IVF, gestational surrogacy, or traditional surrogacy, or if there is a significant relationship between relationship status and the type of ART used. The Chi-squared value for the first row is significant, indicating that in court cases involving married heterosexual couples, the type of ART is not random. These couples are most likely to use gestational surrogacy and alternative insemination. Also in the 208 cases examined, the type of ART used by lesbian couples and gay male couples is statistically significant.

Reading from top to bottom, the significance tests in the bottom row provide information on the likelihood that, for example, in the 208 court cases determining parentage, using alternative insemination is equally likely across all relationship statuses. The Chi-squared test in the first column is significant, indicating that there is a significant relationship between alternative insemination and relationship status. Alternative insemination is most likely to be used by lesbian couples and married heterosexual couples. Columns three and four are also significant, indicating that gestational and traditional surrogacy does not occur randomly across relationship statuses.

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Table 3. Type of Assisted Reproductive Technology Used by Each Relationship Status

	Type of ART [†]				Total	Significance Test
	AI (N = 125)	IVF (N = 23)	GS (N = 46)	TS (N = 14)		
Relationship Status						
Married Heterosexual Couples	N = 26 (34.21%)	N = 6 (7.89%)	N = 31 (40.79%)	N = 13 (17.11%)	N = 76	X ² = 54.19 Pr = 0.00*
Unmarried Heterosexual Couples	N = 7 (53.85%)	N = 4 (30.77%)	N = 2 (15.38%)	N = 0 (0.00%)	N = 13	X ² = 5.78 Pr = 0.13
Lesbian Couples	N = 83 (88.30%)	N = 11 (11.70%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 94	X ² = 71.35 Pr = 0.00*
Gay Male Couples	N = 0 (0.00%)	N = 0 (0.00%)	N = 9 (90.00%)	N = 1 (10.00%)	N = 10	X ² = 23.04 Pr = 0.00*
Single Female	N = 9 (75.00%)	N = 2 (16.67%)	N = 1 (8.33%)	N = 0 (0.00%)	N = 12	X ² = 2.66 Pr = 0.45
Single Male	N = 0 (0.00%)	N = 0 (0.00%)	N = 3 (100.0%)	N = 0 (0.00%)	N = 3	X ² = 11.03 Pr = 0.01
Significance Test	X ² = 73.31 Pr = 0.00*	X ² = 6.42 Pr = 0.27	X ² = 74.37 Pr = 0.00*	X ² = 22.00 Pr = 0.00*		

Source: Authors' data and calculations.
Note: * indicates significance at the 0.05 level or below.
[†] Type of ART:
AI = Alternative Insemination
IVF = In Vitro Fertilization
GS = Gestational Surrogacy
TS = Traditional Surrogacy

Table 4 provides descriptive information on the basis of the judge's decision compared to the type of ART used. Regardless of the type of ART used, judges relied primarily on statutes and intent in making their parentage decisions. In the 208 cases examined, judges in alternative insemination cases relied on statutes in 59.20% of the cases and intent in 12.80% of the cases. In IVF cases, judges relied on statutes in 45.83% of the cases and intent in 29.17% of the cases. In gestational surrogacy cases, judges relied on statutes and intent nearly equally, using statute in nearly 40% of the cases and intent in nearly 45% of the cases. In traditional surrogacy cases, judges relied on statutes in 50.00% of the cases and intent in none of the cases.

Chi-squared tests for significance were added to the rows and columns of Table 4. The results presented in the last column of Table 4 show that in the 208 cases examined, there is a statistically significant relationship between alternative insemination and the basis on which the judge made her decision. The same can be said of gestational surrogacy. There is not, however, a significant

relationship between IVF or traditional surrogacy and the basis of the judge's decision. In cases involving alternative insemination, judges are more likely to rely on statutes and BIOC when making parentage decisions than on genetics, intent, or public policy.

