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Surrogacy is both the oldest and the most controversial of reproductive innovations. Its documented history goes back at least as far as the Old Testament in which Hagar begot Ishmael with Abraham after his wife, Sarah, failed to conceive (Gem, 16 Authorized [King James] Version). Moreover, artificial insemination (AI), a widely used method for surrogacy arrangements, is neither new nor high tech. It has been available for more than 100 years (Hammer-Burns & Covington, 1999, p. 20) and can be performed without medical assistance using a simple turkey baster (Ciccarelli, 1997; Gallagher, 1989). In the last 25 years, however the commercialization of surrogate mothering and the media firestorm associated with the Baby M case (Matter of Baby M, 1988) have led to a groundswell of interest and controversy about this technology (Ciccarelli, 1997).

Contractual parenting (commonly know as surrogacy) occurs when a couple, the intended parents, contracts with a woman to carry a child for them and to relinquish that child to them after birth (Ciccarelli, 1997; Ragone, 1996). There are two major types of surrogacy arrangements: traditional surrogacy and gestational surrogacy.

In traditional surrogacy, the surrogate is impregnated with the sperm of the male partner of the intended parents. In this case, the impregnated woman is both the genetic and birth (i.e., gestational) mother and the intended father is also the genetic father (Ciccarelli, 1997; Ragone, 1996). Gestational carrier surrogacy is used when the female partner of the intended couple has viable eggs but is unable to successfully carry a pregnancy to term. The intended mother's eggs are fertilized with her male partner's sperm in the laboratory using in vitro fertilization (IVF) and the embryo is then implanted in the "surrogate" mother's uterus.

In gestational surrogacy, the woman who carries the child has no genetic connection to the child and the intended parents are also the genetic parents (Ciccarelli, 1997; Ragone, 1996).

Some feminist writers have objected to the social construction of the woman who carries the child as the surrogate or surrogate mother. They contend that such terms do not accurately reflect the reality of contractual parenting since the pregnant woman is the actual mother, that is, the gestational or birth mother. Current terminology, they believe, minimizes the value of the gestational mother's role (Hanafin, 1999; Tangri & Kahn, 1993) and delegitimizes her right to a continuing relationship with the child (Jaggar, 1994, p. 379). These issues are important to acknowledge. However, surrogate motherhood reflects the intent of the gestational mother and how she perceives herself and her role (Hanafin, 1999). This term also allows us to distinguish women who bear a child as a result of contractual parenting from other birthmothers.

Therefore, we will use the term traditional surrogate for the woman who conceives via AI using the sperm of the father who intends to rear the child and the term gestational surrogate for the woman who carries an embryo that has been conceived via IVF using the intended parents' egg and sperm. The couple that contracts with the surrogate mother is referred to as the intended, social, commissioning or contracting parents, depending on where they are in the surrogate parenting process.
As one can well imagine, the social, psychological, and legal complications increase dramatically as the number of people necessary to conceive a child is increased from the traditional two people (Ciccarelli, 1997). Review of the literature on contractual parenting reveals a wealth of discussion about the ethical, moral, legal, and psychological implications, but limited empirical data on the psychological and social aspects. Discussion of surrogacy has been ripe with controversy and has assembled some unusual allies. Religious fundamentalists, the Roman Catholic church, and feminists alike have condemned the practice of contractual surrogacy as "baby selling"—one that demeans and threatens women (e.g., Gibson, 1994; Macklin, 1988; Rothman, 1989; Raymond, 1998; Tangri & Kahn, 1993). The level of controversy engendered by surrogacy, is reminiscent of the abortion controversy in the United States. Surrogacy, like abortion, is controversial precisely because it evokes and often contradicts basic concepts about family, motherhood, and gender roles (Luker, 1984).

Conservative groups are fearful that surrogacy will undermine traditional cultural values about the two-parent family with wife primarily responsible for childcare and husband as provider and patriarch (Burr, 2002). On the other hand, many feminists are alarmed about the commodification of women (Tangri & Kahn, 1993) and both groups deprecate contractual surrogacy as the selling of babies. Few issues have so deeply divided the feminist community (Behuniak-Long, 1990; Taub, 1992). Pitted against the large group of feminists who oppose contractual surrogacy are others who fear that any limitation of women's reproductive freedom will provide inroads toward curtailment of women's reproductive rights by groups, often religious in nature, that are opposed to women's access to abortion and contraception (e.g., Barthelet, Draper, Resnik, & Geller, 1994; Mahoney, 1988).

Given the level of controversy engendered, one might expect considerable research activity. Yet the research literature is extremely sparse for a number of reasons. First, the absence of funded research on the topic suggests that financial support for research on such a controversial issue may be difficult to secure. Governmental support may be absent when a practice (e.g., abortion, surrogacy) conflicts with the policy of the administration in power. Second, despite the flood of media attention, particularly in the late 1980s and early 1990s, surrogacy arrangements are less common than generally perceived. Historically, there has been no way to track the number of children born as a result of AI. However, since 1992 federal law has mandated that fertility clinics track and report statistics relating to IVF cycles and births (Fertility Clinic Success Rate and Certification Act). The first compilation of these statistics was published by the Centers for Disease Control (CDC, n.d.) in 1995. Unfortunately, this mandate did not include segregating the number of IVF surrogacy births from the total of IVF births. Reporting on IVF surrogacy births became a requirement for fertility clinics in 2003.

