
INTRODUCTION

In vitro fertilization ("IVF") is a relatively new medical procedure which enables couples who are otherwise infertile to conceive and gestate their own child.1 IVF is the fertilization of egg by sperm outside of the body in an artificial environment.2 The IVF procedure involves extraction of eggs from the ovary, fertilization of these eggs in a glass dish with sperm, and transfer of viable embryos to the uterus after a forty-eight to seventy-two hour incubation period.3 IVF has been controversial since its inception due to the creation of

---

1. Ethics Committee of the American Fertility Society ("AFS"), Ethical Considerations of the New Reproductive Technologies, 53 FERTILITY & STERILITY Supp. 2, 37S (June 1990). The in vitro fertilization of eggs and the transfer of embryos in a mammalian system was first reported over twenty years ago. Yet the first human IVF birth did not occur until 1978. Id.

The process of IVF substitutes embryo transfer for tubal fertilization and natural implantation. The procedure involves ovarian stimulation to produce multiple eggs. Multiple eggs are desired because the transfer of more than one embryo is more likely to result in a pregnancy. After ovarian stimulation, eggs are retrieved by laparoscopy and follicle aspiration, or by ultrasound-directed methods. Id. The eggs are incubated with the sperm, and fertilization occurs within 12 to 18 hours. Resulting embryos are allowed to develop for an additional 48 to 72 hours, after which they will be transferred to the uterus by a small catheter. Implantation of the embryo or embryos occurs within two to three days of transfer. While IVF success rates have significantly improved, current rates do not exceed 25% per cycle of treatment. Id.

In 1989, 18% of successful egg retrieval procedures resulted in a clinical pregnancy, and 14% resulted in a live delivery. Seventy-five percent of all clinical pregnancies resulted in a live delivery. Medical Research International et al., In Vitro Fertilization-Embryo Transfer (IVF-ET) in the United States: 1989 Results from the IVF-ET Registry, 55 FERTILITY & STERILITY 14, 15-16 (1991). Because these rates are an average of 160 reporting IVF clinics, which have different levels of expertise, some clinics achieve clinical pregnancy and live delivery rates higher than those reported in the IVF-ET Registry. See id.

IVF is medically appropriate for persons who have failed to achieve pregnancy with conventional infertility therapy. IVF is often the only means of achieving reproduction for persons diagnosed with irreparable damage to the fallopian tubes, pelvic endometriosis, pelvic adhesive disease, abnormalities of the reproductive system, or unexplained infertility. Id.

2. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1190 (1976). This Comment frequently compares and contrasts the circumstances of in vitro embryos and in vivo embryos. In vivo embryos are those which exist inside the body. Id. In vivo fertilization is that which occurs naturally inside the fallopian tube, as opposed to in vitro fertilization, which occurs unnaturally outside of the body. See id.

in vitro embryos and concerns about the risks to these embryos incurred in their transfer or their use in medical research.4

Some persons object to IVF and embryo cryopreservation because they view the embryo as a human person, and fear that the technologies of IVF and cryopreservation will lead to embryo destruction, harm, research, or other objectionable manipulations.5 The lingering question has been whether there is a duty to protect in vitro embryos from harm, and if so, if this duty means that in vitro embryos cannot be created because IVF cannot avoid the risk of harm.6 If such a duty to protect exists, and if IVF is therefore prohibited, many infertile couples will lose the opportunity to conceive and gestate their own child.7

The societal concerns of embryo disposition have become more problematic with the widespread use of embryo cryopreservation, which is the process of freezing and preserving embryos for later use.8 The primary concern associated with embryo cryopreservation is the risk of cryo-injury to the embryo.9 Current data indicates that

5. Robertson, 28 JURIMETRICS J.L. SCI. & TECH. at 294.
8. See Ball, Cryopreservation of Embryos, 32 CLINICAL OBSTETRICS & GYNECOLOGY 598, 602-03 (1989). Ethical considerations which arise from embryo cryopreservation are the length of time that embryos should remain frozen, the fate of frozen embryos if the gamete providers die or abandon the embryos, and the locus of responsibility and decision-making authority for the embryos. Id.
IN VITRO FERTILIZATION

only fifty to sixty percent of frozen embryos may be viable after thawing.\textsuperscript{10} In the future, however, it may be shown that embryos which did not survive after thawing were not damaged by cryopreservation, but rather were not viable before cryopreservation.\textsuperscript{11} Other concerns with cryopreservation are the unknown risk of birth defects, embryo loss due to failure in the mechanical support systems, unresolved questions of embryo ownership and inheritance rights, the morality of placing human life forms in a suspended state of deep freeze, and the length of time that embryos can remain viable while frozen.\textsuperscript{12} However, the risks and concerns of embryo cryopreservation are presently only speculative because of the lack of long-term data, and the limited number of live births from frozen embryos.\textsuperscript{13} It is important to note that the children who have been born from cryopreserved embryos have been normal.\textsuperscript{14}

Cryopreservation of in vitro embryos has significantly improved the accessibility of IVF in that the overall costs of the technology and the medical risks associated with egg retrieval have decreased.\textsuperscript{15} While the use of embryo cryopreservation has increased the accessibility of IVF to infertile couples, it has also given rise to the significant problem of embryo disposition when the "extra" embryos are

\textbf{CLINICAL OBSTETRICS & GYNECOLOGY} at 599-600. As noted earlier, embryo cryopreservation is the process of freezing and preserving embryos for later use. After freezing, embryos are placed in containers and stored in liquid nitrogen tanks at subzero temperatures. Robertson, 28 \textit{JURIMETRICS J.L. SCI. & TECH.} at 288.

Injury to the embryos may occur during the freezing process. As the cells and their surrounding medium reach the freezing point, ice crystals will form, which cause water which is located inside the cell to cross the cell membrane to the surrounding medium, resulting in dehydration of the cell. Cryoprotectant agents, which replace the intracellular water, can be used to minimize this risk. Unfortunately, these cryoprotectant agents tend to be toxic to embryos and also pose a risk of injury. Injury from the cryoprotectant is minimized by using the minimum cryoprotectant concentrations, equilibration times, and equilibration temperatures. Ball, 32 \textit{CLINICAL OBSTETRICS & GYNECOLOGY} at 599-600.

Embryos may also be injured during the thawing process. The appropriate thaw rate is determined by the stage of the embryo at the time of freezing, the kind of cryoprotectant agent used, and the freezing rate. Therefore, the entire process must be closely monitored, and may differ with each embryo. Yet, even though the process of cryopreservation exposes the embryo to a risk of injury, current data indicates that the human embryo is less susceptible to cryo-injury than lower animal species. Unlike embryos of lower animal species which survive freezing and thawing best only at later stages of embryo development, human embryos have been successfully frozen and thawed at both early and later stages of development. \textit{Id.}

10. Ethics Committee of the AFS, 53 \textit{FERTILITY & STERILITY} at 58S.
11. \textit{Id.}
12. \textit{Id.} at 59S.
13. \textit{Id.}
14. \textit{Id.}
15. \textit{Id.}
not transferred to a uterus. Two divergent views exist regarding disposition of frozen embryos. Persons who believe that life begins at conception view the embryo as human, with the rights of personhood, and believe that all viable embryos must be transferred to a uterus and given the opportunity to gestate. This view of the in vitro embryo would serve to significantly limit nontherapeutic embryo research. The more liberal view is that embryos should be transferred to a uterus whenever reasonably possible, but the discard of embryos and embryo research should be permitted in acceptable circumstances.

Embryo disposition becomes particularly problematic when the gamete providers disagree with each other or with the IVF clinic as to the form of disposition. Clinics may attempt to avoid such disputes by requiring the gamete providers to execute an embryo disposition agreement prior to the creation and freezing of embryos, in which the gamete providers jointly specify disposition options in the event that they are unable or choose to not transfer their frozen embryos. Such events may include death, divorce, disagreement, or the occurrence of other specified contingencies. However, in the absence of a clear legislative policy regarding the rights and duties of IVF participants, the enforceability of such agreements is questionable, and thus the ability of IVF participants to control their reproductive choices through such agreements is not certain. In the absence of an executed embryo disposition agreement, the doctrine of reliance should be applied to resolve a dispute between the gamete providers. The consistent application of a reliance-based theory of

17. Ethics Committee of the AFS, 53 Fertility & Sterility at 355.
18. Id.
19. Id.
20. Robertson, In the Beginning: The Legal Status of Early Embryos, 76 Va. L. Rev. 437, 454 (1990). Gametes are mature unfertilized germ cells, capable of forming an embryo upon the fusion of a male (sperm) and female (egg) germ cell. Webster's Third New International Dictionary 933 (1976). Gamete providers, then, are the man and woman who provide their gametes for the purpose of achieving IVF.
21. Ethics Committee of the AFS, 53 Fertility & Sterility at 60S. Fifty-three percent (23 out of 43) of the institutions responding to an embryo cryopreservation survey required the gamete providers to indicate the form of embryo disposition in case of death or divorce. Twenty-one of these centers offered the choice of donating the frozen embryos to another couple, six offered the choice of donating the frozen embryos for research, and twelve offered the choice of embryo discard. Fugger, 52 Fertility & Sterility at 987.
22. Ethics Committee of the AFS, 53 Fertility & Sterility at 60S.
24. See Curriden, Frozen Embryos: The New Frontier, 75 A.B.A.J., Aug. 1989, at 68, 71. The opposite view if that where there is no express embryo disposition agreement, the creation of embryos with one's gametes should not be deemed a commitment
contract law to enforce promises to reproduce through IVF will enable IVF participants to assert control over their reproductive choices by enabling them to anticipate their rights and duties, and to know with reasonable certainty that their expectations will be enforced by the courts.25

This Comment asserts that the gamete providers must be the primary decision-makers regarding disposition of their frozen embryos, and that this primary decision-making authority is necessary to enable the gamete providers to maintain control over their reproductive choices.26 Any limitation on this right, whether it is to prohibit IVF, or to mandate that all frozen embryos be transferred, is an unreasonable limitation upon procreative freedom not permitted by Roe v. Wade27 or the more recent case of Webster v. Reproductive Health Services,28 which gave states increased autonomy to regulate abortion, but otherwise left Roe intact.29 IVF is necessary to enable many infertile couples to reproduce, and the creation of extra embryos is an inevitable result of IVF.30 However, the creation of in vitro embryos for the purpose of reproduction should not be construed to viti-ate one's right to control his or her reproductive choices, and thus the state should not confer legal rights upon in vitro embryos to the det-riment of the reproductive rights and choices of infertile couples.31

This Comment asserts that fundamental constitutional rights status should be extended to noncoital reproduction.32 Extending this protection will enable infertile couples to be the primary decision-makers regarding their reproductive choices, and will prevent undue interference with these decisions by the state.33 However, the compet-ing interests of the in vitro embryo, gamete providers, IVF clinic,
and state threaten the locus of this decision-making authority. These competing interests raise a variety of issues: (1) whether or not the in vitro embryo should be accorded a status greater than the in vivo embryo, thus limiting disposition alternatives available to the gamete providers and also limiting embryo research; (2) whether or not disputes between gamete providers will be resolved by enforcing the original intent of the parties; and (3) whether or not an IVF clinic or state may limit embryo disposition alternatives based upon moral or religious views.

This Comment further asserts that because courts and legislatures have failed to adequately address the legal and policy issues of noncoital reproduction, parties enter into such agreements without reasonable certainty of their rights and duties. Certainty of outcome is necessary in order for infertile persons seeking to reproduce through IVF to control their reproductive choices. The recent cases of *Davis v. Davis* and *York v. Jones* indicate that although IVF has been clearly established as an alternative to infertility, the legal consequences of disputes that arise from IVF have not been clearly established.

In *Davis*, the trial court held that frozen embryos were to be considered children from the moment of conception, and, over the objection of the biological father, that it was in the best interests of the in vitro embryos to be transferred to the uterus of their biological mother and given the opportunity to be born. The trial court was reversed on appeal, and the biological father and mother were awarded joint custody of the frozen embryos with equal decision-making authority over the disposition of their frozen embryos. Thus, neither party could transfer or discard the embryos over the objection of the other. In *York*, the court held that a frozen embryo was the property of the biological parents, and that an embryo disposition agreement created a bailment relationship between the

34. Robertson, 76 VA. L. REV. at 453.
35. See infra notes 101-375 and accompanying text.
36. See infra notes 376-494 and accompanying text.
37. See infra notes 376-92 and accompanying text.
40. See infra notes 393-479 and accompanying text.
42. *Davis*, 1990 Tenn. App. LEXIS 642 at 1 n.1, 5, 8-9. See infra notes 214-17 and accompanying text.
43. See infra notes 219-25 and accompanying text.
parents and the IVF clinic. Absent express terms in the agreement which prohibited relocation of the frozen embryos to another IVF program, the clinic was obligated to relinquish control of the embryo as directed by the biological parents.

This Comment attempts to provide some insight into these difficult issues, and attempts to identify policies which will be effective in regulating IVF, while also protecting the interests of persons who must use IVF to reproduce. Specifically, this Comment asserts that persons who must resort to IVF in order to achieve reproduction rely upon their mutual promise that the embryos they jointly create will be used for the purpose of reproduction. Absent an express agreement providing otherwise, or a joint modification by the parties of their intent, the courts should enforce this original intent of the parties to achieve reproduction.

THE NEED FOR CONTROL

Procreative Liberty and Freedom to Control Reproductive Choices

Control of one's reproductive choices directly implicates the fundamental constitutional right of procreative freedom. The United States Supreme Court has repeatedly recognized the right to conceive and rear a child as a fundamental constitutional right, guaranteed in the penumbras of the United States Constitution. Our nation has a long history of allowing persons to exercise autonomous decision-making power over their reproductive choices, which include the decisions of whether to conceive a child, whether to give birth to a child, and whether to raise a family. Only in extraordinary circum-

44. 717 F. Supp. at 425, 426-27. See infra notes 303-04 and accompanying text.
45. 717 F. Supp. at 426-27. See infra notes 305-07 and accompanying text.
46. See infra notes 393-494 and accompanying text.
47. See infra notes 376-479 and accompanying text.
48. See infra notes 393-479 and accompanying text.
51. In Eisenstadt v. Baird, 405 U.S. 438 (1972) the United States Supreme Court stated, “If the right of privacy means anything, it is the right of the individual, married or single, to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child.” Id. at 453 (emphasis in original). In Stanley v. Illinois, 405 U.S. 645 (1972) the Court stated, “The rights to conceive and to raise one’s children have been deemed ‘essential.’ . . . It is cardinal with us that the custody, care and nurture of the child reside first in the parents, whose primary function and freedom include preparation for obligations the state can neither supply nor hinder.” (quoting Meyer v. Nebraska, 262 U.S. 390, 399 (1923) and Prince v. Massachusetts, 321 U.S. 158, 166 (1944)). Id. at 651. In Skinner v. Oklahoma, 315 U.S. 535 (1942), the Court recognized that “Marriage and procreation
stances should a person's freedom to reproduce and form a family be interfered with.  

The American Fertility Society, which is a medical sub-specialty association dedicated to the study and practice of reproductive medicine, asserts that the fundamental constitutional right of procreative freedom should be expanded to also protect conception through IVF. However, the right to reproduce noncoitally has not been recognized by the United States Supreme Court. Statements of the Supreme Court which support the right to marry and rear a family were based upon the assumption that reproduction will occur through the act of sexual intercourse. However, it is reasonable to infer that this assumption exists only because the Court made these statements before the development of IVF technology. Whether reproduction occurs coitally or noncoitally, the couple's interest in forming a family is the same. Therefore, the Supreme Court's statements which protect one's right to form a family should apply are fundamental to the very existence and survival of the race." Id. at 541. And in Meyer v. Nebraska, 262 U.S. 390 (1923), the Court recognized that the liberty right conferred upon all persons in the Fourteenth Amendment includes the right to "marry, establish a home and bring up children." Id. at 399.

52. Robertson, Decisional Authority Over Embryos and Control of IVF Technology, 28 JURIMETRICS J.L. SCI. & TECH. at 285, 290 (1988). In Cleveland Board of Education v. LaFleur, 414 U.S. 632 (1974) the United States Supreme Court noted, "freedom of personal choice in matters of marriage and family life is one of the liberties protected by the Due Process Clause of the Fourteenth Amendment." Id. at 639-40. In Stanley v. Illinois, 405 U.S. 645 (1972) the Court recognized, "The integrity of the family unit has found protection in the Due Process Clause of the Fourteenth Amendment, the Equal Protection Clause of the Fourteenth Amendment, and the Ninth Amendment." Id. at 651. In Stanley v. Georgia, 394 U.S. 557 (1969) the Court stated, "fundamental is the right to be free, except in very limited circumstances, from unwanted governmental intrusions into one's privacy." Id. at 564. In Skinner v. Oklahoma, 316 U.S. 535 (1942) the Court recognized that legislation which deprives a person of their ability to procreate is in violation of the equal protection clause, and involves "one of the basic civil rights of man." Id. at 541. In Meyer v. Nebraska, 262 U.S. 390 (1923) the Court stated that the liberty granted by the fourteenth amendment "may not be interfered with, under the guise of protecting the public interest, by legislative action which is arbitrary or without reasonable relation to some purpose within the competency of the State to effect." Id. at 399-400.

53. Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 4S.

54. Lopez, Privacy and Regulation of the New Reproductive Technologies: A Decision-Making Approach, 22 FAM. L.Q. 173, 176 n.16 (1988). Noncoital reproduction is that which occurs without the act of natural sexual intercourse. Noncoital reproduction is also referred to as assisted reproduction. The most common forms of noncoital reproduction are in vitro fertilization, gamete intrafallopian transfer, and artificial insemination. These technologies encompass surrogate gestation and conception through the use of donor sperm, donor eggs, or donor embryos. See Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 82S.

55. Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 3S.

56. Id.

57. Robertson, 28 JURIMETRICS J.L. SCI. & TECH. at 290.
equally to coital and noncoital reproduction.\textsuperscript{58}

Noncoital reproduction through IVF has been controversial since its inception due to the extra-corporeal creation of human embryos.\textsuperscript{59} This technology has become even more controversial with the use of cryopreservation to freeze human embryos.\textsuperscript{60} IVF has created the possibility that viable human embryos might be created, but not transferred to a uterus and given the opportunity of implantation and gestation.\textsuperscript{61} The ethical debate over the status of frozen embryos has become as controversial, if not more so, than the ongoing debate over abortion.\textsuperscript{62} This lack of consensus and the controversy regarding frozen embryos mean that careful consideration must be given to the very difficult issue of embryo status as policies governing reproductive choices for the infertile develop and are implemented.\textsuperscript{63} The resulting policies will determine the amount of autonomy and control which infertile couples are able to exercise over their reproductive choices.\textsuperscript{64}

Coital reproduction is constitutionally protected because it enables persons to produce offspring, and thus form a biologically related family.\textsuperscript{65} Noncoital reproduction should similarly be protected because it creates the opportunity for infertile couples to achieve reproduction, and therefore any restrictions upon noncoital reproduction should also be subject to strict scrutiny analysis.\textsuperscript{66} If noncoital reproduction is to be protected, then the extraordinary technological interventions which are necessary to achieve noncoital reproduction must also be protected.\textsuperscript{67} The American Fertility Society asserts that such a right, if it is to be truly meaningful, must include the right to create, store, and transfer in vitro embryos.\textsuperscript{68} Noncoital reproductive freedom means being able to decide whether or not one's embryos are to be used to achieve reproduction, and to determine the disposition of embryos not used for this purpose.\textsuperscript{69}

Reproductive freedom and control must incorporate all aspects of reproduction, including those necessary to enable the infertile to

\textsuperscript{58.} Id.
\textsuperscript{59.} See supra note 4 and accompanying text.
\textsuperscript{60.} See supra notes 8-14 and accompanying text.
\textsuperscript{63.} Id.
\textsuperscript{64.} Id.
\textsuperscript{65.} Id.
\textsuperscript{66.} Id.
\textsuperscript{67.} Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 4S. See supra notes 51-52.
\textsuperscript{68.} Robertson, 28 JURIMETRICS J.L. SCI. & TECH. at 290.
\textsuperscript{69.} Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 4S.
\textsuperscript{70.} Id.
\textsuperscript{71.} Id.
It seems inconsistent that a society would recognize the right of the fertile to conceive coitally, and not also recognize the right of the infertile to conceive noncoitally. Similarly, it seems inconsistent that a society would allow a woman to terminate a fetus for the sake of reproductive freedom, and not also allow the termination of in vitro embryos for the same reason.

Reproductive technology interventions are conceptually and effectively the same as other human interventions which have served to alter or improve health and lifestyles. If conception through noncoital reproductive techniques were objected to because they are unnatural, then it follows that many of the medical advances which have eradicated disease and increased life spans must also be objectionable because these advances too are unnatural. Some legal commentators believe that unless these unnatural interventions result in tangible harm to a legitimate interest, the moral views or undifferentiated fears of community groups are not sufficient to restrict the reproductive rights of those who must rely upon these interventions to achieve pregnancy and childbirth.

The primary argument against extending the status of a fundamental constitutional right to noncoital reproduction is that there is a duty to protect in vitro embryos from harm. At the heart of this argument is the Right-to-Life movement. One rationale for this argument is that embryos produced through IVF do not result from reproductive accidents, but rather are deliberately created, and therefore should not be subject to the same right to privacy constraints imposed by Roe v. Wade, which allow a woman to abort a nonviable fetus. Those who support this argument assert that because the embryos exist outside the womb, there is no conflict with the woman's bodily integrity and right to privacy.

Proponents of this view consider the fertilized embryo a human

70. See supra notes 65-67 and accompanying text.
71. See supra notes 65-66 and accompanying text.
72. See Roe v. Wade, 410 U.S. 113, 152-53 (1973) (discussing how the right of personal privacy found in the constitution includes decisions regarding procreation, and encompasses a woman's right to abort a fetus).
75. Robertson, 69 VA. L. REV. at 436.
77. Id. at 493 n.143.
79. Id.
subject, which must be provided the rights of personhood.\textsuperscript{80} This position asserts that in vitro embryos must be transferred to a uterus, and condemns any intervention before transfer that might harm the embryo or is not therapeutic, such as freezing and embryo research.\textsuperscript{81} As well as concern of harm to the embryo, there is concern that noncoital reproductive techniques will result in increased birth defects or injuries to the resulting offspring, and also that the resulting children and the family unit will suffer detrimental psychological effects.\textsuperscript{82}

The argument against according the status of a fundamental right to noncoital reproduction because of a duty to protect in vitro embryos from harm is not supported by medical or sociologic evidence.\textsuperscript{83} As a general practice, embryo manipulations, whether they are the act of freezing or of conducting medical research on the embryo, occur within the first two weeks after fertilization.\textsuperscript{84} During this period of development, the embryo lacks a differentiated nervous and organ system and is not yet sentient, and thus is not conscious and cannot feel pain.\textsuperscript{85} Additionally, at this stage of development only ten percent of all embryos, whether in vivo or in vitro, will implant, and thirty to forty percent of those that implant will spontaneously abort.\textsuperscript{86} Therefore, because embryos do not experience pain and have such a limited chance of initiating a successful pregnancy, the interest in protecting embryos from harm does not seem compelling enough to deny fundamental constitutional rights status to noncoital reproduction.

The concerns of possible harm to offspring and adverse psychological effects upon these offspring or the family unit are also misplaced. While there have been over 5000 IVF births in the United States alone, none of the resulting children have suffered birth defects or other abnormalities.\textsuperscript{87} Additionally, there is no evidence that supports the view that conception through IVF results in harm to the marital relationship or family.\textsuperscript{88} Rather, some commentators believe it is more likely that the family unit will be strengthened by enabling

\textsuperscript{80} Ethics Committee of the AFS, \textit{53 Fertility \& Sterility} at 34S.
\textsuperscript{81} \textit{Id.}
\textsuperscript{82} Lopez, 22 Fam. L.Q. at 187-88.
\textsuperscript{83} See \textit{id.} at 187-89.
\textsuperscript{84} Ethics Committee of the AFS, \textit{53 Fertility \& Sterility} at 63S.
\textsuperscript{85} \textit{Id.} at 3SS.
\textsuperscript{86} Robertson, 76 Va. L. Rev. at 443.
\textsuperscript{87} Chartrand, \textit{Experts Assess a Decade of In Vitro Fertilization}, \textit{N.Y. Times}, Apr. 11, 1989, at C5, col. 1. \textit{See also} Ethics Committee of the AFS, \textit{53 Fertility \& Sterility} at 59S.
\textsuperscript{88} Lopez, 22 Fam. L.Q. at 187.
the couple to form a family. 89 With the exception of the extraordi-
nary medical procedures required for conception, the resulting chil-
dren are like all other children. 90 If anything, the children have the
benefit of knowing that they were planned for and wanted. 91 There-
fore, the arguments asserting an interest in protection of resulting
offspring and the family unit also are not persuasive.

If IVF and other reproductive technologies were prohibited
merely because resulting embryos may be exposed to some risk of
harm, many infertile couples would be denied the opportunity to
form a biologically related family. 92 The result would be the pro-
tection of the embryos as a symbol of life, at the expense of the IVF
children who may have otherwise been conceived and born. 93 IVF
has a demonstrated record of success. 94 Children who have been
born from embryos conceived in vitro have not exhibited an in-
creased rate of birth defects or psychological impairment when com-
pared to children who were conceived naturally. 95

Medical experts believe that the natural selection process is re-
sponsible for many of the in vitro embryos which do not survive the
IVF process, just as many in vivo embryos do not survive and result
in a live birth. 96 The belief is that these embryos may possess genetic
or other abnormalities which cause them to not develop after fertili-
ization, or to spontaneously abort after embryo transfer. 97 However,
in vitro embryos do appear to be exposed to an increased risk due to
the preimplantation manipulations which are inherent in the IVF
process. 98 But because this increased risk has not had an adverse af-

89. Id.
90. Id. at 188.
91. Ryan, Ethical Issues in Reproductive Endocrinology and Infertility, 160 AM.
93. Id.
94. See supra note 88 and accompanying text.
95. Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 38S.
96. Id. at 59S.
97. Id.
98. See THE JOHNS HOPKINS HANDBOOK OF IN VITRO FERTILIZATION AND AS-
SISTED REPRODUCTIVE TECHNOLOGIES (M. Damewood ed. 1990). In the laboratory, the
semen is collected and processed approximately two and one-half hours prior to insem-
ination. Id. at 105. The eggs are removed from the ovary one at a time by either surgi-
cal laparoscopy or ultrasound guided transvaginal aspiration. In both cases, the
ovarian follicles containing the eggs are punctured with an aspiration needle, and the
follicular fluid in which the eggs are contained is removed by aspiration. The follicular
fluid and eggs are then taken to the laboratory for evaluation of the eggs. Once in the
laboratory, mature eggs are removed from the follicular fluid by a pipette, "washed",
transferred to a culture dish with media, incubated for three to eight hours, after
which sperm are added to the culture dish, and the eggs and sperm are incubated to-
gether. Id. at 106-07. The eggs are reexamined approximately 15 to 18 hours later to
determine if fertilization has occurred. If it does not appear that fertilization has oc-
flect upon the resulting children, these additional risks seem necessary to enable infertile couples to exercise their right of procreative freedom, and also to enable the medical community to improve the outcome of IVF.99

Status of Early Embryos Affecting Reproductive Choices

The legal status of the embryo is an important consideration in allocating autonomy and control in embryo disposition.100 This is also considered the most controversial aspect of IVF.101 The difficulty in determining the legal status of the embryo lies in balancing the competing interests of respect for human life and procreative choice.102 In a society that does not give the in vivo embryo a legal right to be born, it seems inconsistent to confer such a right on the in vitro embryo.103 A determination of the legal status of the in vitro embryo is necessary to guide IVF clinics and participants in the creation and transfer of these embryos.104 If it is determined that these embryos are entitled to legal rights, the actions and choices available to IVF clinics and participants must necessarily be limited so as to not violate these rights.105 Similarly, if it is determined that these embryos are not entitled to legal rights, the actions and choices available to IVF clinics and participants, while certainly guided by ethical considerations, must not be limited by those who, for moral or religious reasons, believe otherwise.106

The American Fertility Society has adopted the following position regarding the legal status of the embryo:

The preembryo deserves respect greater than that accorded to human tissue but not the respect accorded to actual persons. The preembryo is due greater respect than other human tissue because of its potential to become a person and because of its symbolic meaning for many people. Yet, it should not, be treated as a person, because it has not yet de-

99. See supra notes 70-92 and accompanying text.
100. Comment, 29 St. Louis U.L.J. at 826.
101. Id.
102. Robertson, 76 Va. L. Rev. at 437.
103. See supra note 72 and accompanying text.
104. See Andrews, 32 Loy. L. Rev. at 366.
105. See supra notes 76-82 and accompanying text.
106. See supra note 75 and accompanying text.
veloped the features of personhood, is not yet established as developmentally individual, and may never realize its biological potential.107

In its most recent report on the Ethical Considerations of the New Reproductive Technologies, the American Fertility Society writes that there is a widespread consensus among fertility specialists and governmental commissions appointed to study the issue that the embryo is not a person, because it is merely a "genetically unique living human entity that might become a person."108 When there is a possibility that the embryo may be transferred to a uterus, special respect is necessary because the embryo may come into existence as a person.109 While fertilization gives rise to the possibility that an embryo may develop and be gestated, this potentiality for humanness should not to be mistaken for actual humanness.110 Only thirty to forty percent of human embryos conceived through sexual intercourse will gestate and be delivered as live infants.111 It is the potential of the human embryo to become a person which differentiates it from nonembryonic human tissue, and thus entitles it to the qualified respect asserted by the American Fertility Society.112 As reproductive policies develop, acceptable actions and omissions in the treatment of embryos, as well as the freedoms and limitations of those who utilize reproductive technology to reproduce, will be determined by the moral and legal status of the embryo.113

The American Fertility Society defines special respect as that which is owed to resulting children, not embryos.114 The fundamental premise of the American Fertility Society ethical statement is respect for humanness, which encompasses the effect of reproductive technology upon the physical, emotional, and social health of the human person.115 Empowerment of the embryo with legal rights would deprive persons seeking to utilize reproductive technology to

107. Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 35S. Preembryo is the term used by the Ethics Committee of the American Fertility Society to denote an embryo not more than 14 days old. Id.
108. Id.
109. Id.
111. Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 17S-18S.
112. Robertson, 76 VA. L. REV. at 446.
113. Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 34S.
114. Id. at 35S. The American Fertility Society states:
In cases in which transfer to a uterus is possible, special respect is necessary to protect the welfare of potential offspring. . . . Research on or intervention with [an embryo] followed by transfer, thus creates obligations not to hurt or injure the offspring who might be born after the transfer.
115. Id. at 1S.
overcome their infertility of the right to control their reproductive choices. The acceptability and legality of acts and omissions affecting the embryo would be determined on the basis of an embryonic right to be transferred to a uterus. Thus, the human interest in reproducing would be subordinate to the interests of the embryo, which does not possess the characteristics of humanness. Yet, the American Fertility Society recognizes that the human embryo, although not a person with legal rights, deserves special respect in order to protect the potential offspring. In this case, the interest being protected is the human interest of being born healthy, not an embryonic interest in being transferred to a uterus.

The ethical statement of the American Fertility Society recognizes that actions which undermine the human person are morally wrong, and actions which support the human person are morally right. Determinations of what is and is not ethically acceptable, particularly when new medical interventions and manipulations are involved, must involve a consideration of the objectives of the contemplated action, and the effect of that action upon individual persons and society. The American Fertility Society concludes that the human embryo is not entitled to absolute respect, but rather qualified respect, because their objective is to facilitate the improvement of reproductive technology outcomes. In order to accomplish this objective it is necessary that more embryo research and embryo transfers be conducted. The means of achieving this objective are within the range of acceptability because medical science has indicated that in vitro embryos do not experience pain in either research or transfer, and also because embryos are not entitled to legal rights until the point of viability.

Special respect of the human embryo, while protecting the

116. See Robertson, 76 Va. L. Rev. at 453.
117. See supra notes 80-81 and accompanying text.
118. See supra notes 109-13 and accompanying text.
119. See supra note 114 and accompanying text.
120. See Ethics Committee of the AFS, 53 Fertility & Sterility at 35S. Special respect for the embryo imposes a duty of reasonable care when actions to the embryo place it at a risk of harm. Similarly, embryo research or intervention which is followed by transfer of the embryo to a uterus imposes a duty to not harm resulting children. Id.
121. Id. at 15.
122. See id.
123. See id. at 62S.
124. See id.
125. See supra notes 84-87 and accompanying text.
126. See supra note 72 and accompanying text. In Roe, Justice Blackmun stated that regarding a state's legitimate interest in potential life "the 'compelling' point is at viability. This is so because the fetus then presumably has the capability of meaningful life outside the mother's womb." Roe, 413 U.S. at 163.
health of potential offspring, also functions as a guide to the reproductive technology community to be responsible and remain within the boundaries of moral responsibility in their interventions and manipulations of human embryos. The meaning of special respect is less clear on the issue of whether there is an obligation to protect the embryo. Such protection may be in the form of requiring that all embryos be transferred to a uterus or of restricting embryo research. The American Fertility Society recognizes that the effect of some human actions remain ambiguous because these actions may be simultaneously beneficial and detrimental, have an unknown impact upon persons, or are incorrectly evaluated. While it may be important to promote choice in regard to reproduction, we may still require that the exercise of that choice be exercised morally. Therefore, while special respect of the human embryo is principally to protect the human interests of infertile couples seeking to achieve reproduction and of potential offspring, it also serves to protect embryonic interests not yet medically or legally recognized.