The results in the last row of Table 4 indicate that in the 208 cases examined, statute, BIOC, genetics, and intent are all bases for judicial decisions that are not independent of the type of ART involved. That is, there is a statistically significant relationship between the approach used by the judge and the type of ART involved in the case. In the relatively small number of cases that used public policy to determine parentage, however, the data does not show any significant relationship between that approach and the type of ART used.

Table 4. Effect of Reproductive Technology on Judicial Decision

	Basis of Judicial Decision						Total	Sig. Test
	Statute (N = 108)	Public Policy (N = 17)	BIOC (N = 33)	Genetics (N = 7)	Intent (N = 43)			
Type of ART†								
AI	N = 74 (59.20%)	N = 10 (8.00%)	N = 24 (19.20%)	N = 1 (0.80%)	N = 16 (12.80%)	N = 125	X ² = 20.92 Pr = 0.00*	
IVF	N = 10 (45.83%)	N = 0 (0.00%)	N = 6 (25.00%)	N = 0 (0.00%)	N = 7 (29.17%)	N = 23	X ² = 5.70 Pr = 0.22	
GS	N = 17 (38.56%)	N = 4 (8.89%)	N = 0 (0.00%)	N = 5 (11.11%)	N = 20 (44.44%)	N = 46	X ² = 37.76 Pr = 0.00*	
TS	N = 7 (50.00%)	N = 3 (21.43%)	N = 3 (21.43%)	N = 1 (7.14%)	N = 0 (0.00%)	N = 14	X ² = 7.27 Pr = 0.12	
Sig. Test	X ² = 7.86 Pr = 0.05*	X ² = 5.45 Pr = 0.14	X ² = 11.35 Pr = 0.01*	X ² = 12.28 Pr = 0.01*	X ² = 24.94 Pr = 0.00*			

Source: Authors' data and calculations.
 Note: * indicates significance at the 0.05 level.
 † Types of ART:
 AI = Alternative Insemination
 IVF = In Vitro Fertilization
 GS = Gestational Surrogacy
 TS = Traditional Surrogacy

Table 5 reports results from an analysis of whether the relationship status factor influenced judicial decisions. Similar to the data presented in Table 4, regardless of the relationship status of the intended parents, judges most often relied on statutes in making their parentage decisions.

Here we performed similar Chi-squared tests to examine the relationship between the basis of judicial decisions and the

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relationship status of the persons using ART. The results are presented in the last column and the last row in Table 5. The relationship status matters significantly when it comes to what test the judge used to determine parentage. Looking at the last column, the Chi-squared tests show that judges are not equally likely to apply all five tests with married heterosexual couples, lesbian couples, and single males. On the other hand, for unmarried heterosexual couples, gay couples, and single persons, there was no significant relationship between relationship status and the test used. Looking at the bottom row, the Chi-squared tests in the public policy, BIOC, and genetics columns show that judges are not equally likely to apply their decisions across all couple types.

Table 5. Effect of Relationship Status on Basis of Judicial Decision

	Basis of Judicial Decision						Significance Test
	Statute (N = 108)	Public Policy (N = 17)	BIOC (N = 33)	Genetics (N = 7)	Intent (N = 43)	Total	
Relationship Status							
Married Heterosexual Couples	N = 35 (46.05%)	N = 6 (7.89%)	N = 6 (7.89%)	N = 7 (9.21%)	N = 22 (28.95%)	N = 76	X ² = 21.73 Pr = 0.00*
Unmarried Heterosexual Couples	N = 9 (69.23%)	N = 1 (7.69%)	N = 1 (7.69%)	N = 0 (0.00%)	N = 2 (15.38%)	N = 13	X ² = 2.04 Pr = 0.73
Lesbian Couples	N = 46 (48.94%)	N = 8 (8.51%)	N = 26 (27.66%)	N = 0 (0.00%)	N = 14 (14.89%)	N = 94	X ² = 23.90 Pr = 0.00*
Gay Male Couples	N = 8 (80.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 2 (20.00%)	N = 10	X ² = 4.48 Pr = 0.35
Single Female	N = 9 (75.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 3 (25.00%)	N = 12	X ² = 4.91 Pr = 0.30
Single Male	N = 1 (33.33%)	N = 2 (66.67%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 3	X ² = 14.16 Pr = 0.00*
Significance Test	X ² = 9.08 Pr = 0.11	X ² = 15.66 Pr = 0.01*	X ² = 18.78 Pr = 0.00*	X ² = 12.58 Pr = 0.03*	X ² = 6.23 Pr = 0.28		
Source: Authors' data and calculations. Note: * indicates significance at the .05 level.							