Nonetheless, the American Society for Reproductive Medicine has attempted to compile information regarding IVF surrogacy and non-surrogacy births prior to the enactment of the law. According to their statistics, from 1985 through 1999 there were 129,000 babies born as a result of IVF. From 1991 through 1999 there were 1600 babies, included in this total, who were born as result of IVF surrogacy (American Society of Reproductive Medicine, personal communication, June, 2002). The numbers pertaining to IVF births, including surrogacy births, may be low since, prior to enactment of the above mentioned act in 1992, reporting was voluntary. Further, until 2003 reporting regarding surrogacy still was voluntary. In any event, it is clear that contractual parenting is infrequent in comparison with the overall birth rate, even for birth rates involving assisted reproductive technologies.

Third, given the social stigma associated with surrogacy, parties to surrogacy agreements, particularly the contracting couple, relish their privacy and therefore may be unlikely to agree to participate in research (Ciccarelli, 1997; Ragone, 1996). In addition, those who arrange contracts and counsel the parties...
involved are committed to protecting their privacy for ethical and legal reasons. Low prevalence of surrogacy arrangements and concerns about privacy have led to limited availability of research participants, especially intended parents.

Research information is important to clinical psychologists and other mental health providers because it is difficult to screen, advise, and counsel both surrogate mothers and intended parents if there are no empirical bases for such professional activities, (Hanafin, 1999). Due to lack of empirical data on surrogacy screening and counseling, some clinicians have attempted to glean data from the adoption literature for use in surrogacy. Such comparisons appear inadequate since surrogacy is exceedingly more complex than adoption and has many fewer government laws and regulations structuring it (Hughes, 1990). Research about the ramifications of creating a family through contractual parenting can provide infertile individuals with information that can facilitate informed decisions about their options (Ciccarelli, 1997) and suggestions for improving the surrogacy process for all parties involved. Examination of two online databases, Psych. Info. and Digital Dissertations (i.e., Dissertation Abstracts), identified only 27 empirical studies (published articles, books, chapters, or doctoral dissertations), from January 1983 to December 2003, that directly studied characteristics and interaction patterns of surrogate mothers; characteristics and interaction patterns of the intended/social parents; and/or attitudes about contractual parenting, surrogate mothers, and intended/social parents (see Table 1).

The research literature primarily describes the motivations and characteristics of surrogate mothers. Many (e.g., Blyth, 1994; Ciccarelli, 1997; Hohman & Hagan, 2001; Migdal, 1989; Preisinger, 1998; Ragone, 1996; and Roher, 1988) are small sample studies of less than 30 surrogate mothers (range of 4 to 28) that primarily analyze qualitative data. A few small studies (Einwohner, 1989; Fischer & Gillman, 1991; Hanafin, 1984; Parker, 1983) assess personality characteristics of surrogate mothers using standardized personality tests. Four studies (Blyth, 1995; Hughes, 1990; Kleinpeter, 2002; Ragone, 1996) examine characteristics or interaction patterns of the intended/social parents and another seven investigate attitudes toward contractual parenting. Finally, we could find only four studies which included comparison or control groups. In three, (Fischer & Gillman, 1991; Hanafin, 1984; Resnick, 1990) surrogate mothers were compared to non-surrogate mothers. The fourth (Hughes, 1990) examined the psychological characteristics of a sample of 95 participants that included both individuals who had become a parent though contracting with a surrogate mother and individuals who had adopted a child.

Below we integrate research on contractual parenting from a number of major subareas. Although it is possible to dismiss this research as preliminary as well as identify significant methodological flaws in many studies, the consistency of results often is impressive. Moreover, empirical data offer little support for widely expressed concerns about contractual parenting being emotionally damaging or exploitative for surrogate mothers, children or intended/social parents.

Attitudes About Surrogacy

A reproductive technology will be used only if it is considered acceptable by potential consumers. Studies to date support the assertion that contractual parenting, especially when it involves a financial payment to the birth mother for carrying a child, is perceived as the least acceptable of all assisted reproductive technologies, with approval percentages ranging from below 10% to about 25% in surveys of college students (Dunn, Ryan, & O’Brien, 1988; Lasker & Borg, 1994), Psychology Today readers (cited in Lasker & Borg, 1994, p. 168), Canadian women of child-bearing age (Krishnan, 1994), and infertile women in Great Britain (van den Akker, 2001). This is a much lower percentage than people who approve of or state that they might consider IVF, embryo transplant, and AI
by husband (Dunn et al., 1988). In general, methods that involved third parties (AI by donor and surrogacy) have lower approval rates.

Demographic differences in approval rates appear quite minimal. In Krishnan's (1994) analysis of data from a Canadian national fertility survey of over 5,000 women in the childbearing years, size of family of origin, age, and religiosity were negatively associated with approval of commercial surrogacy whereas education was positively associated. Together, however, these and other demographic variables explained only seven percent of the variance in attitudes toward commercial surrogacy. One characteristic that may be associated with approval of contractual parenting is infertility itself. Miall (1989) found that 73% of a small sample of women diagnosed as infertile in Ontario, Canada stated they approved in principle of surrogate motherhood. In the larger Canadian fertility survey, childless women had the most favorable attitudes toward contractual parenting. However, differences in attitudes between women known to be sterile and fecund women were very small (Krishnan, 1994). Thus, it is unclear if an inability to produce a child of one's own leads to greater acceptance of surrogacy, as an unwelcome but necessary reproductive option.

Surrogate Mothers

Characteristics and Motivation

There has been great curiosity about what the typical surrogate mother is like. While it is easy to understand the unhappiness and despair that motivate an infertile, childless couple, who desire children, to enter into a surrogacy arrangement, the motives of women who choose to be surrogate mothers, despite general public disapproval of third party assisted reproduction, are more puzzling and more suspect. Contrary to popular beliefs about money as a prime motive, surrogate mothers overwhelmingly report that they choose to bear children for others primarily out of altruistic concerns (Ciccarelli, 1997; Hanafin, 1984; van den Akker, 2003). Although financial reasons may be present, only a handful of women mention money as their main motivator (e.g., Hanafin, 1984; Hohman & Hagan, 2001; Migdal, 1989; for exceptions see Einwohner, 1989, in which 40% of women state the fee was their main, although not their only, motivator and Baslington, 2002, in which 21% only mentioned money as a motivator). Rather, the women have empathy for childless couples and want to help others experience the great joy of parenthood. Also, some want to take a special action and, thereby, gain a sense of achievement (Blyth, 1994; Ciccarelli, 1997, Hanafin, 1984) or enhance their self-esteem (van den Akker, 2003).