The position of the American Fertility Society is consistent with the positions of governmental commissions appointed to consider the ethical implications of IVF. In 1979, the Ethics Advisory Board of the Department of Health and Human Services determined that "the human embryo is entitled to profound respect, but this respect does not necessarily encompass the full legal and moral rights attributed to persons." In 1984, the British Warnock Committee observed that "the human embryo . . . is not under the present law of the United Kingdom accorded the same status as a living child or an adult, nor do we necessarily wish it to be accorded the same status." Similar conclusions were reached by the Australian Waller Report in 1984, and the Ontario Law Reform Commission in

127. See Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 62S.
128. Id. at 35S.
129. Id.
130. Id. at 1S.
132. See supra notes 109-32 and accompanying text.
135. Somerville, 13 NOVA L. REV. at 536-37 (citing The Committee to Consider the Social, Ethical and Legal Issues Arising from In Vitro Fertilization, Report on the Disposition of Embryos Produced by In Vitro Fertilization, § 2.8, at 27 (1984)).
1985. Thus, there is strong support, and appears to be a wide consensus among medical and ethical specialists, that while the in vitro embryo should be treated carefully and responsibly, so as not to injure resulting children or to misuse technological capabilities, it is not to be considered a legal being with enforceable rights.

The United States Supreme Court decision of *Webster v. Reproductive Health Services* gave increased autonomy to state legislatures to regulate abortion. This ruling directly implicates the freedom of state legislatures to regulate embryo disposition and to confer the legal status of personhood upon in vitro embryos in two ways. First, the Missouri Supreme Court held that the preamble to a Missouri statute which regulates the performance of abortions is constitutional. The preamble asserts that life begins at conception, that unborn children have protectable interests in life, health, and well-being, and that within the confines of the United States Constitution and the laws of Missouri, unborn children are to be accorded the same rights as other persons. The Supreme Court held that Missouri courts possess the jurisdictional power to decide the extent to which the language of the preamble may be used to interpret other state statutes or regulations, and that the preamble is not per se unconstitutional so long as it is not used to impermissibly restrict access to abortion services. Second, the court held that states are not compelled to adhere to the trimester framework established by *Roe v. Wade* in determining when the state's interest in protecting human life becomes compelling, but are free to adopt a different test. The holding of *Webster* frees the states to restrict the disposition alternatives available for frozen embryos by demonstrating a

---


137. See id.


139. *Id.* at 3058. In delivering the opinion of the United States Supreme Court, Justice Renquist stated:

The Missouri testing requirement here is reasonably designed to ensure that abortions are not performed where the fetus is viable — an end which all concede is legitimate — and that is sufficient to sustain its constitutionality. . . . There is no doubt that our holding today will allow some governmental regulation of abortion that would have been prohibited under the language of cases such as *Colautti v. Franklin*, 439 U.S. 379, 99 S. Ct. 675, 58 L. Ed. 2d 596 (1979), and *Akron v. Akron Center for Reproductive Health, Inc.*, 462 U.S. 416, 103 S. Ct. 2481, 76 L. Ed. 2d 687 (1983). . . . To the extent indicated in our opinion, we would modify and narrow *Roe* and succeeding cases.

140. *Id.* at 3050.

141. *Id.*

142. *Id.*

143. *Id.* at 3056-57.
compelling interest in the protection of such embryos. Because the Missouri legislature has demonstrated an interest in tightening its abortion law and has officially adopted the position that life begins at conception, it is plausible that the legislature may also attempt to restrict IVF options by conferring legal status upon in vitro embryos.145

Louisiana did just this in 1986, prior to Webster.146 The law, which specifically confers legal status upon any embryo created through IVF, has yet to be subject to constitutional challenge.147 The law provides that embryos created through IVF are juridical persons until implantation and prohibits intentional destruction of any viable embryo.148 IVF can be practiced only for the development of a human through implantation, and the gamete providers have only the choices of transferring all embryos to the female gamete provider's uterus or renouncing their parental rights so that the embryo is available for donation.149

In Louisiana, gamete providers may have to choose whether to bear unwanted children, whether to accept implantation of a dangerous number of embryos, whether to accept implantation and then incur the risks of abortion, or whether to give their embryos away.150 Any of these burdens are substantial, and also discriminatory in that fertile couples who conceive naturally are not required to make these choices.151 The result may be that many infertile couples will choose to forego the IVF process altogether, or will suffer substantial psy-

---

144. See id. at 3057. States appear to be free to draw their own lines of restriction. The Court stated, "we do not see why the State's interest in protecting potential human life should come into existence only at the point of viability, and that there should therefore be a rigid line allowing state regulation after viability but prohibiting it before viability." Id.

145. See supra notes 142-44 and accompanying text.

146. LA. REV. STAT. ANN. §§ 9:121 to :133 (West 1965 & Supp. 1990). The statute states in part: "A 'human embryo' . . . is an in vitro fertilized human ova with certain rights granted by law, . . . organized that it will develop in utero into an unborn child." Id. at § 9:121. "The use of a human ovum fertilized in vitro is solely for the support and contribution of the complete development of human in utero implantation." Id. at § 9:122. "An in vitro fertilized human ovum exists as a juridical person until such time as the in vitro fertilized ovum is implanted in the womb; or at any other time when rights attach to an unborn child in accordance with law." Id. at § 9:123. "A viable in vitro fertilized human ovum is a juridical person which shall not be intentionally destroyed by any natural or other juridical person or through the actions of any other such person." Id. at § 9:129.

147. Ethics Committe of the AFS, 53 FERTILITY & STERILITY at 11S.


149. Id. at §§ 9:122, 9:130. Section 9:130 states in part: "If in vitro fertilization patients renounce, by notarial act, their parental rights for in utero implantation, then the in vitro fertilized ovum shall be available for adoptive implantation in accordance with written procedures of the facility where it is housed or stored." Id. at § 9:130.

150. See supra notes 148-51 and accompanying text.

151. See Robertson, 69 VA. L. REV. at 428, 428 n.64.
The Illinois Abortion Law of 1975, which prohibits nontherapeutic fetal experimentation, leaves open the question of in vitro disposition and decisional autonomy, even though the statute expressly authorizes IVF. The Illinois legislature added the provision authorizing IVF in response to a constitutional challenge of a 1981 amendment to the Illinois Abortion Law, which had placed the care and custody of IVF embryos upon the physician responsible for the creation of those embryos, and made it a crime for that physician to intentionally endanger the life or health of IVF embryos.

A 1981 amendment to the Illinois Abortion Law was challenged in Smith v. Hartigan, which was a class action pursued on behalf of all married couples who could only conceive a child through the use of IVF. The plaintiffs asserted that the language of the in vitro provision of this amendment was effectively a statutory prohibition of IVF. The plaintiffs asserted that the extraordinary duty of

---

152. See Andrews, 32 Loy. L. Rev. at 405.

No person shall sell or experiment upon a fetus produced by the fertilization of a human ovum by a human sperm unless such experimentation is therapeutic to the fetus thereby produced. Intentional violation of this section is a class A misdemeanor. Nothing in subsection (7) is intended to prohibit the performance of in vitro fertilization.

Id. (emphasis added).

154. See Smith v. Hartigan, 556 F. Supp. 157, 159 (N.D. Ill. 1983). In Hartigan, at issue was a 1981 amendment to the Illinois abortion law, which stated:

Any person who intentionally causes the fertilization of a human ovum by a human sperm outside the body of a living human female shall, with regard to the human being thereby produced, be deemed to have the care and custody of a child for the purposes of Section 4 of the Act to Prevent and Punish Wrongs to Children . . . except that nothing in that Section shall be construed to attach any penalty to participation in the performance of a lawful pregnancy termination.


Also relevant in Hartigan was section 4 of the Act to Prevent and Punish Wrongs to Children, which provides:

It shall be unlawful for any person having the care or custody of any child, wilfully to cause or permit the life of such child to be endangered, or the health of such child to be injured, or wilfully cause or permit such child to be placed in such a situation that its life or health may be endangered.


The plaintiffs in Hartigan interpreted the 1981 amendment, in conjunction with section 4 of the Act to Prevent and Punish Wrongs to Children, to be a statutory prohibition of IVF on the basis that the physician creating the human embryo could be deemed to have the care and custody of in vitro embryos, and also to be placing the embryos at risk of harm in violation of the statute. Hartigan, 556 F. Supp. at 159-60.

156. Id. at 159. See supra note 156.
care and criminal penalties imposed upon physicians who participated in the creation of in vitro embryos effectively estopped those physicians from providing IVF services to infertile couples, and thus violated the plaintiffs' fundamental right to privacy because it prevented them from effectuating their only hope of conceiving a child. The plaintiffs also challenged the in vitro provision on the basis that it was void for vagueness, because the statute failed to provide IVF providers adequate notice of what actions and omissions constituted the prohibited conduct to which criminal penalties would attach.

The statute withstood the plaintiffs' constitutional challenge because the Illinois Attorney General issued an official opinion interpreting the statute, which stated that the statute did not effect a prohibition of IVF, but rather was intended only to prohibit willful exposure of embryos to harm from laboratory experimentation. The Attorney General stated that the duty of care and custody ceased upon transfer of the embryo to a uterus, and that a determination not to transfer a nonviable in vitro embryo for any medical reason was simply a lawful pregnancy termination, and therefore was not prohibited by the statute. Finally, the Attorney General asserted that because the plaintiffs had intended to transfer all viable embryos for the purpose of achieving pregnancy, and because this action was not prohibited by the statute, the plaintiffs' claim should be dismissed for lack of standing and justiciability.

The United States District Court for the Northern District of Illinois held that while the plaintiffs did possess standing in that they had sufficiently pleaded an injury in fact and an infraction of personal rights, there was no case or controversy due to the statutory interpretation provided by the Illinois Attorney General. The court declined to decide the issue of whether the technique of superovulation and fertilization of multiple embryos, and thus the possible destruction or freezing of any embryos not immediately transferred, was prohibited by the statute because the plaintiffs had not intended

158. *Id.* at 159-60.
159. *Id.* at 160. The plaintiffs contended that because IVF is achieved by a team of medical personnel, it is inappropriate to place the responsibility of creation of the embryo upon a single individual. The plaintiffs also asserted that the statute should be struck down for vagueness because it failed to define how long the custody status continued, and also because if failed to provide a standard of conduct governing those having custody. *Id.*
160. *Id.* at 161-64.
161. *Id.* at 161.
162. *Id.*
163. *Id.* at 162.
to use this procedure. The Attorney General specifically did not provide an interpretation of whether multiple embryo fertilization, embryo cryopreservation, or nontransfer of viable embryos would in fact be prohibited by the statute.

As a result of the court's dismissal of the case for lack of subject matter jurisdiction, the question of whether the statute criminalizes nontransfer of viable IVF embryos remains open, as does the question of whether the state or the gamete providers possess primary decision-making authority with regard to the determination of in vitro embryo disposition. If the state determines that embryo cryopreservation is not part of the IVF process, the statute may be interpreted to criminalize embryo cryopreservation despite the language of the 1981 amendment which expressly authorizes IVF. Similarly, if the state determines that in vitro embryos are children within the meaning of the Illinois Act to Prevent and Punish Wrongs to Children, and that embryo cryopreservation or destruction endangers the life or health of in vitro embryos, both embryo cryopreservation and destruction may be prohibited by the statute, even though the IVF procedure itself would be authorized. A prohibition of embryo cryopreservation would severely limit a couple's ability to control their reproductive choices in that the woman would be forced to undergo the ovarian stimulation and egg retrieval procedure with each IVF attempt. Additionally, if either embryo cryopreservation or destruction was determined to be illegal, it is likely that the state would limit embryo disposition alternatives by mandating implantation of all viable in vitro embryos, as has the state of Louisiana.

It remains unclear whether such statutes will be able to withstand constitutional challenge. While laws that prevent discard of unwanted embryos do not interfere with one's fundamental right of bodily integrity, they do interfere with one's fundamental right to control reproductive choices. In most situations, laws that restrict embryo disposition will require gamete providers to make their un-

164. Id. at 163. Superovulation is drug-induced stimulation of the ovary to produce multiple eggs in a single ovulatory cycle. See supra note 1.
165. Hartigan, 558 F. Supp. at 163. The Attorney General stated in his Memorandum that the legal issues surrounding multiple fertilizations are complicated, but that these issues were not relevant in this particular case because the plaintiffs did not indicate that they intended to use the superovulation technique in order to cause multiple fertilizations. Id.
167. See supra notes 156-67 and accompanying text.
168. See Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 58S.
169. See supra notes 148-54 and accompanying text.
170. See supra note 149 and accompanying text.
171. Robertson, 76 VA. L. REV. at 499.
used embryos available for donation.\textsuperscript{172} Even if parenthood resulted in only psychological burdens, as would occur with mandatory embryo donation, persons should be free to decide whether or not their in vitro embryos will be anonymously donated.\textsuperscript{173} An argument against the constitutionality of laws which limit in vitro embryo disposition alternatives is that a state's interest in protecting embryos by requiring transfer to a uterus is not compelling enough to justify interference with and limitation of one's fundamental right to avoid reproduction.\textsuperscript{174} A counterargument to this position is that because such laws do not result in gestational or child rearing duties, the United States Supreme Court is not likely to recognize a fundamental right to avoid biological offspring where only the burdens of psychological parenthood are involved.\textsuperscript{175}

It also remains unclear what the effect of such statutes will have upon the willingness of infertile couples to attempt to achieve reproduction through IVF if they are not allowed to control the disposition of their reproductive materials, or what will be the psychological effect upon these couples when they feel compelled to accept transfer of embryos or to donate their reproductive materials to anonymous recipients.\textsuperscript{176} Such limitations upon reproductive choices could result in the imposition of unwanted parenthood.\textsuperscript{177} The burdens of unwanted parenthood, whether those burdens entail child rearing and financial responsibilities, or are only biological, are great. \textit{Roe} established that a state may not impose unwanted parenthood when a nonviable embryo or fetus is within a woman's body.\textsuperscript{178} The United States Supreme Court held that the fundamental right of privacy includes freedom in procreative choice, and empowered a woman to

\begin{itemize}
\item \textsuperscript{172} See supra notes 148-72 and accompanying text.
\item \textsuperscript{173} Robertson, 76 VA. L. REV. at 499. Professor Robertson asserts that the fundamental constitutional right to avoid reproduction should also encompass the right to avoid genetic parenthood, and that persons who provide gametes to create in vitro embryos should therefore be empowered to decide whether those embryos will be transferred to a uterus. \textit{Id.} at 499 n.164.
\item \textsuperscript{174} \textit{Id.}
\item \textsuperscript{175} \textit{Id.} at 500.
\item \textsuperscript{176} See Andrews, 32 LOY. L. REV. at 362 n.36, 404-06. Lori Andrews asserts that statutes which confer legal status upon in vitro embryos, and thus prohibit the discard of unwanted embryos, would deprive gamete providers of autonomy in their reproductive decisions. Thus, persons who would suffer psychologically from donation of their in vitro embryos may make choices regarding their in vitro embryos which they would otherwise not make, such as foregoing the IVF process altogether, having all embryos transferred in a single cycle and thus incurring the substantial risk of multiple gestation, only fertilizing a limited number of eggs so that excess embryos will not exist and undergoing a subsequent egg retrieval procedure if implantation does not occur, or transferring and then aborting unwanted embryos. \textit{Andrews}, 32 LOY. L. REV. at 362 n.36, 404-06.
\item \textsuperscript{177} Robertson, 76 VA. L. REV. at 501.
\item \textsuperscript{178} \textit{Roe}, 410 U.S. at 163.
\end{itemize}
avoid the physical, psychological, financial, and child rearing burdens of parenthood. While the psychological burdens to which the Court referred are generally assumed to attach only to child rearing responsibilities, there is no reason that these psychological burdens should not also extend to forced biological parenthood which does not entail child rearing responsibilities.