Table 6 provides the results from Chi-squared tests that examined the relationship between the jurisdictional location of the court and the basis of the judge's decision. The data reveals that jurisdictional location is not consistently related to the test used. Of the 208 cases examined, only courts located in the First, Third, and Fifth Circuits showed a statistically significant relationship to the basis of the judge's decision. All of the other

circuits are nearly significant in terms of the basis of the judicial decision.

Table 6. Effect of Location of Court on Basis of Judicial Decision

Circuit Court	Basis of Judge's Decision						Significance Test
	Statute (N = 108)	Public Policy (N = 17)	BIOC (N = 33)	Genetics (N = 7)	Intent (N = 43)	Total	
First	N = 2 (14.29%)	N = 2 (14.29%)	N = 6 (42.86%)	N = 1 (7.14%)	N = 3 (21.43%)	N = 14	X ² = 12.32 Pr = 0.01*
Second	N = 27 (48.21%)	N = 4 (7.14%)	N = 7 (12.50%)	N = 2 (3.57%)	N = 16 (28.57%)	N = 56	X ² = 3.17 Pr = 0.53
Third	N = 5 (21.74%)	N = 4 (17.39%)	N = 7 (30.43%)	N = 0 (0.00%)	N = 7 (30.43%)	N = 23	X ² = 12.75 Pr = 0.01*
Fourth	N = 5 (41.67%)	N = 1 (8.33%)	N = 1 (8.33%)	N = 0 (0.00%)	N = 5 (41.67%)	N = 12	X ² = 3.86 Pr = 0.43
Fifth	N = 11 (100.0%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 11	X ² = 10.75 Pr = 0.03*
Sixth	N = 12 (52.17%)	N = 3 (13.04%)	N = 4 (17.39%)	N = 1 (4.35%)	N = 3 (13.04%)	N = 23	X ² = 1.59 Pr = 0.81
Seventh	N = 8 (61.54%)	N = 0 (0.00%)	N = 2 (15.38%)	N = 1 (7.69%)	N = 2 (15.38%)	N = 13	X ² = 2.34 Pr = 0.67
Eight	N = 3 (50.00%)	N = 1 (16.67%)	N = 1 (16.67%)	N = 0 (0.00%)	N = 1 (16.67%)	N = 6	X ² = 0.81 Pr = 0.93
Ninth	N = 24 (72.73%)	N = 1 (3.03%)	N = 3 (9.09%)	N = 1 (3.03%)	N = 4 (12.12%)	N = 33	X ² = 7.07 Pr = 0.13
Tenth	N = 6 (60.00%)	N = 1 (10.00%)	N = 1 (10.00%)	N = 1 (10.00%)	N = 1 (10.00%)	N = 10	X ² = 2.36 Pr = 0.67
Eleventh	N = 5 (83.33%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 1 (16.67%)	N = 6	X ² = 2.92 Pr = 0.57
District of Columbia	N = 0 (0.00%)	N = 0 (0.00%)	N = 1 (100%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 1	X ² = 5.33 Pr = 0.26

Source: Authors' data and calculations.
Note: * indicates significance at the 0.05 level.

The next five tables look specifically at the results of each case to determine the likelihood of the intended parents being declared the legal parents in any given case. As such, the remaining tables reflect a data set of 165 cases. This set of 165 cases includes all of the cases from the original 208 cases, less the 43 cases in which the court explicitly applied the intent test.