Some surrogate mothers report enjoyment of pregnancy as a motive. In addition, a substantial minority of women have experienced a prior loss, such as an abortion or having given up a child for adoption that they perceive as motivating them to be a surrogate (Parker, 1983).

Interestingly, Parker reported 26% of his sample of women seeking to be surrogate mothers previously had a voluntary abortion and 9% previously placed a child up for adoption. However, we could not find documented evidence to suggest that these events are more prevalent for surrogate mothers than other birth mothers with similar demographic characteristics.

It is possible that verbal self reports reflect socially accepted reasons rather than underlying motivation. Ragone (1994) commented that the "stated motivations of surrogates are often expressed in what can be described as a scripted manner" (p. 52) of consistency and conformity in surrogate responses. Based on her ethnographic research at six surrogacy centers including interviews with 28 surrogate mothers, Ragone (1994, 1996) contends surrogate mothers report motivations that reflect traditional culturally accepted ideas about reproduction, motherhood, and family while devaluing characteristics of the surrogacy relationships, such as financial payment, that depart from traditional
values and beliefs. Although they may value traditional motherhood, surrogate mothers are engaging in a behavior that represents a radical departure from traditional views of motherhood and family. Ragone believes that many women become surrogate mothers in order to transcend the limits of traditional female roles by doing something special for another couple while at the same time they struggle to confirm the value of such roles.

The literature also provides information about the sociodemographic characteristics and personal traits of women who become surrogate mothers. Scholarly discussions of social class and socioeconomic issues have deplored the potential for exploitation of poor women as surrogate mothers (e.g., Tangri & Kahn, 1993; Ciccarelli, 1997). It is often implied that surrogacy contracts could exploit poor, young, single, or ethnic minority women (Ciccarelli, 1997). Yet, the data do not support this since, in fact, most surrogate mothers are in their twenties or thirties, White, Christian, married, and have children of their own (Baslington, 2002; Ciccarelli, 1997; Kleinpeter & Hohman, 2000; Ragone, 1996; van den Akker, 2003). However, our discussions with surrogacy agencies and professionals (e.g., Center for Surrogate Parenting, H. Hanafin, personal communication, November 12, 1997) suggest that it is likely that surrogate demographics are due, at least in part, to the screening which is utilized by surrogacy agencies in selecting candidates to be surrogates. These screening procedures are specifically designed to circumvent arguments that the process could be exploitive of poor, young, ethnic women (Ciccarelli, 1997).

Surrogate mothers' family incomes are most often modest (as opposed to low), and they are from working class backgrounds. Also, as previously stated, most do not report financial considerations as their main motivation for being surrogates (Ciccarelli, 1997). Moreover, women of color are greatly underrepresented among surrogate mothers (Ciccarelli, 1997). Despite lack of research support for the economic exploitation of surrogate mothers, it is understandable how some scholars would be concerned that the disparities in income and social class between surrogate mothers and intended parents could create the potential for exploitation.

Personality traits of surrogate mothers also are of interest. Are these women mentally stable with personality traits in the normative range or do they have dysfunctional characteristics? Small, non-representative samples; lack of control groups; and ambiguous or flawed comparisons with test norms make it difficult to reach any conclusions about the personal traits of women who become surrogate mothers. At best, it cautiously can be stated that most surrogate mothers are within the normal range on personality tests such as the MMPI (Einwohner, 1989; Kleinpeter & Hohman, 2000; van den Akker, 2003). Moreover, they do not differ from mothers who are not surrogate mothers in reported early attachment history (Resnick, 1990). On the other hand, women willing to be surrogates may be more independent thinkers (Migdal, 1989), less bound by traditional moral values. Kleinpeter and Hohman (2000) report that surrogate mothers scored lower on Conscientiousness and Dutifulness on the NEO Five Factor Test, which could suggest that they have a more flexible approach to the application of moral and ethical principles as currently defined by traditional values about family and the meaning of motherhood.

Experienced Satisfaction

Surrogate mothers generally report being quite satisfied with their experiences as surrogates. Ciccarelli's (1997) research was a follow-up study in which 14 participants (7 traditional surrogates and 7 gestational surrogates) were interviewed 5 to 10 years after serving as surrogate mothers. The surrogates were identified through surrogacy agencies with which the surrogates had worked, and were selected based on their willingness to voluntarily participate in the study. Nearly all participants were California residents, Caucasian, and in their 20s or 30s; most were Christian and had at least one child prior to
functioning as a surrogate. All were satisfied with their decision to become a surrogate and perceived the experience as enriching (Ciccarelli, 1997). Nevertheless, pre- and post-birth experiences, relationship with the contracting couple, and whether expectations about surrogacy are met are important influences on the surrogate mothers' level of satisfaction (Ciccarelli, 1997). Several studies confirm that the surrogate mother generally forms a relationship with the couple rather than the child (Baslington, 2002; Ciccarelli, 1997; Hohman & Hagan, 2001; Ragone, 1996). Women consistently refer to the developing fetus as the couple's child, rather than their own (Ciccarelli, 1997), and they evidence lower attachment to the fetus during pregnancy than other pregnant women (Fischer & Gillman, 1991). Thus, it is the quality of the relationship with the couple that largely determines the surrogate mother's satisfaction with her experience (Baslington, 2002; Ciccarelli, 1997; Hohman & Hagan, 2001). Moreover, further examination shows that the relationship with the couple is primarily a relationship with the intended mother (Blyth, 1994; Hohman & Hagan, 2001; Ragone, 1996). In effect, the pregnancy is defined as a woman's role and the two women share experiences and events related to the pregnancy, thus often forming a close bond.