The freedom to avoid parenthood by aborting a nonviable fetus or embryo protects those who do not wish, or are not able, to accept the responsibilities of parenthood from the psychological burden of placing their child for adoption, and thus from the knowledge that they may have a living biologically related child. Similarly, persons who seek to achieve reproduction through the creation of in vitro embryos, who later do not wish or are not able to accept transfer of their embryos, should not be restricted in their freedom to avoid biological parenthood. Because Roe allows the termination of a nonviable embryo or fetus that is inside a woman's body, Roe should also allow the termination of nonviable in vitro embryos. Therefore, the in vitro fertilization statutes in Louisiana and Illinois, if applied to limit embryo disposition alternatives, and thus also limit the reproductive choices of persons who seek to reproduce through IVF, are in violation of the principles of Roe, and should be deemed an unconstitutional limitation upon the fundamental right of procreation.

Competing Interests Affecting Reproductive Choices

IVF participants often have competing interests regarding the

179. Id. at 153.
180. See Poole, Allocation of Decision-Making Rights to Frozen Embryos, 4 AM. J. FAM. L. 67, 74 (1990). Contra Robertson, 76 VA. L. REV. at 500. However, in Webster the United States Supreme Court narrowed the holding of Roe by allowing states to exercise increased autonomy to abandon the trimester fetal viability test of Roe, and to establish and implement medically sound standards to determine when a fetus becomes viable. Webster, 109 S. Ct. at 3057. While states may not proscribe abortion altogether, they may proscribe abortions during the first trimester if the fetus is diagnostically proven to be viable. Id. at 3055. Additionally, the plurality opinion of Webster did not address or even mention the interests of the woman in avoiding pregnancy or parenthood. Thus, if the Court continues on its path of narrowing Roe, a fundamental right to avoid biologic parenthood by not transferring in vitro embryos is not likely. Rather, the Court may deem that Roe only protects a woman's right to avoid pregnancy and childbirth when gestational and childrearing burdens are involved. Robertson, 76 VA. L. REV. at 499-500.
181. Poole, 4 AM. J. FAM. L. at 74. "Having one's embryo donated to an anonymous woman or couple is analogous to putting a child up for adoption. Women who have allowed their children to be adopted describe themselves as being haunted by concern about the child." Id. Discussing the impact of Roe upon IVF and embryo disposition, the author states: "The Supreme Court's rhetoric can be interpreted to cover all procreative decisions and to value all burdens of parenthood, including psychological ones." Id. at 75.
182. Robertson, 76 VA. L. REV. at 499.
outcome of the procedure.\textsuperscript{183} Just as the moral and legal status of the embryo affect disposition alternatives and the freedom of the gamete providers to control their reproductive choices, so do the moral and legal statuses of these competing interests. The competing interests which remain, after considering those of the embryos, are those of the gamete providers, the IVF clinic, and the state.\textsuperscript{184} The law has failed to adequately address the interests of each party, and as disputes arise these interests are being defined by the courts on a case-by-case basis.\textsuperscript{185} The resulting decisions have been made by either state or lower federal courts, and are not binding upon other jurisdictions.\textsuperscript{186} Therefore, the legal rights and liabilities of these parties remain ill-defined, and fail to provide meaningful guidance as to how to treat human embryos.

The position of the American Fertility Society regarding disposition of frozen embryos is that primary decisional authority should rest with the gamete providers.\textsuperscript{187} The American Fertility Society asserts that within the limits of institutional policies and the law, gamete providers may jointly decide whether their frozen embryos will be thawed for transfer to the uterus of the female gamete provider, thawed and not transferred, donated for transfer to the uterus of another woman, donated for research, transferred to another location, or disposed of in some other manner.\textsuperscript{188} This decisional authority rests in the gamete providers because they possess a qualified ownership in the embryos, derived from ownership of their gametes and the right to decide whether to reproduce offspring.\textsuperscript{189} The Australian...
IN VITRO FERTILIZATION

The most difficult policy issues which arise from giving the gamete providers control over the use of their embryos is the determination of what should be done with an embryo if the gamete providers disagree as to its disposition.\textsuperscript{192} Such disputes may be resolved by enforcing the terms of an embryo disposition agreement entered into by the gamete providers, which specifies the choice of embryo disposition in the event that a dispute arises between the gamete providers.\textsuperscript{193} However, the binding effect of such agreements, and the extent to which courts will enforce them, is unclear.\textsuperscript{194} Courts may also be called upon to resolve such disputes in the absence of an embryo disposition agreement.\textsuperscript{195} In the absence of such express agreements, the court may resolve the dispute by recognizing and enforcing an implied contract to reproduce between the parties.\textsuperscript{196}

\textsuperscript{190} Somerville, 13 NOVA L. REV. at 536 (citing the Committee to Consider the Social, Ethical and Legal Issues Arising from In Vitro Fertilization, Report on the Disposition of Embryos Produced by In Vitro Fertilization, § 2.8, at 27 (1984)).

\textsuperscript{191} Id. at 537.

\textsuperscript{192} Andrews, 32 LOY. L. REV. at 403.

\textsuperscript{193} Ethics Commitee of the AFS, 53 FERTILITY & STERILITY at 60S.

\textsuperscript{194} Robertson, 76 VA. L. REV. at 455-56. Professor Robertson has observed that the couple who provides the gametes to create the embryos has the strongest claim to decisional authority or ownership of the embryo. The more difficult issue, however, is whether advance disposition instructions will be binding upon the couple if their preferences change. Id.

\textsuperscript{195} See Davis v. Davis, No. E-14496, 1989 Tenn. App. LEXIS 641 (Blount County Cir. Ct. Tenn., Sept. 21, 1989) rev'd, C/A No. 180, 1990 Tenn. App. LEXIS 642 (Tenn. Ct. App., Eastern Section, Sept. 13, 1990). In this divorce action, the court was called upon to decide the disposition of seven frozen in vitro embryos created by the Davises' gametes. Davis, 1990 Tenn. App. LEXIS 642, at 1. The court noted that prior to creating and freezing the embryos, neither the Davises nor their physicians had discussed the disposition of the embryos in the event of divorce. Id. at 4.

\textsuperscript{196} See J. CALAMARI & J. PERILLO, THE LAW OF CONTRACTS 89 (3d ed. 1987). An implied contract may arise from affirmative conduct:
An implied contract arises by virtue of the parties providing their gametes to create embryos for the purpose of achieving reproduction.\footnote{197}

The resolution of such disputes will require courts to define and balance the interests of the disputing parties in order to determine whether the embryo disposition agreement is to be enforced, or to determine the most equitable solution in the absence of an embryo disposition agreement.\footnote{198}

The dispute in \textit{Davis v. Davis}\footnote{199} arose after the gamete providers divorced and disagreed as to the disposition of seven frozen embryos.\footnote{200} Ms. Davis sought to have the embryos transferred to her uterus, or, in the alternative, donated and transferred to the uterus of another woman.\footnote{201} Mr. Davis did not know if he preferred that the embryos be destroyed so that he would not have to bear the burdens of parenthood, or if he wanted the embryos transferred to Ms. Davis's uterus, and sought to keep the embryos frozen until he could decide.\footnote{202}

The trial court held that life began at fertilization, and that it was in the best interests of the embryos to be transferred to the uterus of their natural mother.\footnote{203} The court determined that the embryos possessed the rights of personhood, and implied that it would have ordered transfer to the uterus of an adoptive donee or surrogate if Ms. Davis had not wished transfer to her own uterus.\footnote{204}

\begin{quote}
A contract implied in fact arises under circumstances which, according to the ordinary course of dealing and common understanding of men, show a mutual intention to contract. . . . A contract is implied in fact where the intention is not manifested by direct or explicit words between the parties, but is to be gathered by implication or proper deduction from the conduct of the parties, language used or things done by them, or other pertinent circumstances attending the transaction.
\end{quote}

\textit{Id.} (quoting Miller v. Stevens, 224 Mich. 626, 195 N.W. 481 (1923)).

\footnote{197. See \textit{id.}}

\footnote{198. \textit{See infra} notes 393-479 and accompanying text.}


\footnote{200. \textit{Id.} The appellate court noted that the plaintiff-appellee has remarried and currently goes by the name of Mary Stowe. \textit{Davis}, 1990 Tenn.App. LEXIS 642 at 1 n.1. For the purpose of uniformity, this Comment will refer to her as Ms. Davis.}

\footnote{201. \textit{Davis}, 1989 Tenn.App. LEXIS 641 at 74-75.}

\footnote{202. \textit{Id. at} 58.}

\footnote{203. \textit{Id. at} 2.}

\footnote{204. \textit{Id. at} 37. The court noted that Mr. Davis objected to the anonymous donation of the embryos, that it was in the best interests of the embryos to be made available for implantation, that the embryos could not survive if they were not implanted, and that the embryos' best interests were further served by implantation into Ms. Davis's uterus. \textit{Id.} The court's primary focus seems to be not on transfer of the embryos to Ms. Davis's uterus, but rather transfer of the embryos to any uterus in order that the embryos may survive. Impliedly, if Ms. Davis had been unwilling or unable to accept transfer, the court would have ordered that the embryos be donated to another couple who wished to transfer the embryos in order to gestate them. \textit{See id.}}}
the court appointed itself as the guardian of the embryos with the authority to determine the disposition of the Davises' embryos.\textsuperscript{205}

On appeal, Ms. Davis no longer wanted the embryos transferred to her uterus, but wanted to donate them to some other childless couple.\textsuperscript{206} Mr. Davis continued to assert that to transfer the embryos to a uterus could result in his becoming a parent against his will, which would deny him the right to control his reproductive choices.\textsuperscript{207} The court awarded joint custody of the embryos to the Davises, with equal control over the disposition of the embryos.\textsuperscript{208} The court held that it would be constitutionally repugnant and offensive to order Ms. Davis to implant the embryos against her will, and equally repugnant to order Mr. Davis to bear the psychological and legal consequences of paternity against his will.\textsuperscript{209}

While the trial court holding was in conflict with the law of the United States Supreme Court established in \textit{Roe},\textsuperscript{210} the appellate holding is equally troubling. The effect of the appellate court’s holding is to establish that the rights of the parent wishing to avoid parenthood are superior to those of the parent wishing to achieve parenthood.\textsuperscript{211} However, the court failed to provide a justification for how it balanced the interests of the parties.\textsuperscript{212} Focusing primarily upon the state’s interest, the court concluded that the state did not have a compelling interest which would justify ordering implantation of the embryos against the will of either party.\textsuperscript{213}

An award of joint custody means that the parties share equally

\begin{itemize}
\item \textsuperscript{205} See \textit{id}. at 34. The court found, under the common law doctrine of \textit{parens patriae}, that the state had the power to act as guardian and protect the interests of the embryos as children. The court stated: “The Court is of the opinion, finds and concludes that the age-old common law doctrine of \textit{parens patriae} controls these children, in vitro, as it has always supervised and controlled children of a marriage at live birth in domestic relations cases in Tennessee.” \textit{Id}.

\item \textsuperscript{206} \textit{Davis}, 1990 Tenn. App. LEXIS 642, at 1 n.1.

\item \textsuperscript{207} \textit{Id}. at 5.

\item \textsuperscript{208} \textit{Id}. at 9.

\item \textsuperscript{209} \textit{Id}. at 8-9.

\item \textsuperscript{210} \textit{Id}. at 7-8. In \textit{Roe}, the Court held that the state’s interest in protecting fetal life does not become compelling until the fetus becomes viable. \textit{Roe}, 410 U.S. at 163. Viability was defined as the point in time at which the fetus can live outside the mother’s womb without artificial aid. \textit{Id}. at 160. Commenting on the trial court’s finding that the Davises’ embryos were children, Professor Robertson has stated: “Judge Young’s conclusion that four-celled preimplantation embryos are ‘children’ and ‘human beings’ is unprecedented and unwarranted: It has no discernible basis in common law precedents nor in Tennessee law.” Robertson, \textit{Davis: An Unwarranted Conclusion}, HASTINGS CENTER REP., Nov.-Dec., 1989, at 11.

\item \textsuperscript{211} See \textit{Davis}, 1990 Tenn. App. LEXIS 642 at 5-6. “Awarding the fertilized ova to [Ms. Davis] for implantation against [Mr. Davis’s] will, in our view, constitutes impermissible state action in violation of [Mr. Davis’s] constitutionally protected right not to beget a child where no pregnancy has taken place.” \textit{Id}.

\item \textsuperscript{212} See \textit{id}.

\item \textsuperscript{213} \textit{Id}.
\end{itemize}
in the control of their embryos. The court failed to resolve the dispute which brought the parties to the courtroom in the first place, but rather shifted the monkey back to the parties by requiring that they reach their own decision. For the court to hold that the parties have an equal voice in the disposition of the embryos where the interests of the parties are completely juxtaposed does no more than invite an impasse.

It is questionable if disputes between gamete providers can ever be resolved equitably. The resolution of such disputes will unavoidably be a zero-sum game, and the burdens of being the loser are substantial, whether it be the lost opportunity of achieving parenthood or the possibility of unwanted and forced parenthood. When the stakes are so high, the burdens of loss so great, and the arguments favoring each side so strong, it seems that equity and justice can never really be achieved. Nevertheless, the law must attempt to reach the most equitable solution, and in doing so, the competing interests of each party must be balanced.

The party seeking to achieve parenthood seeks to have the embryos transferred to a uterus for the purpose of gestation. This party may seek to achieve parenthood in order to have child rearing responsibilities, or may seek to achieve only biological parenthood and donate the embryos for transfer to another woman's uterus. The party seeking to avoid parenthood does not want the financial or psychological burdens of parenthood. Parenthood and child rearing burdens may be avoided by discarding the embryos, thus not allowing them to be transferred at all, or by anonymously donating them to another infertile couple. However, many persons seeking to avoid parenthood feel that even the burdens of biological parenthood, in which case there are no financial or child rearing duties to resulting children, are substantial and violative of their procreative freedoms. Even if the biological parents were never told

214. Id. at 9.
215. See id.
216. See infra notes 418-24 and accompanying text.
217. See infra notes 239-66, 456-57 and accompanying text.
218. See Robertson, HASTINGS CENTER REP., Nov.-Dec., 1989, at 8. Professor Robertson asserts that an effective resolution of Davis, 1989 Tenn. App. LEXIS 641, required an analysis of the competing interests of the gamete providers. The interest of one party is in avoiding the burdens of unwanted parenthood, and the interest of the other is the burden of not being allowed to transfer the embryos in order to achieve parenthood. Robertson, HASTINGS CENTER REP., Nov.-Dec., 1989, at 8.
219. Id.
220. Id. at 9.
221. Id. at 8.
222. See id. at 10.
223. Poole, 4 AM. J. FAM. L. at 74.
whether the embryo developed and reached live birth, they may nevertheless suffer psychological harm from the possibility that their natural child existed.224

In all cases, where only biological parenthood is desired, the party seeking to avoid parenthood should prevail.225 If the original intent of the parties was to gestate and rear a child with the associated joys of parenthood, a party's claim to reproduce against the wishes of the other becomes much less compelling if that party merely wishes the embryos donated to an infertile couple in order to reproduce, but not to rear, biological offspring.226 In the Davis appeal, in which Ms. Davis wanted the embryos donated to an infertile couple, the interest of Mr. Davis in avoiding parenthood far outweighed the interest of Ms. Davis in achieving biological parenthood without any child rearing responsibilities. In this situation, it seems unfair to burden a party with unwanted biological parenthood where the other party does not wish to be a rearing and participative parent.