When coding the cases, we included a factor that indicates whether the outcome of the case is the same as if the judge had relied on the intent test in making her decision. This factor is also referred to as "results same". Table 7a reports the results from the analysis of the "results same" factor. Of the 165 cases decided on a basis other than intent, 106 had the same result. This indicates that—regardless of the stated test used—in 64.24% of cases decided

on a basis other than intent, the outcome nonetheless favored the intended parent(s). This is in addition to the 43 cases in which the intent test was applied. As a result, in 71.63% of the 208 cases in this study, the outcome of the case favored the intended parent(s).

Table 7a also reports results from a Chi-squared test that examined the relationship between the basis of the judicial decision and results same. Here the data shows no statistically significant relationship between the basis of the decision and whether the outcome of the case was the same as if the intent test had been used. This lack of statistical significance is, in fact, significant. This shows that judges are not biased toward the outcome being in favor or against the intended parents in any given type of case.

Table 7a. Judicial Decision Result Is the Same as the Intent Test

Basis of Judicial Decision	Judicial Decision Result Is the Same as the Intent Test	
		Percent
Statute (N= 108)	N = 65	60.19%
Public Policy (N = 17)	N = 10	58.82%
BIOC (N = 33)	N = 26	78.79%
Genetics (N = 7)	N = 5	71.43%
Total (N = 165)	N = 106	64.24%
Significance Test		X ² = 4.19 Pr = 0.24
Source: Authors' data and calculations.		

Table 7b represents the same analysis as in Table 7a, with traditional surrogacy cases removed from the data set. Traditional surrogacy is not only extremely rare, but many argue that there are perhaps valid reasons why the intent test should not apply to traditional surrogacy in the same way as other types of ART.⁹³ Table 7b removes the variable of traditional surrogacy and recalculates the results same outcome compared to the basis of the judicial decision. Table 7b shows that—regardless of the stated test used—

93. See Brittnay M. McMahon, *The Science Behind Surrogacy: Why New York Should Rethink Its Surrogacy Contracts Laws*, 21 ALB. L.J. SCI. & TECH. 359, 373 (2011); see also *supra* Table 2 (illustrating that traditional surrogacy accounts for only 6.73% of all ART procedures examined in the study).

in over 66% of cases decided on a basis other than intent and not including traditional surrogacy, the intended parents were nonetheless determined to be the legal parents. This is in addition to the 43 cases that applied the intent test. As a result, in 74.23% of the cases in this study, excluding the traditional surrogacy cases, the outcome of the case favored the intended parent(s).

Also, like in Table 7a, the Chi-squared test shows no statistically significant relationship between the approach used by the judge and whether the outcome favored the intended parents. In other words, judges were equally comfortable with an outcome favoring the intended parents regardless of the approach used.

Table 7b. Judicial Decision Result Is the Same as the Intent Test Not Including Traditional Surrogacy

Basis of Judicial Decision	Judicial Decision Result Is the Same as the Intent Test	
	N	Percent
Statute (N=101)	N = 64	63.37%
Public Policy (N = 14)	N = 9	64.29%
BIOC (N = 30)	N = 23	76.67%
Genetics (N = 6)	N = 5	83.33%
Total (N = 151)	N = 101	66.89%
Significance Test		X ² = 4.21 Pr = 0.24
Source: Authors' data and calculations.		