Unmet expectations are associated with dissatisfaction with the surrogacy experience. In Ciccarelli's (1997) study, 4 of 14 women had unmet expectations and, in two of these cases, expectations regarding level of closeness with the couple were not met. Such unmet expectations can arise at any time during the initial surrogacy arrangements, pregnancy, or many years post birth (Ciccarelli, 1997). Couple interaction with the surrogate immediately post birth appears important. If the surrogate mother is allowed to see and hold the baby and she feels she is being treated with respect, her satisfaction level is high (Hohman & Hagan, 2001).

Few studies have examined surrogate mothers' relationship with the couple and satisfaction levels up to 10 years after the birth of the child. (Ciccarelli, 1997; Hohman & Hagan, 2001). Most surrogate mothers have some limited contact with the social parents (e.g., pictures of the child, telephone calls) for several years after the birth. Long-term satisfaction continues to depend on the surrogate mother's relationship with the couple and whether her expectations about the relationship and types of contact with the couple and child are met. According to Ciccarelli (1997), as contact with the couple begins to taper off, a minority of surrogate mothers become increasingly dissatisfied with the surrogacy arrangement. The type of surrogacy does not in itself seem to influence satisfaction, rather, the perception of the surrogate regarding her relationship with, and importance to, the couple is determinative (Ciccarelli, 1997). It is particularly damaging if the surrogate mother begins to feel increasingly abandoned by the couple over time (Ciccarelli, 1997).

Effects on Other Social Relationships

Almost all surrogate mothers identified in the literature have a child or children of their own, and the majority are married or with a partner (Baslington, 2002; Ciccarelli, 1997). Although family disapproval is not absent entirely (van den Akker, 2001), surrogate mothers perceived their decision to bear a child for a couple as having a positive effect on close family members, in particular their children (Ciccarelli, 1997), or at worst perceive their own children as not being negatively impacted by the experience (Hohman & Hagan, 2001). Half of the women in Ciccarelli's (1997) study reported becoming closer to a family member as the result of the surrogacy experience and nearly three-quarter of the surrogates indicated that the experience affected their own children in a positive way.

Husbands and partners in the Hohman & Hagan (2001) study were generally seen as supportive of surrogacy. Most women who did not have partners reported some support from close family members, friends, the couple, and/or the surrogacy agency director (Ciccarelli, 1997). In contrast, extended families and friends
showed mixed reactions. Less than one-third of the responses by extended family were consistently supportive. In Ciccarelli’s (1997) research more than half of the participants experienced conflict in interpersonal relationships as the result of being a surrogate mother and over 40% mentioned having lost a relationship as a result.

Negative Effects

Thus far, we have painted a generally rosy picture of the outcomes of surrogacy arrangements for the birth mother. Nevertheless, navigating this rocky terrain in which few known ground rules exist is not easy and may have significant negative emotional effects for some surrogate mothers (Baslington, 2000; Ciccarelli, 1997). Mild and transient negative repercussions of the surrogacy experience probably occur in varying degrees for all women. Most are general side effects of pregnancy that involve physical discomfort, experienced by all birth mothers. Women who become surrogate mothers usually have good reason to believe they will have normal, relatively easy pregnancies, but all experience routine aches and pains and some experience complications that may lead to a difficult pregnancy (Ciccarelli, 1997).

Occasionally women regret their decision to become a surrogate (Blyth, 1994; Ciccarelli, 1997). As previously stated, dissatisfaction with the surrogacy arrangement may increase over time as contact with the couple diminishes (Ciccarelli, 1997). Blyth (1994) identified 2 out of 17 women who regretted their decision. His is also the only study that reports a significant minority of women (about 25%) who experienced significant emotional distress in giving up the child. It is unclear whether the dissatisfaction stems from the surrogacy process itself, the lack of therapeutic intervention, or both. The considerable proportion of emotionally distressed and dissatisfied women may be exacerbated by the lack of professional support for women in Great Britain, where surrogacy agencies are illegal. However, surrogacy arrangements, including those involving payment to the surrogate mother, are not banned.

Professional support and intervention, including therapy, before and during the surrogacy process may maximize satisfaction rates among surrogates (Ciccarelli, 1997). In addition to initial screening of potential surrogates, most surrogacy agencies offer psychological support and intervention throughout the entire process (Ciccarelli, 1997). Nearly all surrogate mothers in Ciccarelli’s research indicated that their satisfaction was increased due to access to competent professionals who helped guide them through the process and deal with emotional issues and any problems that arose. This raises the question of whether the therapeutic process alters one’s inherent reaction of experiencing emotional distress when participating as a surrogate mother. This may explain, in part, why the incidence of dissatisfaction increases over time when there is no longer active participation in therapy by the surrogate mother (Ciccarelli, 1997). In contrast to the Ciccarelli (1997) study, another study (van den Akker, 2001) indicated that the perceived usefulness of counseling varied among surrogates. Of the 15 surrogates who participated in this study, 1 indicated that she received "a lot" of practical support, 7 received "some" practical support, and 7 received "no" practical support from counselors (van den Akker, 2001). None of the women indicated that they received "a lot" of emotional support, 5 received "some" emotional support, and 10 received "no" emotional support from counselors (van den Akker, 2001). Since there are no data on how often therapy is needed and for what specific reasons, this may be an important area for future research.