The more difficult case arises where one party seeks to avoid parenthood, yet the other seeks to achieve parenthood for the purpose of rearing any resulting children.227 Each interest is substantial, yet only one may prevail.228 John Robertson, professor of law at the University of Texas at Austin, asserts that where the party seeking to achieve parenthood has a "reasonable opportunity" to create other embryos, the interest of the party seeking to avoid parenthood is greater than the interest of the party seeking to achieve parenthood.229 His proposal asserts that the party who wishes to avoid parenthood is irreversibly harmed if the embryos are transferred and result in a live birth, because the psychological and financial burdens of parenthood have then become unavoidable and permanent.230 Professor Robertson asserts that not allowing the gamete provider who desires parenthood to transfer the embryos will not usually prevent that person from creating and transferring other embryos with a different gamete provider.231

For the purposes of this balancing test, the important question involves defining "reasonable opportunity" in relation to reproductive opportunities. Professor Robertson asserts that it is not unreasonable to expect a woman to undergo the "moderate" physical

224. Id. at 75.
226. Id.
228. Id.
229. Id.
230. Id.
231. Id. at 9.
burdens of IVF stimulation and egg retrieval in order to prevent the burdens of unwanted parenthood upon the gamete provider seeking to avoid reproduction.\textsuperscript{232} But the risk and inconvenience of participating in an IVF procedure is more than merely a moderate physical burden.\textsuperscript{233} Ovarian stimulation and egg retrieval involve a substantial amount of time and inconvenience.\textsuperscript{234} The woman must be medically monitored on a daily basis prior to the egg retrieval procedure, and the eggs must be retrieved by either surgical laparoscopy or ultrasound, followed by two to three days of bedrest.\textsuperscript{235} The physical burden upon the male seeking to create new embryos is much less than that upon the female.\textsuperscript{236} While the female must submit to the medically risky and inconvenient ovarian stimulation and egg retrieval procedures, the male must provide a semen specimen, which is inconvenient but not medically risky.\textsuperscript{237} Yet, a male seeking to create new embryos must suffer the substantial burdens of locating donor eggs and a surrogate to gestate the embryos.\textsuperscript{238}

The expense of an additional IVF procedure is more than moderate. A couple seeking to reproduce through IVF can expect to pay between $4500 and $8000 for treatment during each monthly cycle in which they are trying to conceive.\textsuperscript{239} If no pregnancy occurs within six months, they lose from $27,000 to $48,000.\textsuperscript{240} The "reasonable opportunity" test is tenuous in that any one of these factors may be a barrier to creating additional embryos. Therefore, the party seeking to achieve parenthood with child rearing responsibilities should be allowed to transfer the embryos because of reliance upon the agreement, whether express or implied, of the other party to reproduce, and because of the substantial burdens already incurred in the creation of the embryos.\textsuperscript{241}

The burdens of financial responsibility and psychological impact

\textsuperscript{233} See Nell, Test-tube Tangle, MS. MAGAZINE, Oct. 20, 1989, at 15. A woman undergoing the IVF procedure must make daily visits to the physician's office or hospital prior to her ovulation in order to receive hormone injections, and must also be closely monitored with blood tests and sonograms. Nell, MS. MAGAZINE, Oct. 20, 1989, at 15. As previously stated, the egg retrieval process requires that the woman submit to a surgical laparoscopy under general anaesthesia, or to ultrasound guided follicle aspiration. See supra note 99.
\textsuperscript{234} Nell, MS. MAGAZINE, Oct. 20, 1989, at 15.
\textsuperscript{236} Robertson, HASTINGS CENTER REP., Nov.-Dec., 1989, at 9.
\textsuperscript{237} Id.
\textsuperscript{238} Id.
\textsuperscript{239} Nell, MS. MAGAZINE, Oct. 20, 1989, at 15.
\textsuperscript{240} Id.
\textsuperscript{241} See supra notes 20-25 and accompanying text.
have been asserted as a rationale for allowing the party who wishes to avoid parenthood to prevail in embryo disposition disputes.\textsuperscript{242} Under existing law it is possible that the unwilling gamete provider will have the legal obligation of financially supporting resulting children, as is the case with children conceived naturally.\textsuperscript{243} The public policy supporting this law is that parents should be responsible for their offspring.\textsuperscript{244} However, the law does not impose an obligation of support upon artificial insemination sperm donors or egg donors.\textsuperscript{245} An unmarried woman who accepts insemination with donor sperm is solely responsible for the psychological and financial support of resulting children.\textsuperscript{246} This is acceptable in our society because the woman is assumed to have made an informed decision, and was under no legal obligation to accept insemination.\textsuperscript{247} Similarly, the gamete provider who wishes to transfer the embryos and achieve reproduction is also under no legal obligation to do so, but rather chooses to do so in order to effect his or her desire to become a parent, and therefore should assume the sole financial and psychological responsibility for resulting children. Thus, a gamete provider who wishes to avoid parenthood should be allowed to do so by renouncing parental responsibility and rights.

In the very difficult case of embryo disposition disputes, the most equitable resolution is to allow the unwilling gamete provider to renounce parental rights and duties, even if psychological burdens remain, and to allow the willing gamete provider the opportunity to achieve parenthood with the embryos, even if that person must be the sole source of financial and emotional support for resulting children.\textsuperscript{248} If embryo transfer or birth has not yet occurred, the right of

\textsuperscript{243} Id.
\textsuperscript{244} Id.
\textsuperscript{245} See, e.g., UNIF. PARENTAGE ACT § 5(b), 9B U.L.A. (1987). Regarding artificial insemination, the Uniform Parentage Act states in pertinent part: “The donor of semen provided to a licensed physician for use in artificial insemination of a married woman other than the donor’s wife is treated in law as if he were not the natural father of a child thereby conceived.”
\textsuperscript{246} See Jhordan C. v. Mary K., 179 Cal. App. 3d 386, —, 224 Cal. Rptr. 530, 537 (1986). The court held that CAL. CIVIL CODE § 7005(b) (West 1983) did not preclude or restrict women from becoming pregnant through artificial insemination. Jhordan C., 179 Cal. App. 3d at —, 224 Cal. Rptr. at 537. Regardless of whether the woman was unmarried, the statute protected the semen donor from parental responsibility for resulting children. Id.
\textsuperscript{247} See Vetri, Reproductive Technologies and United States Law, 37 INT’L & COMP. L.Q. 505, 514 (1988). Referring to artificial insemination with donor sperm (AID), the author observes, “Relatively few unmarried women are likely to use AID, and those that do will have given the matter very serious thought and undoubtedly will be able to provide financially for the children.” Id.
\textsuperscript{248} See Andrews, 32 Loy. L. Rev. at 406-07. Lori Andrews adopts the position that the gamete providers’ right to transfer and gestate their in vitro embryos is mutu-
the gamete providers to become a parent with parental responsibility should be mutually exclusive. Each gamete provider should have the individual right to transfer their in vitro embryos for the purpose of achieving parenthood, or to avoid parenthood by renouncing parental rights and responsibilities even though the other gamete provider chooses to transfer the embryos.

Lori Andrews, attorney and research fellow with the American Bar Foundation, asserts that disputes between gamete providers should be resolved in favor of the party desiring parenthood. The decision to procreate belongs to the individual, and does not require the consent of the individual’s partner. Historically, this individual right of procreation has been asserted only by women involving decisions to abort or not abort. However, in the case of in vitro embryos there is no reason why the wishes of the woman to avoid parenthood should be superior to the wishes of the man to achieve parenthood. In vitro embryos do not constitute a physical burden upon the woman until they are transferred to her uterus. Therefore, while the woman cannot be forced to have embryos transferred to her uterus, she should not have the right to prevent a man from gestating the embryos through a surrogate. The woman may also agree to accept transfer of an embryo, and gestate it for the benefit of the natural father who desires parenthood. This argument recog-
nizes that the man and woman have equal dispositional decision making power over the embryos with regard to achieving or avoiding parenthood.

Remaining unanswered questions are whether parental renunciation would be modified if the unwilling gamete provider later changed his or her mind and wished to become a participative parent, and if so, whether financial restitution would be owed to the gamete provider who had been the sole rearing parent. And most importantly, what psychological impact would parental renunciation have upon resulting children. These questions are indeed troubling, but are similar to those that occur in child support and adoption situations. Where the gamete providers disagree, it seems more equitable to facilitate birth by allowing embryo transfer, than to prevent birth by requiring embryo discard. Whether one believes the burdens of unwanted parenthood are greater than those of childlessness is a very personal and individual determination. These burdens will be

258. See Comment, In re Baby Girl Eason: Balancing Three Competing Interests in Third Party Adoptions, 22 GA. L. REV. 1217, 1238 & n.128 (1988). Discussing the Georgia Supreme Court holding of In re Baby Girl Eason, 257 Ga. 292, 358 S.E.2d 459 (1987), which involved the right of an unwed father to veto the adoption of his illegitimate daughter with whom he had had no prior contact, the author noted that generally a father may assert parental rights anytime from the moment of conception until the age of majority, and that recognition of this right is largely dependent upon the degree of commitment by the parent in becoming a part of the child's life. Comment, 22 GA. L. REV. at 1238 & n.128. Because courts are willing in certain instances to recognize parental rights after apparent abandonment by the parent of those rights, it is possible that courts will also allow the biological parent of a child conceived through IVF, who previously renounced his or her parental rights, to later reassert those rights. In such cases, courts will most likely apply a best interests of the child standard to determine if it is in the child's best interests to associate with its biological parent. Id. at 1243.

If a gamete provider had transferred and gestated an in vitro embryo over the objection of the other gamete provider, and on the condition that the objecting gamete provider would be relieved of all financial responsibility, it seems fair that if the objecting gamete provider subsequently wishes to become a participative parent he or she would owe restitution to the gamete provider who had reared and supported the child. Courts or policymakers may order restitution so that the gamete provider, who previously relinquished parental rights and liabilities, will not be allowed to experience the benefits of parenthood without also experiencing the burdens of parenthood. See supra notes 256-61 and accompanying text.

259. See Garrison, Why Terminate Parental Rights?, 35 STAN. L. REV. 423, 455-56, 470-71 (1983). The author is comparing the parental relationship and personal identity conflicts experienced by children affected by divorce or adoption, to children who are placed in foster care. Id. IVF children who know that one of their biologic parents renounced his or her parental rights in order to avoid the burdens of parenthood may experience similar psychological consequences. See id.

260. See id.

261. See Lorio, Alternative Means of Reproduction: Virgin Territory for Legislation, 44 LA. L. REV. 1641, 1641 (1984). But see Poole, 4 AM. J. FAM. L. at 86. The author states, "there is no reason to believe that the harm of never achieving parenthood is ever greater than the harm of being subjected to unwanted parenthood such that the donor desiring parenthood should be favored over the donor wishing to avoid it." Id.
experienced differently depending upon each person's value system and individual circumstances.\textsuperscript{262} The choice to procreate and raise a family is a uniquely individual one.\textsuperscript{263} While some persons desperately desire to experience parenthood, other persons do not.\textsuperscript{264} A policy which uniformly holds that the burdens of unwanted parenthood are greater than those of childlessness fails to consider the individuality of the desire to procreate, and seems unfairly biased in favor of persons who wish to avoid parenthood.\textsuperscript{265} In order to achieve equity, disputes between gamete providers should be resolved according to the representations made by the parties at the time they provided gametes for the creation of embryos.\textsuperscript{266}

Gamete providers rely upon the promises of each other to use their in vitro embryos for the purpose of reproducing, and also incur substantial expense and physical hardship during the IVF process.\textsuperscript{267} In the absence of a prior agreement as to disposition of in vitro embryos, disputes between the gamete providers should be resolved in favor of the one desiring parenthood.\textsuperscript{268} The party who later decides that he or she does not want to be a parent had the opportunity and the responsibility to realize this before the embryos were created, and thus had the opportunity to exercise control over his or her reproductive choices by not participating in the creation of embryos.\textsuperscript{269} If courts allow parties to revoke their promises, whether implied or express, simply because they "change their mind," the party desiring parenthood is denied the right to control his or her reproductive choices, and thus inequity between the parties truly results.\textsuperscript{270}

Dispute Between the Gamete Providers and the IVF Clinic — York v. Jones

The case is the easiest when the dispute is between the gamete providers and the IVF clinic if one accepts that dispositional authority of embryos belongs to the gamete providers.\textsuperscript{271} Proponents of this view assert that even in the absence of an embryo disposition agreement, the gamete providers should remain the primary decision-mak-
ers, and that the clinic does not have the right to determine how embryos are to be disposed of unless the gamete providers assign their decision-making power to the clinic. The primary interest of the IVF clinic is in the efficacious creation, storage and transfer of the embryos for the benefit of the gamete providers. The primary interest of the gamete providers is in controlling their reproductive choices. This they can only do if they retain decisional autonomy regarding the disposition of their embryos.

The opposite view is that the IVF clinic has a substantial interest in protecting the interests of the parties and of the public. In such a case, the autonomy of the gamete providers would be limited by "good medicine" and "good ethics." This view seems to assume that the people who comprise the IVF clinic are in a superior position to determine what is right and wrong. The result of the IVF clinic possessing primary decision-making authority over embryo disposition seems to be an unjustified interference with the right of the gamete providers to control their reproductive choices. This view is in conflict with the position of the American Fertility Society, which asserts that decisional authority should remain with the gamete providers.

York v. Jones involved a dispute between the gamete providers and an IVF clinic regarding which party possessed dispositional control over one frozen embryo. The Yorks sought to have their embryo transferred from Virginia to California, where the embryo would be thawed and transferred to Ms. York's uterus. The clinic refused to allow the transfer on the basis that the embryo disposition agreement did not allow inter-program transfer as a disposition alternative. The United States District Court for the Eastern District of Virginia held that the embryo disposition agreement created a bailment relationship between the parties, which imposed an abso-
lute duty upon the clinic to return the embryo to the Yorks. The court found that the language of the embryo disposition agreement expressly recognized the York's decisional authority and their ownership interest in the frozen embryo. Because the agreement did not prohibit inter-program transfer, the clinic was obligated to release the frozen embryo. The court's holding is problematic because even though the court decided that the Yorks retained decision-making authority in this case, the holding allows IVF clinics to limit disposition alternatives available to gamete providers by narrowing the language of their embryo disposition agreements. Thus, by the language of an embryo disposition agreement imposed by a clinic, IVF clinics may be able to exercise unfettered power to decide what is right and wrong, or what is good ethics.

 Shortly after the decision in York, one of the primary defendants in the case, Howard Jones, Jr., M.D., of the Howard and Georgeanna Jones Institute for Reproductive Medicine, wrote an editorial in which he asserted a number of medical reasons for prohibiting inter-program transfer of embryos. His primary emphasis was on the risk to the embryo. In Dr. Jones's view, an exception to the rule of prohibiting inter-program transfer of frozen embryos would occur when an IVF clinic discontinued its cryopreservation program. Dr. Jones states that in such a case “it would seem necessary to accept the additional medical risks involved in inter-program transfer.” Dr. Jones seems to infer that it would be “bad medicine” and “bad ethics” to transfer frozen embryos when such a transfer would satisfy

284. Id. at 425.
285. Id. at 426-27.
286. Id.
287. See Robertson, 76 VA. L. REV. at 463. Discussing the potential impact of the York holding upon the delivery of IVF services, Professor Robertson stated,

The court assumes without question that embryos are the property of the gamete providers, and finds that a transfer or relinquishment of their dispositional authority must be explicitly stated in the documents of participation provided by the program. It would strictly construe any documents purporting to effect such a transfer against the programs that drafted them. While a program could still insist that the embryos that it creates not be transferred to other locations, such a restriction would be binding only if it clearly stated that the couple would have no right to remove their embryos for placement elsewhere.

Robertson, 76 VA. L. REV. at 463.
288. Jones, 53 FERTILITY & STERILITY at 782-83. Dr. Jones asserts that inter-program transfers could expose the embryo to risk of harm due to differences in the freezing and thawing technique of the programs, difficulties in synchronizing embryo development and endometrial receptivity for purposes of implantation, and inadequate competence of the second program. Id.
289. See id.
290. See id. at 783.
291. Id.
the needs of the gamete providers, but "o.k. medicine" and "o.k. ethics" to transfer frozen embryos when such a transfer is done to satisfy the needs of a clinic.292

Other strong criticisms of the position that the clinic may assert an interest in the disposition of frozen embryos exist. Professor Robertson observed:

Dr. Jones seems unable to appreciate how the patient may have lost faith in one doctor and thus sought another, or preferred treatment close to home rather than flying to the opposite coast. One hopes that his refusal to release the embryo was not motivated by resentment at their choosing another doctor.293

Professor Robertson has also stated that enforcing a ban on inter-program transfers would prevent gamete providers from being able to change physicians, which may deter the willingness of couples to participate in IVF.294 Another view was expressed by Susan Carpenter, President of the Right to Life League of Southern California, who stated: "Howard Jones has no rights in this matter. . . . He’s playing God — in effect saying ‘I created this life, so I can decide what to do with it’. But he only provided the tools, not the material.”295

An IVF program does not have a substantial interest in monopolizing control of frozen embryos.296 The couple does have a substantial interest, however, in being able to relocate their frozen embryos to a different IVF program. The couple may desire the relocation of their embryos for economic reasons, if travel to the IVF center had become impracticable because the couple themselves had relocated, or for clinical reasons, if the couple wanted to change IVF programs due to prior unsuccessful transfer attempts by their current physician.297 If an IVF program prohibited inter-program transfer, the couple desiring to relocate their embryos may be prevented from continuing with the program, or may be prevented from utilizing a different program that may offer them a greater chance of success.298 Additionally, couples entering an IVF program are not likely to contemplate that they will later prefer to change physicians or programs, and may be willing to consent to a nontransfer agreement without being fully informed or aware of what their future interests

292. See id.
293. See Robertson, 76 VA. L. REV. at 463 n.67.
294. Robertson, 76 VA. L. REV. at 496 n.154.
296. Robertson, 76 VA. L. REV. at 496.
297. See Robertson, 76 VA. L. REV. at 463 n.67.
298. See id. at 496 n.154.
Comparing the interests of the IVF program and the couple, it seems preferable that IVF program policies, professional codes, and legislation be drafted to protect the couple's interest in being able to relocate their embryos to a different IVF program if they choose. Any restrictions on the decisional authority of the gamete providers over their frozen embryos will frustrate what inherently seems to be the primary purpose of both the reproductive technology providers and participants, which is to enable infertile couples to conceive a child through a quality program that offers the couple their best chance for success. Just as the rights of the gamete providers should be superior to those of in vitro embryos, the rights of the gamete providers should be superior to those of the IVF clinic. When a conflict arises between the interests of the gamete providers and the IVF clinic, the law must protect the rights and decision-making power of the gamete providers.