Table 8 reports four key pieces of information. First, it shows how many cases came out the same as intent, considering both the type of ART and the judicial test used. For example, in alternative insemination cases in which the judge used a statute to decide the case, forty-four (59.46%) cases came out the same as had the intent test been used.⁹⁴ Second, Table 8 reports the total number of cases that came out the same as if the intent test had been used per type of ART. For example, looking at the Total column, seventy (64.22%) alternative insemination cases came out the same as had the intent test been used.⁹⁵ Third, Table 8 reports results from a Chi-squared

94. AI-Statute-Results Same Cases from Table 8 (44) / AI-Statute Cases from Table 4 (74) = 59.46%.

95. AI-Results Same Cases from Table 8 (70) / (Total AI Cases (125) - AI-Intent Cases (16) from Table 4) = 64.22%.

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test that examined the relationship between the results same outcome and the type of ART used. Looking at the Significance Test column, we can reject the null hypothesis with regards to alternative insemination, gestational surrogacy, and traditional surrogacy and confidently say that results same is related to the type of ART used. Fourth, Table 8 reports results from a Chi-squared test that examined the relationship between results same and basis of judicial decision. Looking at the Significance Test row, we can reject the null hypothesis with regards to statute and genetics and confidently say that these two bases of judicial decisions are significantly related to whether the outcome of the case will be that same as the intent test.

Table 8. Judicial Decision Result Is the Same as the Intent Test by Type of ART and Basis of Judicial Decision

Basis of Judicial Decision Is the Same as the Intent Test						
	Statute	Public Policy	BIOC	Genetics	Total	Significance Test
Type of ART [†]						
AI	N = 44 (59.46%)	N = 6 (60.00%)	N = 19 (79.17%)	N = 1 (100.00%)	N = 70 (64.22%)	X ² = 5.85 Pr = 0.12*
IVF	N = 7 (70.00%)	N = 0 (0.00%)	N = 4 (66.67%)	N = 0 (0.00%)	N = 11 (68.75%)	X ² = 3.30 Pr = 0.34
GS	N = 13 (76.47%)	N = 3 (75.00%)	N = 0 (0.00%)	N = 4 (80.00%)	N = 20 (76.92%)	X ² = 18.36 Pr = 0.00*
TS	N = 1 (14.29%)	N = 1 (33.00%)	N = 3 (100.00%)	N = 0 (0.00%)	N = 5 (35.71%)	X ² = 6.44 Pr = 0.09*
Total	N = 65 (60.19%)	N = 10 (58.82%)	N = 26 (78.79%)	N = 5 (71.43%)	N = 106 (64.24%)	
Significance Test	X ² = 7.34 Pr = 0.06*	X ² = 2.73 Pr = 0.44	X ² = 6.02 Pr = 0.11	X ² = 116.39 Pr = 0.00*		

Source: Authors' data and calculations.
 Note: * indicates significance at the 0.05 level.
 Note: this table excludes cases in which the judge applied the intent test.
[†] Types of ART:
 AI = Alternative Insemination
 IVF = In Vitro Fertilization
 GS = Gestational Surrogacy
 TS = Traditional Surrogacy

Table 9 also reports four key pieces of information. First, it shows how many cases came out the same as intent, considering both relationship status and judicial test used. For example, in cases with married heterosexual couples in which the judge used a statute to decide the case, twenty-five

(71.43%) cases came out the same as had the intent test been used.⁹⁶ Second, Table 9 reports the total number of cases that came out the same as if the intent test had been used per relationship status. For example, looking at the total column, forty (74.07%) cases involving married heterosexual couples came out the same as had the intent test been used.⁹⁷ Third, Table 9 reports results from a Chi-squared test that examined the relationship between results same and relationship status. Looking at the Significance Test column, we can reject the null hypothesis with regards to married heterosexual couples, lesbian couples, and single males and confidently say that relationship status is significantly related to judicial decisions that had the same outcome as the intent test. Cases involving married heterosexual couples, lesbian couples, and single males are most likely to result in a parentage determination that is the same as had the judge relied on the intent test. Fourth, Table 9 reports results from a Chi-squared test that examined the relationship between results same and basis of judicial decision. Looking at the Significance Test row, we can reject the null hypothesis with regards to statute, public policy, BIOC, and genetics and confidently say that all four bases of the judicial decision are significantly related to whether the outcome will be the same as the intent test.