In an effort to reduce negative effects, many surrogacy agencies in the United States will contract with only women who have previously given birth and have children of their own. This maximizes chances of a successful birth and fulfillment of the surrogacy contract; women who have experienced bonding with a child during pregnancy may have a more realistic perception about what it will be like to relinquish a baby to another couple (Ciccarelli, 1997).
Additionally, the negative effects reported in Blyth's study (1994) may be due, in part, to the fact that all but two of the surrogate mothers were traditional surrogates. In van den Akker's (2001) study, all the genetic (i.e., traditional) surrogates reported believing a genetic link to the child was unimportant while most of the gestational surrogates disagreed. This raises the question of whether surrogates select the type of surrogacy that fits with their beliefs and values. These types of issues are routinely addressed by surrogacy professionals during the screening process. The above evidence supports the importance, as many surrogates themselves have noted, of using a competent agency that includes a mental health professional in order to minimize potential psychological problems and other negative effects of the surrogacy process (Ciccarelli, 1997).

The Intended/Social Parents

The large bulk of psychosocial evidence on contractual parenting is based on interviews with traditional surrogate and gestational surrogate mothers. We identified only four studies that included intended/social parents. Blyth (1995) interviewed 20 individuals (9 couples, 1 man and 1 woman) in Great Britain who had a child through surrogacy or were in earlier phases of surrogacy arrangements. Participants were recruited through a self-help group for intended parents and surrogate mothers. The majority of couples contracted with traditional surrogates. In all but one case, the decision to consider surrogacy was made by the wife alone who then convinced her husband to consider surrogacy (Blyth, 1995).

In general, the accounts of intended/social parents mentioned the difficulties and anticipated embarrassment in finding out information about the potential surrogate mother, and providing her with information about themselves. Also, some noted the awkwardness of maintaining contact with the surrogate, especially for the father, presumably because of the ambiguity of gender relationships in surrogacy arrangements (Blyth, 1995). Responses of others were reported as generally positive to the arrangement, although usually only close family members and friends had been told.

Kleinpeter (2002) used grounded theory to examine telephone interview data from 26 parents (24 women) involved in surrogacy arrangements through one California-based surrogacy program. Most intended/social parents were married, white, and had incomes over $80,000 per year. One dominant theme that emerged was the desire to have a genetic link to the child. Although all parents had concerns about the surrogacy arrangements (e.g., financial stress, legal issues, concern that surrogate would not take care of herself and the unborn child), most described their relationship with the surrogate during the pregnancy as positive. Areas of conflict that sometimes emerged primarily related to the surrogate not attending to the health of the fetus. Close to half of the participants perceived their families (mainly parents and parents in-laws) as supportive while many others experienced mixed reactions; in contrast, almost all described friends as supportive.

Ragone's (1996) wide ranging ethnographic study of six surrogate programs included an analysis of couples. Although not formally interviewed, an unspecified number of couples were observed interacting with program directors and being interviewed during consultation with a staff member. Ragone (1996) concluded that biological relatedness was a primary motivation for couples' deciding to pursue surrogacy. However, surrogacy violated accepted cultural norms, thus requiring couples to use various cognitive dissonance reduction strategies to resolve the problems and ambiguities associated with surrogate parenthood. In particular, in AI surrogacy, the father feels discomfort and awkwardness that a woman other than his wife is the mother of the child (Ragone, 1996). Two primary strategies employed by the couple and the surrogate mother to resolve cognitive dissonance are to (a) de-emphasize the man's role by defining
pregnancy and birth as women's business; and (b) downplay the significance of the biological link to the child (Ragone, 1996). The intended mother often justifies the lack of genetic ties to the child through development of a mythic conception of the child that emphasizes her intentionality in the process (it is her desire that ultimately brings the child into being; Ragone, 1996). Moreover, she develops a relationship with the surrogate mother and experiences pregnancy by proxy (e.g., attending Lamaze classes, being present in the delivery room, going to medical appointments). Thus, reproduction is defined as primarily a woman's concern.

Finally, Hughes (1990) compared the personal characteristics of 53 intended/social parents from a surrogacy program with 42 individuals who adopted children and 20 control subjects. All groups were generally college educated, Caucasian, professional, and had high average self-esteem. Those involved with the surrogacy program were older, had higher household incomes, and were less likely to be Catholic than other participants. In addition, they scored lower on the Marlow Crowne Social Desirability Scale, indicating less need to present in a socially desirable way (Hughes, 1990).

The high socioeconomic status of intended parents is to be expected as the financial costs of surrogacy are high. In addition to the $10,000-20,000 paid to the surrogate mother, the couple must incur many other costs such as payment to the surrogacy agency and all medical expenses leading to a typical total cost of between $25,000 and $100,000, with IVF surrogacy on the high end (Center for Surrogate Parenting, 2003). All studies found that intended/social parents are well off financially; for instance, Ragone (1996) found an average income of over $100,000 for contracting couples. Thus, except in rare cases of non-commercial surrogacy usually for family members or friends who cannot have a child, contractual parenting is possible only for the wealthy or upper middle class. The lack of access to surrogacy arrangements for lower income infertile couples is a major ethical and sociopolitical concern for feminists and others who support equal access to reproductive health services for all individuals regardless of socioeconomic status or racial/ethnic origins.