Dispute Between the Gamete Providers and the State — The Louisiana IVF Statute Revisited

The state may assert an interest in the protection of the in vitro embryo and the protection of the woman who must undergo the medical procedures. The scope of the state's authority to protect the embryo will depend upon the legal status of the embryo. One argument that favors a state asserting an interest in protecting in vitro embryos is the belief that embryos are entitled to the legal status of personhood. However, because states have traditionally not recognized embryos as persons, this argument is difficult to justify.

Professor Robertson asserts that the argument for protecting embryos by not permitting them to be discarded, over the competing interests of gamete providers who wish to avoid transfer to a uterus, is not persuasive. Laws prohibiting embryo discard would be more detrimental to persons seeking to avoid reproduction than they

299. Id.
300. Id.
301. See Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 74S.
302. See supra notes 101-88 and accompanying text.
303. See Robertson, 76 VA. L. REV. at 496. See also Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 60S. The Committee recommends that gamete providers retain the decisional authority to transfer their frozen embryos to another location. Id.
305. Id. at 366.
306. Id. at 361.
307. Id.
308. Robertson, 76 VA. L. REV. at 501.
would be beneficial to a state seeking to protect in vitro embryos.\textsuperscript{309} This is because such laws would take away the right of persons who have created in vitro embryos to subsequently choose not to reproduce with those embryos.\textsuperscript{310} While limiting the freedom of these individuals to avoid reproduction, the benefit to the state would be limited because of the low probability that the birth of a child would result from the transfer of in vitro embryos.\textsuperscript{311} This is partly due to the natural spontaneous abortion rate and partly to the increased risk of harm that in vitro embryos are exposed to in egg retrieval, fertilization, cryopreservation, and transfer.\textsuperscript{312}

This limited benefit would be at the expense of the individual right currently possessed by all persons in our society, absent extraordinary circumstances, to reproduce or not reproduce.\textsuperscript{313} Similarly, a policy of limiting the number of eggs that may be fertilized at a given time for the purpose of preventing the discard of extra embryos seems of little value to the state, and would result in a greater cost to persons seeking to achieve pregnancy through IVF.\textsuperscript{314} While such a policy allows society to avoid the difficult issue of embryo discard, it impedes the use of superovulation and cryopreservation technology to fertilize as many embryos as possible from a single surgical egg retrieval procedure, and thus increases the financial cost and medical risk to IVF participants.\textsuperscript{315}

If embryos are protected by the law as are persons, individuals seeking to reproduce through IVF will lose a substantial degree of autonomy regarding their reproductive decisions and choices.\textsuperscript{316} Such protection of embryos would result in the gamete providers not being allowed to terminate unwanted embryos, but rather being forced to bear the psychological burden of their embryos being anonymously donated, or the physical risk of having all embryos transferred and the possibility of a dangerous multiple gestation.\textsuperscript{317}

\begin{enumerate}
\item \textsuperscript{309} Id.
\item \textsuperscript{310} See id.
\item \textsuperscript{311} See supra notes 8-12, 86 and accompanying text.
\item \textsuperscript{312} See supra notes 97-99 and accompanying text.
\item \textsuperscript{313} See supra note 52 and accompanying text.
\item \textsuperscript{314} Robertson, 76 Va. L. Rev. at 501.
\item \textsuperscript{315} See supra note 171 and accompanying text.
\item \textsuperscript{316} See Andrews, 32 Loy. L. Rev. at 362 n.36. Lori Andrews asserts that persons seeking to reproduce through IVF may experience substantial psychological harm if in vitro embryos are granted the legal rights of personhood. Conferring legal rights upon in vitro embryos would enjoin a couple from choosing to terminate excess embryos, and thus would require that they either donate these excess embryos, or transfer them to the uterus of the female gamete provider and risk a dangerous multiple gestation. Andrews, 32 Loy. L. Rev. at 362 n.36. This view, of course, assumes that cryopreservation is not available to the couple, or that the conferral of legal rights upon in vitro embryos would prohibit cryopreservation.
\item \textsuperscript{317} Id.
\end{enumerate}
Theoretically, the only factor which distinguishes a woman in the early stages of pregnancy from a woman who has created in vitro embryos, but has not yet undergone the embryo transfer procedure, is the location of the embryo. The result of permitting destruction of an in vivo embryo, but not an in vitro embryo, where neither embryo is viable, is contradictory. With regard to achieving the best results with fertilization, destruction of extra embryos provides the means to the end. Because embryos do not possess legal rights, there can be no right in the embryo to be transferred to a uterus. The needs of the gamete providers to reproduce should not be compromised for the embryo.

A state which asserts an interest in the protection of in vitro embryos will probably prohibit embryo destruction, which will necessarily result in mandatory embryo transfer or donation. A state that mandates embryo transfer may also limit the length of time that embryos may be stored. If a gamete provider is not able to have all embryos transferred within this time period, they may be required to donate them. The most troubling problem of mandated embryo donation is that some gamete providers may suffer substantial emotional distress from the knowledge that another person may have borne a child with their embryo, and would rather dispose of their extra embryos. They may suffer from concern for the child's welfare, or from a psychological desire to have a personal relationship with their biologically related offspring.

Mandatory embryo donation, where the couple does not wish to donate, forces the couple to make reproductive choices that may cause them substantial future hardship. The couple may choose

319. Id.
321. See id.
322. See id.
323. See Andrews, 32 LOY. L. REV. at 362.
324. See Robertson, 76 VA. L. REV. at 494.
325. Fugger, Clinical Status of Human Embryo Cryopreservation in the United States of America, 52 FERTILITY & STERILITY 986, 988 (1989). The maximum reported time that an embryo has remained frozen and resulted in a successful pregnancy is 28 months. Id. For either economic reasons or the time required for human gestation, it may not be possible for a woman to accept transfer of all her frozen embryos within this time period. In such a case, a state mandating embryo implantation may require that the embryos be donated, even though the woman would otherwise desire implantation. See Robertson, 76 VA. L. REV. at 494.
327. See id.
328. See Andrews, 32 LOY. L. REV. at 405.
not to participate in IVF at all, and may therefore never achieve reproduction.\textsuperscript{329} The couple may concede to the donation of their embryos, and thus suffer the psychological burden of the possibility that their embryos may have produced biologically related children whom they will never know.\textsuperscript{330} The couple may also choose to transfer all embryos in order to avoid being forced to donate them, and thus incur a dangerous risk to the health of the female gamete provider and to the embryos if multiple implantation occurs.\textsuperscript{331}

The constitutional argument against a statutory prohibition of embryo destruction, and a statutory requirement of embryo donation, is the right of the gamete providers to avoid the burdens of unwanted biological parenthood.\textsuperscript{332} Such burdens can indeed be substantial.\textsuperscript{333} Mandated donation places upon gamete providers the burden of knowing that they may have a living genetically related child.\textsuperscript{334} It seems logical that the distinction between parental responsibility to embryos and to children is significant.\textsuperscript{335} Thus, while an individual person may be able to avoid the psychological burdens of parenthood by terminating embryos, that person may not be able to avoid these burdens with the knowledge that one or more of their embryos may have resulted in the birth of a child.\textsuperscript{336}

The embryo donation law of Louisiana is contradictory in comparison to the adoption procedures which the state has promulgated. While the embryo donation law purports to protect the embryo by allowing it the opportunity to be born, unlike the state’s adoptions laws it does not provide for protection of any resulting children after birth. A state has a legitimate compelling interest, and a legal responsibility, to protect children, and may enact embryo protection laws in order to protect the children who may be born from in vitro embryos.\textsuperscript{337} In Louisiana, donated embryos must be legally adopted by the donee parents, yet there is no evidence of a legislative awareness that these adoptive parents should be screened and approved by

\begin{itemize}
  \item \textsuperscript{329} Id.
  \item \textsuperscript{330} See id.
  \item \textsuperscript{331} Id.
  \item \textsuperscript{332} Robertson, Davis: An Unwarranted Conclusion, Hastings Center Rep., Nov.-Dec., 1989, at 10.
  \item \textsuperscript{333} Id.
  \item \textsuperscript{334} Poole, Allocation of Decision-Making Rights to Frozen Embryos, 4 Am. J. Fam. L. 67, 75 (1990).
  \item \textsuperscript{335} See Andrews, 32 Loy. L. Rev. at 405-06.
  \item \textsuperscript{336} See id.
  \item \textsuperscript{337} Andrews, 32 Loy. L. Rev. at 364. See also Lopez, Privacy and Regulation of the New Reproductive Technologies: A Decision-Making Approach, 22 Fam. L.Q. 173, 185 (1988). In the regulation of surrogate gestation and egg donation, a state may assert an interest in protecting the resulting children. Id.
\end{itemize}
the state as are persons who adopt children.\textsuperscript{338} While adoption laws exist to protect the interests of children already born, the same or similar protection should also be afforded to protect the interests of children who may be born from anonymously donated in vitro embryos.\textsuperscript{339} It seems entirely inconsistent that a state that would confer the legal rights of personhood upon in vitro embryos would allow these embryos to be adopted by persons deemed inappropriate by the state to adopt existing children.

A state also has a compelling interest in protecting the safety, health, and welfare of its citizens by insuring that IVF and embryo cryopreservation procedures are performed safely and proficiently.\textsuperscript{340} However, the state should avoid enacting legislation which would restrict the ability of persons to participate in these procedures or to control their reproductive choices.\textsuperscript{341} States should rely upon laws currently enacted to regulate the quality of hospitals and health care providers to insure the quality of IVF clinics.\textsuperscript{342} In determining what restrictions should be applied to protect the embryo, resulting children, or female gamete provider from harm, standards developed and adhered to by the medical profession will be probative, if not determinative.\textsuperscript{343} Historically, states have relied upon the medical profession to establish the standard of safe practice.\textsuperscript{344} Similarly, the

\textsuperscript{338} LA. REV. STAT. ANN. § 9:130 (West 1965 & Supp. 1990). The statute states in pertinent part: “Constructive fulfillment of the statutory provisions for adoption in this state shall occur when a married couple executes a notarial act of adoption of the in vitro fertilized ovum and birth occurs.” \textit{Id.} While the parents must adopt the embryo, there is no screening procedure to determine whether they would make suitable parents. The Louisiana adoption law, however, calls for an investigation to determine the “moral and financial fitness” of the potential parents, as well as the conditions of the home. \textit{LA. REV. STAT. ANN.} § 9:427 (West 1965 & Supp. 1991).

In a telephone interview with the administrator of one IVF clinic, it was found that recipients of donated embryos are not screened by the clinic, nor is the state interested in imposing screening requirements. After an initial visit with the physician, recipients are placed on a waiting list for either eggs or embryos. If neither natural parent wants custody of their embryo, custody passes by operation of law to the clinic, which selects the next recipient on the waiting list. Telephone interview with Susie White, Administrator of the Fertility Institute of New Orleans (Oct. 22, 1990) (summary available at Creighton Law Review office).


\textsuperscript{341} \textit{Id.}

\textsuperscript{342} See Ethics Committe of the AFS, 53 FERTILITY & STERILITY at 9S-12S.

\textsuperscript{343} Andrews, 32 LOY. L. REV. at 366.

\textsuperscript{344} \textit{Id.} at 365 n.45. The author observes, “states themselves have relied on the medical profession to establish the standards of safe practice. Physicians are accorded
United States Supreme Court has accorded great weight to the professional guidelines of medical associations, recognizing that the role of medical professionals in regulating medical practice is as important, if not more important, than that of the state.\footnote{345} Professional codes of ethics, such as the ethics report promulgated by the American Fertility Society, can be an effective tool for providing guidelines by which to protect and balance the interests of the parties involved in the reproductive technology process, and may also be an effective tool for minimizing the need for state regulation of IVF.\footnote{346} Additionally, as health insurance coverage for reproductive technology procedures increases, insurers will push for minimum standards of performance, which will effect an indirect regulatory constraint because the quality of services provided by particular clinics will then be subject to regular review by the insurers.\footnote{347}

Based on existing constitutional precedents, a state should not enact legislation which unfairly restricts the decision-making autonomy of the gamete providers to determine the disposition of their frozen embryos.\footnote{348} Absent the state's compelling interest in protecting resulting children from abuse or neglect from adoptive embryo donors, and in insuring that the services provided are safe, disputes between the gamete providers and the state should be resolved in favor of the gamete providers.\footnote{349} Likewise, the state should not enact laws which restrict the autonomy of gamete providers where existing laws will accomplish its objectives.\footnote{350} The state's compelling interests can be protected by adoption laws and health care provider licensure laws. Therefore, new reproductive technology laws are unjustified and duplicative if unduly restrictive upon the decisional autonomy of

\footnote{345. Id. at 365. In City of Akron v. Akron Center for Reproductive Health, 462 U.S. 416 (1983), the Supreme Court considered guidelines of the American Public Health Association and the American College of Obstetricians and Gynecologists, which asserted that certain second trimester abortions could be performed in outpatient facilities, to be probative in determining the reasonableness of the City’s regulation requiring all second semester abortions be performed in a hospital. Id. at 436.}

\footnote{346. Robertson, 76 VA. L. REV. at 471 n.84.}

\footnote{347. Ryan, Ethical Issues in Reproductive Endocrinology and Infertility, 160 AM. J. OBSTETRICS & GYNECOLOGY 1415, 1415 (1989). See also Helitzer, States Mandating Coverage of In-Vitro Fertilization, 2 BENEFITS L.J. 529, 533-35 (1989/90). Maryland was the first state to mandate coverage of IVF, requiring such coverage since 1985. Since then Hawaii, Arkansas, Massachusetts, Rhode Island, Texas and Connecticut have mandated insurance coverage of IVF. Id.}

\footnote{348. See supra note 51 and accompanying text. See also Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 7S.}

\footnote{349. See supra notes 359-66 and accompanying text.}

\footnote{350. See supra notes 365-71 and accompanying text.}
the gamete providers.351

JUDICIAL AND LEGISLATIVE CONSISTENCY AFFECTING CONTROL

In order to have control over one's reproductive choices, one must know with a reasonable degree of legal certainty the rights and liabilities which attach to particular outcomes.352 For persons able to reproduce naturally, the constitutional right to bear and raise a family has been clearly established.353 Persons who reproduce through noncoital techniques, however, do not presently possess this level of certainty.354 The difficulty of their situation is compounded by the fact that the courts have apparently embarked upon a path of inconsistency in allocating burdens, and determining the rights and liabilities which attach to noncoital reproduction.355 Dr. Howard Jones has said that "if existing laws made at other times to fit other situations do not apply to the fruits of contemporary biology, such laws must not be convoluted to fit an entirely new situation."356 Dr. Jones cited the two key IVF cases of Davis v. Davis357 and York v. Jones,358 observing that even though the same biology was involved, the courts reached completely different results.359

Noting this same concern of judicial inconsistency regarding resolution of reproductive technology disputes, Lori Andrews has stated that "key decisions are being left to the whim of individual judges. . . . They are forced to apply laws clearly not intended for these unprecedented reproductive options'."360 Because the bodies of tort, contract, family, and property law presently applied to resolve issues of reproductive technology were not designed with these technologies in mind, doubts and confusion abound regarding the legal effects of such technology, and therefore the use of such technology is presently not facilitated by the law.361 This legal uncertainty sur-

351. See supra notes 359-71 and accompanying text.
353. See supra notes 50-52 and accompanying text.
356. Id. at 780.
361. Robertson, Procreative Liberty and the Control of Conception, Pregnancy, and
rounding the rights and duties of persons who participate in noncoital reproduction is likely to deter some people from taking advantage of reproductive possibilities which the technology would otherwise make available to them.\textsuperscript{362}

An interdisciplinary group of experts in the field of reproductive technology has determined that consistent policies governing reproductive technology must be developed, and that this policy assessment should begin with a comprehensive evaluation of all laws and services affecting reproductive choices, instead of the piecemeal reactionary laws which have evolved.\textsuperscript{363} The political volatility which is inherent in the issues of reproductive technology explains the delay in legislative attention to develop workable solutions.\textsuperscript{364} However, the increasing utilization and success of these technologies will make it increasingly difficult for legislators or judges to continue to avoid the issue.\textsuperscript{365} The law must be consistently applied so as to protect the interests of reproductive technology participants, and the least restrictive means must be applied in order to preserve their constitutional right of procreation.\textsuperscript{366}

As the use of IVF and embryo cryopreservation becomes more widespread, judges and legislators will be compelled to address and resolve the following issues: (1) whether embryo disposition agreements will be enforceable; (2) the extent to which such agreements can be modified by the gamete providers; (3) how disputes over frozen embryos will be resolved between the gamete providers in the absence of an embryo disposition agreement; and (4) the conditions which IVF clinics may impose upon gamete providers without interfering with the reproductive choices exercised by the gamete providers. The best method of policy development is to allow the parties to


\textsuperscript{362} Robertson, 69 VA. L. REV. at 426 n.60.

