"It Happened One Night":
The Sexual Context of Fertility Decision-Making

".... a Martian landing in the room would have no inkling that what we were speaking about had anything to do with human sexuality!" (McDaniel 1996, p. 86)

"A visiting anthropologist would find it necessary to read Demography *rather thoroughly in order to find a precise answer to the question, 'Where do babies come from?' Nearly half the articles published between 1964 and 1992 concern either fertility and contraception or marriage and family, but in articles about married women, a birth appears to result from an immaculate conception."* (Watkins 1993, p. 559)

Introduction

Despite concern with sex-related topics, such as fertility and family life, demographers have rarely addressed sex in their research and theorizing (McDaniel 1996; Watkins 1993). One of the primary goals of fertility demographers, historically, has been to minimize unintended pregnancy (Hodgson 1991), but this goal is unattainable if we do not try to untangle the sexual context in which children are conceived. Despite rare instances when people acquire children without intercourse (e.g. through in-vitro fertilization or adoption), the vast majority of children are not, as Watkins (1993) sarcastically noted, immaculate conceptions (p. 559). When we do not acknowledge the roles that sex plays in fertility processes, our research suffers theoretically and empirically, as I will attempt to show.

In order to better understand the influence of sex on fertility processes, I begin by discussing the significance of levels of analysis in theory-building[1], and I problematize the idea of theoretical universalism. I also address the issue of both conceptualizing "rational" and "choice" with reference to sex and fertility. Then I formally construct three models of micro-level fertility decision-making—a "child-focused" framework, and

[1] Appendix I contains a brief answer to the large question, "What does demographic theorizing look like?" I strongly encourage readers who want an answer to this question to begin by reading Appendix I.

two "sex-focused" frameworks, one for short-term and another for long-term relationships. I do not wish to argue that these child-focused and sex-focused frameworks are either complementary *or* competing; rather, each is necessary to answer certain kinds of research questions, and I try to emphasize what kinds of research questions are appropriate for each. However, my main focus is the sex-focused frameworks, because demographers have given much less attention to sex both theoretically and empirically than they have to versions of the child-focused framework. These models are developed with specific reference to the United States, but should be applicable to most developed countries. I explicate my assumptions to help researchers identify appropriate contexts in which to apply these frameworks. I wish to establish at the outset that I am *not* trying to set forth a specific theory of fertility decision-making here, but rather models *from which* advanced theories can be built. As I elaborate on my frameworks, I try to highlight areas which could greatly benefit from further theoretical exploration using these frameworks.

The Tendency to Generalize

Differentiating between trends and patterns that we see at the micro- and macro-level can often be extremely difficult, especially since there is considerable overlap between the two levels. The resulting confusion has been a major problem for demography. Greenhalgh (1996) explains that demography as a discipline began with a focus on relatively abstract, macro-level issues, but rather quickly moved to a focus on micro-level concerns after the Cold War due to funding and political constraints. However, most of demography's theoretical advances occurred before the post-Cold War transition, when the focus was more on the macro-level. As a result, demographers

frequently have applied theories which were largely developed to explain macro-level trends to research done at the micro-level. For example, I would even make the controversial claim that Becker's (1960) famous theory of "quality"/quantity of children is better suited to macro-level than micro-level analysis, though Becker himself argued that it was developed to explain both levels. If we want to understand individuals' behavior, we have to have theories about individuals' behavior, not theories about groups' behavior which have been generalized to individuals.

This theoretical trend of misapplied levels of analysis would not be problematic if demographic phenomena operated the same at every level of analysis. Unfortunately, a very recently emerging body of research is demonstrating that, much like in physics, the trends we see at the micro-level are *completely the opposite* of the trends we see at the macro-level (see, for example, de Laat and Sanz 2005 contrasted with Brewster and Rindfuss 2000). Consider, for example, the important fact that men and women on average want about the same number of children, but, depending on couple characteristics, from 20% to 50% of couples disagree about whether to have another child (Thomson 1997; Stewart 2002). Completely different theories are needed to account for the relationship between gender and fertility preferences at the macro-level and the same phenomenon at the micro-level. I think this pattern of ill-applied theories more than any other has contributed to demographers' commonly expressed sense that they have "no theory." Demographers have theories (though they have many more concepts and frameworks than theories per se), and those theories do inform research, but often cannot help produce useful hypotheses because they were originally developed to explain

different phenomena. The theoretical frameworks that I develop in this paper are constructed to begin to address this problem, so they focus explicitly on the micro-level.