Children Resulting from Contractual Parenting

We could find no studies examining the cognitive or social development of children born as the result of surrogacy. An exploration of related areas revealed that there are no appropriate parallels. Adoption does not appear to be a good comparison because adopted children have no genetic connection to either parent and adoption is a more socially acceptable action that does not violate traditional norms. There are some studies that may provide some limited comparison. Research on the cognitive and social development of children produced through other assisted reproductive technologies, most usually IVF, may be tangentially related, while studies of children conceived through egg donation provide a somewhat better comparison. Reviews of the literature suggest that IVF children in developmental stages from infancy through adolescence show comparable cognitive functioning to other children and in some cases score higher in social and communication skills (McMahon, Ungerer, Beaupaire, Tennant et al., 1995; Van Balen, 1998). Some studies even suggest that the experience of infertility and use of Assisted Reproductive Technologies (ARTs) actually may be beneficial for parent-child relationships (Gibson, Ungerer, McMahon, Leslie, & Saunders, 2000; Hahn & DiPietro, 2001; VanBalen, 1996). One study (Golombok, Murray, Brinsden, & Abdalla, 1999) comparing egg donation, donor insemination, adoptive families, and IVF families reported no overall differences among groups in quality of parenting or psychological adjustment of children aged three and a half to eight. It seems likely that, from the child's perspective, the mechanisms of how a pregnancy was achieved would be a minimal psychological issue compared to whether one's birth mother chose not to keep the child. Research to date is only
suggestive and, clearly, it is necessary to explore the social, psychological, and cognitive development of children born through surrogacy.

Notwithstanding the foregoing, one underlying issue for all types of ARTs, but especially those that involve third parties, is whether, when and what to tell the child about his or her origins. Blyth reported that all intended parents in his study believed the child should eventually be told the truth about his or her biological origins (Blyth, 1995). However, there is no consensus due to a lack of research on this issue.

Future Directions

Research Issues

There is an abundance of potential research questions involving contractual parenting that appears worthy of investigation. Both researchers and those debating the moral, ethical, legal, and social aspects of contractual parenting have supported the need for more empirical data and proposed questions of interest. While it is not difficult to identify research directions, it is more challenging to prioritize directions. In this section we describe several research questions that warrant priority.

Clearly, a primary focus should be on the potential impact on the children that are born as a result of third party assisted reproduction as well as children in the surrogate's family. Although there is no particular reason to believe that AI and IVF children born as a result of surrogacy arrangements will differ in development from other children born through ARTs, studies of the development of the offspring of surrogacy arrangements still are important. Pragmatic issues provide guidance for future research on the post-birth effects of surrogacy arrangements. According to Blyth (1995), many social parents intend to tell their child about his or her origins. As far as is known, however, few children have been informed presumably because of their still-young age. If, indeed, interpersonal issues are more important for the child's development and well-being than the fact that conception occurred through assisted reproduction, then researchers need to consider questions such as how best to explain their origins and the birth mother's relationship to children of various ages, how much contact should the birth mother have with the child, and do different issues arise for children born through traditional versus gestational surrogacy.

Research issues involving communication with the child include when--or if--to tell children of their biological origins, how much to reveal, and the long-term consequences of deception versus honesty. Issues related to birth mother contact with the child that need investigation involve the benefits or detriments of the child remaining in contact with the surrogate mother and the long-term impact on the family dynamics--both for the intended parents and the surrogate and/or her family--in cases where all parties stay in contact as well as cases where contact diminishes or stops. In some cases, critical analysis of extant parallel bodies of research on, for instance, other types of assisted reproduction or adoption may be most appropriate.

Another priority is to heighten access to participant populations and enhance their voluntary response rates to research requests. Both surrogate mothers and intended/social parents have a vested interest in promoting the view that surrogacy is acceptable and that those who commit to surrogacy contracts are well-adjusted individuals. In addition, all parties are interested in the cognitive and social development and best interests of the resultant child. Moreover, parties to surrogacy agreements may be motivated to support extensions of this option to other infertile couples who desire a family and to increase public understanding of this issue. These are powerful hooks that can be used to interest these parties in voluntarily participating in research. Of course, identification and recruitment of samples of surrogate mothers and intended parents is not easy. Most often such identification has occurred through
surrogacy agencies or support groups. As access to the Internet increases and
many surrogates and commissioning couples use net-based resources to attempt to
find a match, this, too, may prove a valuable recruitment avenue.

The issue of what to research is largely defined by studies that are strikingly
absent. More attention has been given to the surrogate mother than to the
intended parents. Moreover, although there is research on relationships of the
surrogate and the intended parents and their perceptions of their social
networks, these studies (with the possible exception of Hohman & Hagan, 2001)
are not based on a firm conceptual or theoretical framework about complex
interpersonal relationships under conditions of stress. Yet, surrogacy
arrangements involve complex interpersonal processes and interactions. There are
three individuals, all with their own needs and desires, plus their families,
which, in the case of the surrogate, usually include children who are minors.

Although we do not advocate studies of the motives or personalities of women who
choose to become surrogates as a priority, another post-birth effect that needs
more attention is the potential level of regret experienced by surrogate mothers
over time. In particular, we need to determine how psychological intervention
alters perceived dissatisfaction with the surrogacy process, for instance, by
comparing the level of satisfaction of the surrogacy process of surrogate
mothers who receive different types or amounts of counseling both before
entering into surrogacy contracts and during the surrogacy process.

Finally, the future of surrogacy arrangements is dependent on what people find
acceptable both personally and as a matter of public policy. In part, surrogacy
has not evoked as much controversy as abortion because it is relatively rare.
Still, it touches upon basic beliefs about what constitutes parenthood, the
importance of a genetic link to the child, and gender relationships. World views
and values regarding family and gender roles of anti- and pro-surrogacy groups
should be studied as should differences in the positions of pro- and anti-
surrogacy feminists. Also, it would be useful to analyze the basic cultural
values that have led countries such as Australia to outlaw surrogacy. Such
studies of cultural beliefs, values, and attitudes will provide more valuable
information than have previous surveys that simply determine the percentage of a
group supportive of a specific type of surrogacy arrangement.