\textsuperscript{363} Sherman, \textit{Comprehensive Approach Urged on Reproduction}, NAT'L L.J., Aug. 8, 1989, at 3, col. 1, 52, col. 1. The interdisciplinary group was under the direction of Nadine Taub, professor of law and director of the Women's Rights Litigation Clinic at Rutgers University School of Law. \textit{Id.} at 3, col. 1.


\textsuperscript{365} \textit{Id.} at 509-10.


\begin{quote}
The reasons for protecting child bearing decisions justify protecting decisions to use alternative reproduction. Consequently, state actions that restrict, prohibit, or mandate alternative reproduction will be subject to a strict standard of review. State actions that infringe that right will be justified only if they further a compelling state interest in the least restrictive manner possible. Andrews, 32 LOY. L. REV. at 361.
\end{quote}
determine their reproductive choices by contract, and to hold them accountable for their promises so that the rights and liabilities which attach to their reproductive choices are both predictable and controllable.

**Embryo Disposition Agreement**

Embryo disposition agreements are contracts between the gamete providers and the clinic in which the gamete providers designate what the disposition of their frozen embryos will be if certain contingencies occur which alter the original intent of the gamete providers to transfer their embryos. The embryo disposition agreement, which should normally be executed prior to the creation and cryopreservation of in vitro embryos, should become operative and binding once the couple's gametes have been fertilized and embryos created. The function of the embryo disposition agreement is to allow the gamete providers to specify in advance their wishes for resolving a dispute over the disposition of their frozen embryos which may arise at some future date.

The opinions of the courts in Davis and York indicated that the existence of an embryo disposition agreement may be probative of the rights of the disputing parties. In Davis, the court deemed it a material fact that the parties had not executed such an agreement, thus implying that had an embryo disposition agreement existed, the court would not have had to determine the rights of the parties. In York, the court strictly construed an embryo disposition agreement against the clinic, and stated that an agreement more narrowly written in favor of the clinic could have limited the right of the gamete providers to relocate their frozen embryo to a different clinic. However, even though the decisions of Davis and York held that the presence or absence of an embryo disposition agreement is material, and may be probative in determining the original intent of the parties, other key questions remain unanswered: (1) whether such agreements will be subject to modification; (2) whether the court will enforce a contract governing one's reproductive materials, particularly in light of the unenforceability of adoption and abortion agreements; (3) whether equal bargaining power between the parties can truly exist, or would unenforceable adhesion contracts result; and (4) in the absence of a written embryo disposition agreement,

---

367. Ethics Committee of the AFS, 53 Fertility & Sterility at 60S; Jones, 53 Fertility & Sterility at 782.
368. See Ethics Committee of the AFS, 53 Fertility & Sterility at 60S.
369. See Jones, 53 Fertility & Sterility at 782.
whether the court will find a verbal or implied contract, and if so if
the presumption will be to transfer or to destroy the frozen
embryos.\textsuperscript{372}

Once embryos have been created, it is important that advance
embryo disposition instructions be binding in order to avoid and re-
solve embryo disposition disputes, and to enable gamete providers
and IVF clinics to know with reasonable certainty what embryo dis-
position will be if certain contingencies occur.\textsuperscript{373} There are three pri-
mary justifications for enforcement of embryo disposition
agreements. First, certainty regarding the consequences of affirma-
tive conduct and representations is necessary to enable parties who
participate in IVF and embryo cryopreservation to freely exercise
their reproductive choices.\textsuperscript{374} This need for certainty is greater than
the interest asserted by a party who has changed their mind, and now
wishes a different form of embryo disposition than originally indi-
cated.\textsuperscript{375} Second, parties must be able to rely on prior instructions
when contingencies occur.\textsuperscript{376} Agreeing to a particular form of em-
bryo disposition may have been a material condition upon which the
other party relied in choosing to provide his or her gametes for the
creation of embryos, and therefore the agreed upon condition should
be binding.\textsuperscript{377} Third, binding advance instructions regarding embryo
disposition will minimize the frequency and expense of dispute
resolution.\textsuperscript{378}

Gamete providers who create and freeze embryos through IVF
rely upon the promises of each other, and these promises should be enforceable.\textsuperscript{379} Although it is considered against public policy to en-
force abortion and adoption agreements, this is distinguishable from
agreements to create IVF embryos for the purpose of achieving re-
production.\textsuperscript{380} Such agreements implicate an intrusion upon the wo-
man's bodily integrity, and the courts will not enforce an abortion or
adoption agreement made by a woman prior to the occurrence of the
contingency upon which the agreement is founded.\textsuperscript{381} Conversely,

\textsuperscript{372} See Robertson, \textit{Resolving Disputes Over Frozen Embryos}, HASTINGS CENTER
\textsuperscript{373} Robertson, 76 VA. L. REV. at 463.
\textsuperscript{374} Id. at 464.
\textsuperscript{375} Id. at 468-69.
\textsuperscript{376} Id. at 464.
\textsuperscript{377} Id. at 466.
\textsuperscript{378} Id. at 464-65.
\textsuperscript{379} See id. at 467.
\textsuperscript{380} Id. at 466-67.
\textsuperscript{381} See \textit{In the Matter of} Baby M, 109 N.J. 396, —, 537 A.2d 1227, 1248 (1988). Dis-
}
IVF does not result in a bodily intrusion upon the woman until embryo transfer, and decisional authority over embryo disposition should be shared equally by the gamete providers. Therefore, the promise to reproduce may not be avoided by the woman on the assertion of a right to be free from bodily intrusion because this right is not implicated prior to embryo transfer.

If the promise between the parties was to use the embryos to achieve reproduction, the promise should not be avoided on the assertion of a right to choose not to reproduce. When the dispute is between the parties, it should be recognized that the opportunity to exercise one's fundamental right to avoid reproduction arose prior to creation of in vitro embryos. This is because prior to the creation of in vitro embryos, each gamete provider has ample time in which to assess the benefits and detriments that will attach to their promise to reproduce, and also has a duty to consider contingencies which may alter their desire to achieve reproduction. Additionally, the creation of in vitro embryos involves substantial expense, time, medical risk and emotional stress. Thus, when a gamete provider breaches his or her promise to transfer embryos, the gamete provider who desires to achieve reproduction may be economically or psychologically unable to create new embryos. In order to achieve their objective of reproduction, the gamete providers must rely upon each other to faithfully execute their promise to transfer embryos.

totally voluntary, informed decision, for quite clearly any decision prior to the baby's birth is, in the most important sense, uninformed, and any decision after that, compelled by a pre-existing contractual commitment, the threat of a lawsuit, and the inducement of a $10,000 payment, is less than totally voluntary.

Id.

Distinguishing between surrogacy and adoption contracts, the court noted that private adoption contracts are revocable, and therefore not against public policy:

[The mother's consent to surrender her child in adoptions is revocable, even after surrender of the child, unless it be to an approved agency, where by regulation there are protections against an ill-advised surrender. In surrogacy, consent occurs so early that no amount of advice would satisfy the potential mother's need, yet the consent is irrevocable.

Id.

An agreement by a woman to abort or not abort a fetus, made prior to conception, would similarly not be enforceable, because of a presumption that prior to the actual experience of pregnancy or childbirth a fully informed decision cannot be made, and therefore such agreements should be revocable by the woman. See id.

382. See Andrews, 32 Loy. L. Rev. at 406-07.
383. See id.
385. See id.
386. See id.
387. See supra notes 246-54 and accompanying text.
388. See supra notes 246-54 and accompanying text.
389. See Robertson, 76 VA. L. Rev. at 467.
Therefore, once in vitro embryos have been created, and the gamete providers have expressly agreed that their embryos will be used to reproduce, the gamete providers should not be allowed to unilaterally revoke the promise to transfer embryos.

When one desires to achieve reproduction through IVF, monetary damages will not remedy a breach by the other party. While monetary damages may compensate a party for lost time and expense, the objective is embryo transfer, and this objective can only be achieved by specifically enforcing the agreement to reproduce. Additionally, if one believes that the human embryo is entitled to the special respect asserted by the American Fertility Society, it would not be an appropriate remedy to require the party desiring reproduction to create new embryos. A recognition that human embryos are entitled to special respect because of their potentiality for humanness should mean that we as a society should not be irresponsible in the creation of human embryos.

An IVF participant should be responsible in making their decision to create embryos, and should also realize the effect of this decision upon the other gamete provider. Many gamete providers develop an emotional attachment to embryos created with their gametes, and would suffer psychological harm if required to destroy existing embryos because their partner no longer desired parenthood.

Enforcing an agreement to transfer embryos does not mean that in vitro embryos are entitled to the legal rights of personhood, but rather that gamete providers are entitled to assurances that their obst

---

390. See Restatement (Second) of Contracts § 360 comment c (1981). The comment states in pertinent part:

If the injured party can readily procure by the use of money a suitable substitute for the promised performance, the damage remedy is ordinarily adequate. . . . There are many situations, however, in which no suitable substitute is obtainable, and others in which its procurement would be unreasonably difficult or inconvenient or would impose serious financial burdens or risks on the injured party. . . . If goods are unique in kind, quality or personal association, the purchase of an equivalent elsewhere may be impracticable, and the buyer's "inability to cover is strong evidence" of the propriety of granting specific performance.

Id.

391. See id.

392. See supra notes 109-13 and accompanying text.

393. See supra notes 109-13, 418-19 and accompanying text.

394. See Poole, Allocation of Decision-Making Rights to Frozen Embryos, 4 Am. J. Fam. L. 67, 74-75 (1990). The author asserts that gamete providers may develop an emotional attachment to their in vitro embryos, and may experience adverse psychological consequences if mandatory embryo donation laws require them to relinquish decisional authority over their embryos against their will. Id. It follows from this analogy that gamete providers who become emotionally attached to their embryos will also experience adverse psychological consequences if required to terminate their embryos against their will. See id.
jective of achieving reproduction will be legally enforceable.\textsuperscript{395}

Another important issue of enforcing embryo disposition agreements against the gamete providers is whether these agreements should be subject to modification. It is possible that a couple, after creating and freezing in vitro embryos, may wish to modify the form of embryo disposition they originally indicated because their circumstances may have changed, or perhaps they have developed an increased awareness of their needs.\textsuperscript{396} Embryo disposition agreements should be binding between the gamete providers in order to facilitate a predictable resolution in the event of a dispute between them.\textsuperscript{397} Embryo disposition agreements should also be binding between the IVF clinic and the gamete providers in order to facilitate enforcement of the clinic’s institutional policies regarding embryo disposition and cryopreservation.\textsuperscript{398} The American Fertility Society has adopted the position that couples should be able to reserve the right to jointly modify their disposition instructions if a contingency has not yet occurred, but that the instructions should be binding upon the gamete providers once a contingency has occurred.\textsuperscript{399}

Similarly, Dr. Howard Jones believes that IVF clinics should require gamete providers to execute embryo disposition agreements in order to provide certainty with regard to embryo disposition if an unexpected contingency occurs.\textsuperscript{400} Dr. Jones states, “It would seem reasonable to be able to amend this agreement from time to time before it becomes operational, with the approval of all parties.”\textsuperscript{401} An embryo disposition agreement would become operational upon the occurrence of an event which altered the original intent of the gamete providers to use their frozen embryos to reproduce.\textsuperscript{402} Therefore, there is strong support in the reproductive technology community that embryo disposition agreements should be binding against the parties, yet also be subject to modification by the gamete providers prior to the occurrence of an unexpected event.

Such a policy of allowing the parties to modify their embryo disposition agreement before the occurrence of a contingency, and enforcing the terms of the agreement once a contingency has occurred, provides an effective and predictable means of dispute resolution if the gamete providers disagree with each other, or if they wish to take

\textsuperscript{395} See supra notes 411-17 and accompanying text.
\textsuperscript{396} Robertson, 19 HASTINGS CENTER REP., Nov.-Dec., 1989, at 11.
\textsuperscript{397} Id. at 11-12.
\textsuperscript{398} Id. at 12.
\textsuperscript{399} Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 60S.
\textsuperscript{400} Jones, 53 FERTILITY & STERILITY at 782.
\textsuperscript{401} Id.
\textsuperscript{402} See Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 60S.
actions with their frozen embryos which are in violation of the institutional policies of the IVF clinic.\textsuperscript{403} However, such a policy seems too restrictive of the gamete providers' decision-making authority over the disposition of their frozen embryos if, after the occurrence of a contingency, the gamete providers are in agreement with each other, and the desired modification is within the limits of institutional policies. If parties to a contract wish to modify the terms of their contract, they are legally entitled to do so as long as the modified terms are jointly agreed upon.\textsuperscript{404} Additionally, the power to modify the terms of a contract should not be limited by whether a contingency has occurred or not.\textsuperscript{405}

As long as the now-preferred form of embryo disposition does not exceed what is available through institutional policies, the gamete providers who are in agreement with each other should be able to modify the terms of their embryo disposition agreement at any time.\textsuperscript{406} For example, suppose that a couple had indicated in their original embryo disposition agreement that upon the occurrence of a contingency they wished their frozen embryos to be anonymously donated, but upon divorce the couple preferred that their frozen embryos be discarded. If the IVF clinic made embryo discard available as a disposition alternative, and therefore the couple could have selected this option before they divorced, either when they originally executed the embryo disposition agreement or by subsequent modification, it seems reasonable that they should also be able to select this form of disposition after the divorce.\textsuperscript{407} In such a case, it does not seem that a significant public policy would be served by requiring the couple to anonymously donate their embryos, and the blanket rule of "modification before, but not after" would be too restrictive of the couple's ability to control their reproductive choices.\textsuperscript{408}

A policy allowing the gamete providers to modify their embryo disposition agreements at any time, as long as they are in agreement with each other, is the most equitable and provides the most autonomy in controlling reproductive choices.\textsuperscript{409} Because neither the clinic

\textsuperscript{404} 17A C.J.S. Contracts § 373 (1963). "Parties to an unperformed contract may by mutual consent, modify it by altering, excising, or adding additional provisions, regardless of self-imposed limitations, since the power to modify or alter cannot be controlled or fettered by any stipulation to the contrary in the original contract." \textit{Id}.
\textsuperscript{405} See \textit{id}.
\textsuperscript{406} See Ethics Committee of the AFS, 53 Fertility & Sterility at 36S. This view seems consistent with the Committee's conclusion that the gamete providers should, within institutional guidelines, retain the primary decision-making authority over their in vitro embryos.
\textsuperscript{407} See \textit{id}.
\textsuperscript{408} See generally supra notes 173-88, 326-75 and accompanying text.
\textsuperscript{409} See supra notes 436-37 and accompanying text.
nor the state should have a compelling interest in the disposition of frozen embryos, the ability of the gamete providers to modify their dispositional instructions should not be limited by the occurrence of a contingency.\textsuperscript{410} If the gamete providers disagree as to the form of disposition, however, modification cannot occur, and the terms of the embryo disposition agreement should be enforced against the gamete providers.\textsuperscript{411}

**Implied Agreement to Reproduce**

In the absence of an embryo disposition agreement, an implied agreement to reproduce should bind the gamete providers.\textsuperscript{412} An implied agreement to reproduce arises from the affirmative conduct and representations of the parties by creating embryos, which indicates an intent to reproduce with those embryos.\textsuperscript{413} When a couple enters an IVF program for the purpose of reproducing, and creates embryos in order to achieve this purpose, it is reasonable for the parties to rely upon each other to use their in vitro embryos for this purpose.\textsuperscript{414} This is because the existence of a mutual objective to achieve reproduction may have been the sole reason that a person provided gametes for the creation of embryos.\textsuperscript{415} Absent express or implied assurances from the other gamete provider that resulting embryos would be used to achieve reproduction, a person may have chosen to not provide the gametes to create embryos, thereby avoiding the risk that the objective of reproduction could be frustrated by a refusal of the other gamete provider to transfer the embryos to a uterus.\textsuperscript{416}

Where one gamete provider desires parenthood, that party should prevail because of reliance upon the other's promise.\textsuperscript{417} The party who now wishes to avoid parenthood had the opportunity to do

\begin{itemize}
\item \textsuperscript{410} See supra notes 317-25, 330-37 and accompanying text.
\item \textsuperscript{411} See supra notes 427, 436 and accompanying text.
\item \textsuperscript{412} See Curriden, 75 A.B.A.J., Aug. 1989, at 71.
\item \textsuperscript{413} See supra notes 205-06 and accompanying text.
\item \textsuperscript{414} See supra notes 205-06 and accompanying text.
\item \textsuperscript{415} See Robertson, 76 VA. L. REV. at 466. The author asserts that an embryo disposition agreement providing that all of a couple's in vitro embryos will be transferred to the uterus of the female gamete provider in the event of a disagreement or other contingency should be enforceable against the gamete provider seeking to avoid the agreement and have the embryos terminated. The author justifies this solution on the basis that the agreement to transfer the embryos to the female gamete provider's uterus may have been a material condition upon which the party who seeks to enforce the agreement relied in choosing to provide gametes for the creation of in vitro embryos. Robertson, 76 VA. L. REV. at 466. However even in the absence of an embryo disposition agreement, gamete providers may provide gametes for the creation of in vitro embryos on the implied condition that their embryos will be used for reproduction.
\item \textsuperscript{416} See id.
\item \textsuperscript{417} See Curriden, 75 A.B.A.J., Aug. 1989, at 71.
\end{itemize}
so by not participating in the creation of embryos. Recognition of a person's right to avoid parenthood as being superior to that of achieving parenthood, after embryos have been created, results in unequal control between the gamete providers over their reproductive choices. Such a recognition effectively gives the party wishing to avoid parenthood unilateral control and the opportunity to assert their right both before and after creation of human embryos. This is because the gamete provider is empowered to choose whether or not to provide gametes for the creation of embryos, and is also empowered to avoid parenthood after the embryos have been created by unilaterally vetoing transfer of the embryos.