The other overwhelming problem facing demographic theorizing was discussed by Mason (1997) in her presidential address to the Population Association of America. Demographers, against the intellectual current of most other sociological subfields and the entire discipline of anthropology, have insisted on trying to find universal theories. That is, demographers often seek to understand the demographic behavior of people in every society based on theories developed for completely different contexts. Surely one of the most important disciplinary lessons of the past twenty years has been that culture matters (e.g. Hammel 1987). Given that families matter for fertility, and families look completely different in different cultures, we should not expect a single theory of fertility to account for all trends everywhere. As Mason (1997) points out, expecting to find these overarching theories inevitably leads to discouragement. Our best hope is to be clear about the assumptions we draw on to create our theories so that future researchers can determine our theories' applicability in a given context. In this paper, I develop my frameworks based on research done about the United States; I am fairly confident that these frameworks are useful for most developed countries. However, I state my theoretical assumptions so that other researchers can determine if these frameworks are appropriate in their own research settings.

The Problem of "Decision-Making" and "Actors"

Given that this paper addresses fertility "decision-making," it might appear that I am associating myself with the rational-choice paradigm. Traditionally, models of "decision-making" (particularly fertility decision-making) have been associated with the

rational-choice paradigm (Adler 1979). Yet this association between "rationality" and "decision-making" is not necessarily inherent to the concept of decision-making. People are certainly capable of making "bad" decisions—they often even admit to it themselves. And even if we restrict ourselves to the language of "utility maximization," we must acknowledge that people often have competing utilities (particularly relevant for this paper is the competition between biological, emotional[2], and economic utilities). "Biological utility" and "emotional utility" are, virtually by definition, outside of the rational-choice paradigm. Although Folbre (1993) contends that in its fullest incarnation, rational-choice theory is concerned with "utility maximization," not just "economic self-interest," it is difficult to imagine *rational* choice perspectives encompassing subconscious biological drives. Moreover, with reference to sex, people will often freely admit that they have subverted their long-term emotional utility maximization in favor of very short-term gains[3]. But the biggest challenge to rational-choice theory when looking at sex comes from its assumption of independent (as opposed to interdependent) utilities (Folbre 1993). Constrained by the assumption that "my utility does not depend on your utility," or, in this case, "my sexual utility [pleasure] does not depend on my partners'," we will be terribly limited in our understanding of sex[4]. Unless we want to expand the notion of "rational calculus" to include this broad spectrum of "irrational" and sometimes

---

[2] "Biological utility" refers to the desire or need to fulfill physiological drives or urges; for this paper, the most notable example is sexual gratification. "Emotional utility," on the other hand, refers to the desire or need to fulfill psychological desires. For this paper, the most important example is love—both the desire to have someone to love (particularly a child, but also a partner), and to be loved in return.

[3] For example, consider that at least 10% of married Americans have been sexually unfaithful to their spouses (Treas and Geisen 2000); yet many adulterers admit that they have sex with other people knowing that it will hurt them, their spouse, and their marriage, even though they claim they do not want to do any of these things (Lawson 1988).

[4] For instance, men state that condoms interfere more with their sexual pleasure than women do (Grady et al. 1999). Thus women may consent to have sex without condoms (which may subsequently result in pregnancy or disease) in order to secure their own—and their partners'—sexual pleasure.

even subconscious influences *and* interdependent "utilities"—an ambition which I do not advocate, then we must at least temporarily leave aside the rational-choice paradigm in order to discuss the sexual context of fertility decision-making.

The term "decision-making" itself here is a slightly problematic one also. The concept implies activity and calculus, but there are two questions we should ask about these so-called "decisions": what kinds of decisions are these really, and who makes them? As I will discuss in detail later, when looking at "normal" fertility, the decisions themselves concern whether or not to have intercourse, whether or not to contracept, and, if a pregnancy results, whether it should be kept, aborted, or put up for adoption. But there are two general types of decision-making that can happen amongst these many decisions: "active" and "passive" decision-making[5]. In active decision-making, individuals perceive themselves to be well-informed about the consequences of their actions and make decisions accordingly. In passive decision-making, they simply "go with the flow," and they may not seriously consider the potential consequences of their actions, even if those consequences are known. This dichotomy is essential for understanding the relation of sex to fertility decision-making.

The second question—who makes decisions—interacts in complicated ways with the kinds of decisions being made. In the (hetero)sexual context, at least, fertility decision-making *never happens alone*[6]. There are always at least two people (a man and a woman) who must make some kind of decision. Both could be active decision-makers, both could be passive, or one could be passive and the other active (for an illustration, see

[5] For an interesting discussion using the same dichotomy with specific reference to power, see Hollerbach (1980).