Treatment Service Issues

Because of the deficit of empirical evidence, it is premature to advocate many
specific changes in treatment services or social policy. There are general
approaches, however, that should be followed to alleviate some of the anxiety,
distress, and post-birth regret experienced by one or more of the parties
involved. For instance, it tentatively can be assumed that satisfaction with
contractual parenting is largely influenced by satisfaction with the
relationship between the surrogate and the commissioning couple, which in turn
is largely determined by the extent to which expectations about this
relationship are met (Ciccarelli, 1997). Therefore, counselors need to provide
accurate information to participants about all phases of the surrogacy process
and determine during screening that the parties have adequate personal resources
and support networks to withstand the stress and disapproval that engaging in
this process may engender. Moreover, it is important that counselors and other
mental health professionals with knowledge of the potential pitfalls of
surrogacy arrangements be available to participants at all stages (pre-contract,
during pregnancy, post-birth, and long term).

Legal and Public Policy Issues

Surrogacy as a process can "go bad" at many points. Although this souring of
relationships and resultant high profile legal cases are relatively rare,
statutes that require use of reputable surrogacy agencies with well-trained
mental health and legal professionals can minimize both the contractual disasters and the milder, but still painful, long-term feelings of regret of some birth mothers. Couples who choose this option usually have exhausted more traditional alternatives, and have lived with the stress of infertility for years. As elaborated in Ciccarelli and Ciccarelli (this issue), the ambiguity of the legal situation in some jurisdictions makes it most difficult to assuage the additional stress that intended parents experience because of the myriad of things that could go wrong in their relationship with the surrogate. Any statutes that clarify the procedures and allow for pre-birth adoption of the baby can help alleviate the anxiety evoked by the uncertainty and ambiguities of surrogacy arrangements for commissioning couples, but perhaps at the cost of the rights of the birth mother.

Finally, both acceptability and accessibility will determine the extent to which this new technology is used. To the extent that public policy institutionalizes this option, it will become more acceptable to couples with no other options and to women motivated to perform an altruistic service. There will always be cultural groups, however, who because of basic religious values, will find such arrangements unacceptable or even immoral.

Greater focus on the prevention and early treatment of causes of infertility such as sexually transmitted diseases can reduce the need for surrogacy as well as other expensive ARTs. Yet, contractual parenting appears to be here to stay. Thus, the politics of social class and socioeconomic resources need to remain in the forefront. A remaining predominant issue for third-party assisted reproduction, as well as most other ARTs, is unequal availability, with access usually limited to the top socioeconomic echelon of our society. Unless sweeping changes in the structure of health care occur or disparities in socioeconomic status are reduced, this situation is unlikely to change.

Table 1. Studies on Psychological Aspects of Surrogacy

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Source</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baslington, 2002</td>
<td>J</td>
<td>19 surrogate mothers 6 husbands of surrogate mothers</td>
</tr>
<tr>
<td>Blyth, 1994</td>
<td>J</td>
<td>19 surrogate mothers in Great Britain</td>
</tr>
<tr>
<td>Ciccarelli, 1997</td>
<td>D</td>
<td>14 Caucasian women who were surrogates 3-10 years prevously (7 IA and 7 IVF surrogates)</td>
</tr>
<tr>
<td>Derouen, 1992</td>
<td>D</td>
<td>33 women from one program 21 religious, 12 not religious)</td>
</tr>
<tr>
<td>Eimwohner, 1989</td>
<td>BC</td>
<td>50 women who volunteered to be surrogates</td>
</tr>
<tr>
<td>Fischer &amp; Gillman,</td>
<td>J, based</td>
<td>42 pregnant women (21 involved in 1991 on D surrogate programs across the U.S.and 21 not involved; in each group 20 Caucasian and 1 Hispanic)</td>
</tr>
<tr>
<td>Hanafin, 1984</td>
<td>D</td>
<td>21 surrogate mothers not yet in final 2 months of pregnancy and 21 comparison group mothers (20 Caucasians and 1 Hispanic in each group)</td>
</tr>
<tr>
<td>Hohman &amp; Hagan,</td>
<td>J</td>
<td>17 surrogate mothers from one 2001 program, most of whom had given birth 5-7 years previously (13 White, 4 Hispanic)</td>
</tr>
<tr>
<td>Kleinpeter &amp; J</td>
<td>J</td>
<td>15 women in a California surrogacy</td>
</tr>
<tr>
<td>Hohman, 2000 program (13 White, 3 Hispanic, 1 other)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migdal, 1989</td>
<td>*</td>
<td>9 women from a surrogate mother program</td>
</tr>
<tr>
<td>Parker, 1983</td>
<td>J</td>
<td>125 White women who applied to be surrogate mothers</td>
</tr>
<tr>
<td>Preisinger, 1998</td>
<td>D</td>
<td>4 surrogate mothers</td>
</tr>
<tr>
<td>Ragone, 1996</td>
<td>J, based</td>
<td>28 predominantly White women at 6 on D different program's</td>
</tr>
<tr>
<td>Resnick, 1990</td>
<td>D</td>
<td>43 surrogate mothers and 34 control women</td>
</tr>
</tbody>
</table>
Roher, 1988   D     13 women (interviewed) and 157 surrogates' files at one program
Van den Akker, 2003   J     24 surrogate mothers (11 IFV and 13 AI surrogates)

Studies of the Characteristics and Interaction Patterns of the Intended/Social Parents

Blyth, 1995   J     20 intended/social parents (9 married couples, I women, I man) who were members of a British self-help group
Hughes, 1990   D     95 Caucasian individuals, including 39 couples in three groups: surrogacy, private adoption agency, or independent adoption through an attorney; also a comparison group of 20 parents of preschool children
Kleinpeter, 2002   J     26 parents (24 mothers, 2 fathers)
Ragone, 1996 (note J, based clients and staff of 6 surrogacy that this study is on D programs also mentioned above)