While this allows both parties the same opportunity to choose whether to provide gametes for the creation of embryos, it does not allow both parties the same opportunity to choose whether the embryos will be transferred and gestated. Because the party wishing to avoid parenthood is allowed to determine the ultimate disposition of the parties' embryos, over the objection of the party wishing to achieve reproduction, the autonomy and control which the parties may exercise over their reproductive choices is unequal. Unless an implied promise to reproduce is enforced, the party wishing to achieve reproduction is at the mercy and whim of the other. Therefore, the most equitable solution is to enforce an implied contract to reproduce based upon the reliance doctrine.

Reliance is increasingly being applied to enforce contractual agreements. The reliance theory of contract enforcement is based upon the reasonable expectations which flow from a promise, and the resulting reliance by a promisee that those expectations will be fulfilled. Lori Andrews asserts that when the gamete providers disagree over the disposition of their frozen embryos, in which case one gamete provider wishes to have the embryos transferred to a uterus in order to achieve parenthood and the other wishes to terminate the embryos in order to avoid parenthood, the party wishing to transfer the embryos should be allowed to do so. While the justification provided by Andrews is that the male and female gamete providers should have equal decision-making authority over their reproductive

418. See Robertson, 76 VA. L. REV. at 466.
420. See Davis, 1990 Tenn. App. LEXIS 642, at 5. In Davis, Mr. Davis argued that he no longer wanted to accept the responsibilities of parenthood, and that the court should not force these responsibilities upon him over his objections. Id.
421. See id.
choices when the embryo is still in vitro, it seems a reasonable inference that reliance upon the promise of the other to attempt reproduction with the embryos would be the underlying reason for favoring embryo transfer.\(^4\)

Professor Robertson asserts that in the absence of an embryo disposition agreement, and so long as the person wishing to achieve parenthood has a reasonable opportunity to do so by creating other embryos, the person wishing to avoid parenthood should be allowed to veto embryo transfer.\(^4\) Robertson justifies this solution to embryo disposition disputes on the basis that if reproduction can be achieved through other means, the burdens of unwanted parenthood are greater than the burdens of wanted parenthood, and that if an embryo disposition agreement has not been executed the creation of embryos should not be considered an irrevocable commitment to reproduce due to the possibility that a person's wishes may change during the time lapse between embryo creation and embryo transfer.\(^4\) Robertson also asserts that if the parties have indicated in writing that the gamete provider wishing to achieve parenthood will be allowed to transfer the embryos in the event of a dispute between the gamete providers, this agreement should be binding.\(^4\) He asserts that the justification for allowing embryo transfer in this case is that the embryo disposition agreement is evidence of a commitment by each gamete provider to reproduce with the embryos, and that the gamete providers relied upon that commitment.\(^4\) Thus, this view asserts that the creation of embryos should be an irrevocable commitment to reproduce if the gamete providers have executed an embryo disposition agreement because of the reliance upon the agreement by the gamete provider wishing to achieve parenthood, but creation of embryos should not be an irrevocable commitment to reproduce if the gamete providers have failed to execute an embryo disposition agreement.\(^4\)

It seems inconsistent that Professor Robertson would recognize an irrevocable commitment to reproduce when the parties have executed an embryo disposition agreement, but not when they have failed to execute such an agreement. A contract is not created by the writing, but rather by the promise which gave rise to the writing.\(^4\) Reliance may be applied to enforce a contract implied in fact, as well

\(^4\) See id.
\(^4\) Robertson, 76 VA. L. REV. at 475.
\(^4\) Id. at 475, 480.
\(^4\) Id. at 467.
\(^4\) Id.
\(^4\) Id.
\(^4\) J. CALAMARI & J. PERILLO, supra note 459, at 3.
as a written and express agreement. The affirmative conduct of creating embryos can be seen to result in an implied contract to reproduce. It is reasonable to recognize that a commitment to reproduce through IVF, whether it is implied or written, arises once the embryos have been created, because the creation of embryos requires affirmative conduct by each gamete provider, which in turn creates foreseeable reliance by the other that embryos created will be used to achieve reproduction.

The application of a reliance-based theory of contract enforcement would result in embryo disposition disputes between gamete providers being resolved in favor of the party seeking to enforce the implied agreement to reproduce. The gamete providers manifested their intent to reproduce by the creation of embryos. This objective manifestation provides the basis by which the gamete providers can rely upon each other to be bound by their commitment to reproduce. Because a reliance-based theory of contract enforcement holds persons accountable for their affirmative conduct, the person with whom they contract should be able to rely, with reasonable certainty, upon the purpose of the contract being fulfilled.

Reproduction is an individual right, which one should not be deprived of without their consent. The sanctity of this individual right can become somewhat obscured with the creation of in vitro embryos, if before the embryos are transferred to a uterus, a change in circumstances occurs which causes one or both of the parties to decide that they no longer wish reproduction to occur. Protection of this individual right by enforcing an implied agreement to reproduce

433. See supra note 204 and accompanying text.
434. See supra notes 205-06 and accompanying text.
435. See Barnett, 86 COLUM. L. REV. at 274.
436. See supra note 471 and accompanying text.
438. Id. at 274.
439. See supra note 51 and accompanying text.
440. See Robertson, 76 VA. L. REV. at 475. The author notes that when an in vitro embryo has been created for the purpose of achieving reproduction, a number of additional steps and decisions must occur before a pregnancy actually occurs. During the time lapse between creation of in vitro embryos and transfer of those embryos to the female gamete provider's uterus, a variety of contingencies may occur which change the original intent of one or both of the gamete providers to achieve reproduction. Robertson expresses his own opinion that in the absence of an embryo disposition agreement, the creation of in vitro embryos should not be deemed an irrevocable commitment to reproduce because of these contingencies which may alter the original intent of the parties. Robertson, 76 VA. L. REV. at 475. While this view is in conflict with the premise of this Comment, which is that unless otherwise specified the creation of in vitro embryos should be an irrevocable commitment to reproduce, the complexities raised by the existence of in vitro embryos is reflective of the societal conflicts which have arisen in regard to the relationship between procreative liberties and the use of IVF technology to exercise these liberties.
through in vitro embryos, based upon the parties' reliance upon the affirmative conduct in creating embryos, seems the most equitable form of resolving frozen embryo disputes in the absence of an embryo disposition agreement. Even if the gamete providers' original intent in creating in vitro embryos was that the relationship would remain intact and that they would rear any resulting children together, the reliance interest is so compelling that the party wishing to achieve reproduction should be allowed to use the in vitro embryos to reproduce, even if the condition upon which the parties' original intent was based has ceased to exist.441

Dangers of Adhesion

Unequal bargaining power may exist between the gamete providers and the IVF clinic in that IVF participants are frequently in a fragile emotional state due to their extensive and frustrated attempts to achieve reproduction, do not possess the same level of expertise as the provider, and are limited in their ability to choose among providers due to geographical restrictions and the limited number of IVF clinics.442 These inequities between IVF participants and clinics give rise to the possibility that the embryo disposition agreements offered by IVF clinics may constitute contracts of adhesion. One disadvantage of embryo disposition agreements is that IVF programs and embryo banks may have such a monopoly power that the conditions they offer may give couples little real choice in embryo disposition alternatives.443 IVF clinics retain the power to determine their institutional policies because they are private institutions.444 Therefore, a clinic that is morally opposed to embryo destruction has no obligation to make this option available to the gamete providers.445 The assumption is that if the gamete providers wish to exercise this option, they may choose another clinic.446 However, geographic constraints

441. Curriden, 75 A.B.A.J., Aug. 1989, at 71. In an interview concerning whether or not the creation of in vitro embryos should be considered an implied agreement to reproduce, and thus enforceable against the party now seeking to avoid reproduction, Charles Clifford, the attorney for Junior Davis, stated, "If there was an implied contract, there was an implied condition that the marriage stay intact and together they would raise the children." Yet J.G. Christenberry, the attorney for Mary Sue Davis, stated, "When he consented to giving the sperm and paying for the medical costs, I think we have some kind of consensual basis her. It's a little late in the day for him to withdraw support." Id.

442. See Robertson, 76 VA. L. Rev. at 517.

443. Robertson, 76 VA. L. Rev. at 465.

444. Id. at 470-71. See also Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 36S. The Committee recognizes, and seemingly condones, that IVF clinics may limit the decisional authority of gamete providers to determine the disposition of their in vitro embryos by institutional policies. Id.


446. See id.
IN VITRO FERTILIZATION

and similarity of professional and moral values within a particular area severely limit this alternative.\textsuperscript{447}

Whether an agreement is knowing, intelligent and voluntary is a fundamental matter to be determined by what information was presented, the gamete providers' emotional condition and level of understanding, the disposition alternatives which were made available to the couple, and whether the clinic exercised any pressure or inducement upon the gamete providers to make a particular dispositional choice.\textsuperscript{448} While the recognition that many IVF participants may be at a disadvantage in negotiating with IVF clinics because of their strong desire to achieve parenthood and decreased level of technical expertise does not necessarily give rise to the presumption that all agreements proffered by the IVF clinic will be adhesion contracts, the risk and opportunity are nevertheless present.\textsuperscript{449} The American Fertility Society asserts that while it believes that the decision-making authority possessed by gamete providers may be limited by institutional policies, IVF providers should avoid development of policies that result in coercion.\textsuperscript{450}

The holding of York opened the door for such adhesion contracts.\textsuperscript{451} The court implied that if the language of the embryo disposition agreement had been more restrictive, the decision would probably have been in favor of the Jones Institute.\textsuperscript{452} Therefore, any provider wishing to assert more control over the disposition of embryos, for whatever reason, may accomplish this through the language of its embryo disposition agreement.\textsuperscript{453} Such contracts should not be enforceable due to the inherent lack of bargaining power possessed by the gamete providers.\textsuperscript{454} In such cases the courts should declare the agreement unconscionable and void, and should resolve the dispute so as to reinstate the ability of the gamete providers to control their reproductive choices.


\textsuperscript{448} Robertson, 76 VA. L. REV. at 470.

\textsuperscript{449} See id.

\textsuperscript{450} Ethics Committee of the AFS, 53 FERTILITY & STERILITY at 365.

\textsuperscript{451} See York v. Jones, 717 F. Supp. at 427. The court found it significant that, "The Agreement does not state that the attempt to initiate a pregnancy is restricted to procedures employed at the Jones Institute." Id.

\textsuperscript{452} See supra notes 306-07 and accompanying text.

\textsuperscript{453} See supra notes 306-07 and accompanying text.

\textsuperscript{454} See RESTATEMENT (SECOND) OF CONTRACTS § 208 comment d (1979). Inequality of bargaining power exists when terms of the contract unreasonably favor the stronger party. Evidence of such inequality are terms which show that the weaker party had no meaningful choice, no real alternative, or did not in fact assent or appear to assent to the unfair terms. Id.
CONCLUSION

The technologies of IVF and embryo cryopreservation expand the reproductive choices available to infertile couples. However, these couples are at risk of having their reproductive choices unfairly restricted by an undifferentiated fear that "something bad" - such as actions that may be deemed immoral or harmful to human life - might happen. In fact, "something good" has happened. The reproductive technologies have enabled many infertile couples to achieve a family, and as a result thousands of healthy children have been born.

In order to protect the options made available by these technologies, gamete providers must retain autonomy over their reproductive choices, and must be the primary decision-makers regarding disposition of their frozen embryos. The fact that a couple has created and frozen embryos does not entitle them to less dispositional control over those embryos than they would be entitled to exercise over embryos conceived naturally.

When couples choose to enter an IVF program and provide the genetic material for the creation of embryos, they have made a promise to help each other achieve parenthood. Absent an agreement providing otherwise, that promise should be revocable only until the embryos are created. A dispute between the gamete providers over whether or not the embryos are to be transferred, which arises after creation of embryos, should be resolved in favor of the party seeking transfer. If an embryo disposition agreement has been executed, however, the terms of the agreement should determine the resolution of the dispute. Gamete providers should reserve the right to jointly modify the disposition alternatives selected. Modification of the agreement must be a joint decision of the gamete providers, and may be executed either before or after a particular contingency occurs. Because the gamete providers control embryo disposition, equity is not achieved if they are prevented from modifying their


456. Medical Research International et al., In Vitro Fertilization-Embryo Transfer (IVF-ET) in the United States: 1989 Results from the IVF-ET Registry, 55 FERTILITY & STERILITY 14, 16 (1991); Medical Research International et al., In Vitro Fertilization-Embryo Transfer (IVF-ET) in the United States: 1988 Results from the IVF-ET Registry, 53 FERTILITY & STERILITY 13, 15 (1990); Medical Research International et al., In Vitro Fertilization-Embryo Transfer (IVF-ET) in the United States: 1987 Results from the IVF-ET Registry, 51 FERTILITY & STERILITY 13, 14 (1989); Medical Research International et al., In Vitro Fertilization-Embryo Transfer (IVF-ET) in the United States: 1985 and 1986 Results from the IVF-ET Registry, 49 FERTILITY & STERILITY 212, 214 (1988). Since 1985, the IVF-ET Registry, which is maintained by the American Fertility Society, has recorded 5320 IVF live births. The 1989 deliveries numbered 2104 babies, which represented a 21% increase over the 1988 delivery rate, and represented 40% of all IVF births recorded in the IVF-ET Registry since 1985.
choices at any time. In the absence of agreement between the parties, however, modification cannot occur and the terms of the agreement must be enforced.

The interests of the gamete providers in controlling their reproductive choices are superior to interests asserted by the IVF clinic or the state. In the context of IVF, control of one's reproductive choices means control over disposition of embryos created with one's genetic material. The IVF clinic must offer reasonable choices to the gamete providers which are founded in the law. The state may not assert a greater interest in protecting in vitro embryos than it may assert in protecting in vivo embryos. Thus, mandated embryo donation laws should be invalid. Where the gamete providers choose to donate their embryos to other couples, however, the state must assert an interest in protecting any resulting children. Embryo donees should be screened and approved by the state in order to protect resulting children from possible abuse and neglect.

Inevitably, a policy will emerge which will define the rights and liabilities which attach to noncoital reproduction. The over-arching questions are whether this policy will be made by legislatures or courts, federal or state, and consistent or inconsistent. The current movement is an inconsistent development of guidelines through state court and legislative decisions. The reasons for this are the newness of the reproductive technologies, the political volatility of any issue which can be even vaguely associated with the Pro-Choice/Pro-Life debate, and the hands-off approach by the federal government. We must hope that increased utilization of these technologies and societal awareness will reverse this trend of inconsistency. Infertile couples can only control their reproductive choices if provided with consistent legal guidelines by which they may assess the rights and responsibilities which arise from the creation and storage of in vitro embryos.

Christi D. Ahnen—'91