96. MHC–Statute–Results Same Cases from Table 9 (25) / MHC–Statute Cases from Table 5 (35) = 71.43%.

97. MHC–Results Same Cases from Table 9 (40) / (Total MHC Cases (76) – MHC–Intent Cases (22) from Table 5) = 74.07%.

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Table 9. Judicial Decision Result Is the Same as the Intent Test by Relationship Status and Basis of Judicial Decision

	Basis of Judicial Decision Is the Same as the Intent Test					Significance Test
	Statute	Public Policy	BIOC	Genetics	Total	
Relationship Status						
Married Heterosexual Couples	N = 25 (71.43%)	N = 4 (66.67%)	N = 6 (100%)	N = 5 (71.43%)	N = 40 (74.07%)	X ² = 9.22 Pr = 0.03*
Unmarried Heterosexual Couples	N = 7 (77.78%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 7 (63.64%)	X ² = 3.86 Pr = 0.28
Lesbian Couples	N = 18 (39.13%)	N = 4 (50.00%)	N = 20 (76.92%)	N = 0 (0.00%)	N = 42 (52.50%)	X ² = 28.31 Pr = 0.00*
Gay Male Couples	N = 6 (75.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 6 (75.00%)	X ² = 3.27 Pr = 0.35
Single Female	N = 8 (88.89%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 8 (88.89%)	X ² = 5.46 Pr = 0.14
Single Male	N = 1 (100.00%)	N = 2 (100%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 3 (100.00%)	X ² = 12.02 Pr = 0.00*
Total	N = 65 (60.19%)	N = 10 (58.82%)	N = 26 (78.79%)	N = 5 (71.43%)	N = 106 (64.24%)	
Significance Test	X ² = 26.88 Pr = 0.00*	X ² = 21.49 Pr = 0.00*	X ² = 11.83 Pr = 0.04*	X ² = 15.60 Pr = 0.06*		
Source: Authors' data and calculations.						
Note: * indicates significance at the 0.05 level.						
Note: this table excludes cases in which the judge applied the intent test.						

Table 10 also reports four key pieces of information. First, it shows how many cases came out the same as intent, considering both jurisdictional location (by circuit court) and judicial test used. For example, in Second Circuit cases in which the judge used a statute to decide the case, sixteen (59.26%) cases came out the same as had the intent test been used⁹⁸ Table 10 also reports the total number of results same cases per circuit. For example, looking at the Total column, twenty-seven (67.50%) Second Circuit cases came out the same as had the intent test been used.⁹⁹ Third, Table 10 reports results from a Chi-squared test that examined the relationship between the results same and the circuit court in which the case was heard. The Chi-squared test, here, looks at the chance that particular courts were just as likely to make a results same decision equally across all bases of decision. It was found that in all but the First and Third Circuits, judicial test is not significant, meaning that decisions that relied on statute, public policy, BIOC, or genetics were all equally likely to have a result that mirrored the result that would have occurred had they used intent. Fourth, Table 10 reports results from a Chi-squared test that examined the relationship between results same of all circuits and the basis of the judicial decision. Looking at the Significance Test row, we can reject the null hypothesis with regards to statute and BIOC and confidently say that these two bases of judicial decisions are significantly related to whether the outcome of the case will be the same as the intent test.

98. Second Circuit–Statute–Results Same Cases from Table 10 (16) / Second Circuit–Statute Cases from Table 6 (27) = 59.26%.

99. Second Circuit–Results Same Cases from Table 10 (27) / (Total Second Circuit Cases (56) – Second Circuit–Intent Cases (16) from Table 6 = 67.50%.