Studies of Attitudes Toward Surrogacy Arrangements

Grand, 1997   D     115 females and 38 males (72 infertile, 81 non-infertile); 61% Hispanic, 21% White
Holbrook, 1996   J     300 social workers, 71% female and 91% White
Krishnan, 1994   J     5,315 Canadian women (aged 18-49)
Lasker & Borg, 1994   B     1) over 200 persons who were infertile most contacted through support groups plus persons connected in some way to infertility clinics and surrogacy programs
2) 165 mostly White and middle class students at 2 colleges in Pennsylvania
Miail, 1989   J     71 involuntarily childless women (aged 24-45, white, middle class)
Van den Akker, 2001   J     42 women attending infertility clinics in Great Britain (aged 25-45)

Author(s)     Data Collection Methods

Studies of the Characteristics and Interaction Patterns of Surrogate Mothers

Baslington, 2002 interviews
Blyth, 1994 semi-structured interview
Ciccarelli, 1997 open-ended interviews
Derouen, 1992 telephone interview and survey
Eimwohner, 1989 semistructured interview; projective and non-projective personality tests
Fischer & Gillman, quantitative questionnaires 1991
Hanafin, 1984 Questionnaires; open-ended interview; personality inventory
Hohman & Hagan, semi-structured interview 2001
Kleinpeter & personality inventory Hohman, 2000 (NEO-R)
Migdal, 1989 * open-ended interview
Parker, 1983 interview
Preisinger, 1998 open-ended, in-person interview; telephone interview
Ragone, 1996 ethnographic; 28 formal interviews plus conversations and observation of program activities
Resnick, 1990 Questionnaire: personality inventory (MMPI subscales)
Roher, 1988 interviews, files
Van den Akker, 2003 semi-structured interviews; standardized questionnaires

Studies of the Characteristics and Interaction Patterns of the Intended/Social Parents
Blyth, 1995 interviews
Hughes, 1990 self administered mailed questionnaire
Kleinpeter, 2002 qualitative methods; telephone interview
Ragone, 1996 (note ethnographic; observation that this study is of consultations with also mentioned prospective couples and above) other program activities

Studies of Attitudes Toward Surrogacy Arrangements

Dunn, Ryan, & questionnaire O'Brien, 1988
Grand, 1997 structured questionnaire
Holbrook, 1996 47-item mail questionnaire
Krishnan, 1994 1984 national fertility survey using telephone interview
Lasker & Borg, 1994 1) taped in-person and phone interviews; questionnaire
2) survey
Miall, 1989 survey
Van den Akker, 2001 retrospective questionnaire

Author(s) Variables

Studies of the Characteristics and Interaction Patterns of Surrogate Mothers

Baslington, 2002 relinquishment of the child; psychological detachment process
Blyth, 1994 motivations; contact/relationship with intended parents; experience of Surrogacy arrangement
Ciccarelli, 1997 motivations; relationship with the couple; experience of the surrogacy arrangement; expectations and whether they are met; post birth experiences; satisfaction
Derouen, 1992 motivations; religiosity
Fischer & Gillman, level and quality of attachment; 1991 attitudes toward pregnancy; social support (Personal Resources Questionnaire)
Hanafin, 1984 motivations; personality characteristics; feelings during pregnancy
Hohman, 2001 experiences and satisfaction with 2001 process; relationship with couple
Kleinpeter & neuroticism; extroversion; openness; Hohman, 2000 agreeableness; conscientiousness
Migdal, 1989 * motivations; relationship with couple; post-birth experiences; relinquishing the infant
Parker, 1983 motivations: demographic characteristics; pregnancy/abortion history
Preisinger, 1998 experiences as a surrogate; relinquishing the child
Ragone, 1996 motivations; interaction and relationship with the couple; gender roles
Resnick, 1990 attachment history: nurturance; relinquishing the child
Roher, 1988 social and reproductive roles
Van den Akker, 2003 motivations; experiences; support concerns; disclosure and relinquishment issues; quality of life; psychopathology

Studies of the Characteristics and Interaction Patterns of the Intended/Social Parents

Blyth, 1995 decision-making about surrogacy; relationship with surrogate; reactions of others; beliefs about telling child about genetic origins; gender relationships in surrogacy arrangements
Hughes, 1990 sensation seeking, self esteem, gender role behaviors; locus of control; social desirability; influences on decisions about whether to participate in 6 different methods of assisted parenthood; demographic characteristics
Kleinpeter, 2002 decision-making; support; relationship with their surrogate
Ragone, 1996 (note relationship with surrogate; intended that this study is
mother=s bond with surrogate; also mentioned intended mothers experiences
above)

Studies of Attitudes Toward Surrogacy Arrangements

Dunn, Ryan, & attitudes toward 6 methods for O'Brien, 1988 dealing with
infertility including surrogate motherhood
Grand, 1997 attitudes and opinions toward methods of dealing with infertility
including surrogacy
Holbrook, 1996 views of rights of participants involved in surrogacy; other
ARTS and adoption
Krishnan, 1994 altitudes toward commercial surrogacy; surrogate mothers and
other ARTS; sociodemographic characteristics
Lasker & Borg, 1994 1) philosophies of surrogacy programs; relationship
between surrogate mother and couple; other ARTS; trauma of infertility
2) attitudes toward surrogacy and other ARTS
Miall, 1989 Attitudes toward surrogacy; AI and adoption
Van den Akker, 2001 willingness to disclose mode of starting a family through
surrogacy: other ARTS and adoption; acceptability of each of these methods

Note. * Sources are: J = journal, D = dissertation,
BC = book chapter; B = book.

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