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Table 10. Judicial Decision Result Is the Same as the Intent Test by Location of Court and Basis of Judicial Decision

Basis of Judicial Decision Is the Same as the Intent Test						
	Statute	Public Policy	BIOC	Genetics	Total	Significance Test
Circuit Court						
First	N = 1 (50.00%)	N = 0 (0.00%)	N = 5 (83.33%)	N = 1 (100%)	N = 7 (63.64%)	X ² = 15.08 Pr = 0.00*
Second	N = 16 (59.26%)	N = 4 (100%)	N = 6 (85.71%)	N = 1 (50.00%)	N = 27 (67.50%)	X ² = 0.93 Pr = 0.82
Third	N = 3 (60.00%)	N = 2 (50.00%)	N = 6 (85.71%)	N = 0 (0.00%)	N = 11 (68.75%)	X ² = 10.97 Pr = 0.01*
Fourth	N = 4 (80.00%)	N = 1 (100%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 5 (71.43%)	X ² = 1.89 Pr = 0.60
Fifth	N = 7 (63.64%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 7 (63.64%)	X ² = 3.86 Pr = 0.28
Sixth	N = 6 (50.00%)	N = 1 (33.33%)	N = 3 (75.00%)	N = 1 (100%)	N = 11 (55.00%)	X ² = 1.20 Pr = 0.75
Seventh	N = 5 (62.50%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 1 (100%)	N = 6 (54.55%)	X ² = 4.46 Pr = 0.22
Eighth	N = 0 (0.00%)	N = 1 (100%)	N = 1 (100%)	N = 0 (0.00%)	N = 2 (40.00%)	X ² = 5.42 Pr = 0.14
Ninth	N = 16 (66.67%)	N = 1 (100%)	N = 3 (100%)	N = 0 (0.00%)	N = 20 (68.97%)	X ² = 2.61 Pr = 0.46
Tenth	N = 4 (66.67%)	N = 0 (0.00%)	N = 1 (100%)	N = 1 (100%)	N = 6 (66.67%)	X ² = 2.94 Pr = 0.40
Eleventh	N = 3 (60.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 0 (0.00%)	N = 3 (60.00%)	X ² = 1.62 Pr = 0.66
D.C.	N = 0 (0.00%)	N = 0 (0.00%)	N = 1 (100.00%)	N = 0 (0.00%)	N = 1 (100.00%)	X ² = 4.02 Pr = 0.26
Total	N = 65 (60.19%)	N = 10 (58.82%)	N = 26 (78.79%)	N = 5 (71.43%)	N = 106 (64.24%)	
Significance Test	X ² = 19.54 Pr = 0.05*	X ² = 828 Pr = 0.69	X ² = 25.59 Pr = 0.00*	X ² = 7.36 Pr = 0.77		
Source: Authors' data and calculations.						
Note: * indicates significance at the 0.05 level.						
Note: this table excludes cases in which the judge applied the intent test.						

V. CONCLUSION

The results of this study confirm that when addressing legal parentage of ART children, judges have struggled with how best to make that determination. This is due, in large part, to the lack of clear and applicable statutes concerning parentage when a child is conceived via ART. Faced with legislative silence, courts have developed various approaches for determining legal parentage, leading to unpredictable and sometimes inequitable results.

For over twenty years, legal scholars and judges have argued about the efficacy of the intent test in determining parentage in ART cases. This is the first time a study has been conducted to determine how judges are actually deciding ART cases. In over 20% of the cases, judges are applying the intent test.¹⁰⁰ In addition, of the remaining cases, regardless of the stated basis on which the judge made her decision—statute, public policy, BIOC, or genetics—in seven out of ten cases the outcome is the same as if the judge had used the intent test.¹⁰¹ These results confirm that the intent test is a common sense approach to determining parentage that courts have been using for the past twenty years. They also indicate that awarding legal parentage to the intended parents is not inconsistent with the overarching goals of determining legal parentage. Finally, these results signify that adopting intent statutes will, in the majority of circumstances, lead to outcomes that are aligned with how judges are currently determining parentage in ART cases.

100. *See supra* Table 1.

101. (Results Same Cases Excluding Traditional Surrogacy from Table 7b (101) + Total Intent Cases from Table 1 (43)) / (Total Cases from Table 1 (208) – Total Traditional Surrogacy Cases from Table 2 (14)) = 74.23%.