[6] Only heterosexual intercourse results in pregnancy; therefore, in cases of non-heterosexual intercourse, and completely non-sexual contexts, an individual can make fertility decisions by him/herself.

Fig. 1). Even if both are active decision-makers, they may not agree with one another, and some sort of negotiation must take place. Because they can disagree with one another, the ultimate decision-maker is the individual, but the individual is influenced by his or her partner(s). Moreover, physiologically, legally, and normatively, women and men have greater or lesser influence over different parts of the fertility decision-making process. In the US, at least, men have greater influence over male-controlled forms of contraception (*coitus interruptus,* male condoms, and vasectomies), while women have greater influence over female-controlled forms of contraception (every other form). Legally and normatively women have greater control over whether or not to abort a fetus, and whether or not a baby should be put up for adoption. We should note then that *ceteris paribus*, women generally have greater control over fertility decision-making than do men. Men's main source of influence comes from condom use, and if men refuse to use condoms, women can refuse to have sex with them. On the other hand, women can have or refuse to have an abortion regardless of their partner's preferences. Of course, all things are never equal in the real world, and norms, violence, and economic resources all can potentially result in men having *more* influence than women in every fertility-related arena than women. However, the mere theoretical potential for disagreement indicates that individuals are the ultimate decision-makers, not couples.

"Child-Focused" Paths to Child Acquisition

Before moving on to talk in greater detail about the influence of sex on fertility decision-making, I first want to introduce a model that builds off many of the ideas which have traditionally gone into rational-choice models. Rational models tend to assume (practically by definition) that people only have children when they perceive they will

benefit from them. Since probably a majority of people in developed countries only have children when they want them, I want to begin by discussing this perspective at greater length. Yet rather than assuming rational motives for fertility behavior per se, I create a framework which assumes that the primary motivation for child acquisition is the desire for children. In this model, a person *first* decides that s/he wants a child now, *and then* looks for the means to have one. This model does not assume that the desire for a child is rational or even necessarily feasible, merely that it exists within the individual and motivates their subsequent behavior. This four-stage framework is shown in figure 2.

In stage 1, a person decides that he or she wants a child. The question of consciousness here is an important one. Hass (1974) argues in her framework of wantedness that children must be consciously wanted in order to be considered "wanted," and for purposes of clarifying the wantedness of children, she is undoubtedly correct. But for the purposes of considering the motivations for behavior, the desire for children may be a conscious or unconscious (likely biological) one. In stage 2, a person can try to accommodate the need for a partner of the opposite sex in the child acquisition process. The person either acquires a partner, already has one, or attempts to proceed without one. Stage 3 is the contraception stage: individuals in heterosexual couples do not contracept when having sex in an attempt to conceive. This stage is irrelevant for individuals who are not partnered. In stage 4, the actual child acquisition process takes place. The individual/couple either gets pregnant and has a child, adopts a child, or makes other arrangements. These "other arrangements" include infertility treatments, seeking a new partner who also desires a child if the current partner does not, and/or an accommodation

with the self over the lack of children. With this four-stage framework, we can see how individuals may modify their behavior in order to obtain a child.

We can also look at this framework in terms of the individual pathways. All paths begin with the desire to have a child in stage 1, but they diverge at stage 2 based on relationships with potential partners. Subsequent paths are the same for individuals who already have a partner and for individuals who do not, but individuals who do not have partners of the opposite sex are constrained to be outside the process of "normal" conception. For individuals with opposite sex partners, they may choose to have sex and not contracept, and/or adopt a child and/or make other arrangements. Individuals who do not have opposite sex partners can only adopt a child or make other arrangements.

The pathways in this framework illustrate some of the areas which need further theorizing and research in demography. For example, we know little about which paths individuals without partners who want children take. Do most of them ultimately succeed in acquiring children, or do they try to find ways to live without children? What characteristics predict these different outcomes? Even though demographers have tended to assume child-focused behavior, we actually know relatively little about another one of these related pathways: how the desire for children motivates partner selection. If people know that they want children soon, does this knowledge alter their partner-seeking behavior? We also do not know much about the pathways which lead individuals to adopt. Is adoption normally a "last resort," or do couples seek to adopt even when they are capable of conceiving and bearing their own children? Similarly, we know little about the paths leading people to make "other arrangements," or even what those arrangements might be. Finally, the most important question indicated by this framework

about which we know the least is, what motivates the desire for children in the first place? The biological, social, psychological, and economic influences which drive this model are some of the most interesting theoretical and empirical questions for us to pursue. Finding qualitative answers to the question of what makes people want children, rather than making assumptions about why they want children, will help us understand the other stages in this model better.

This model offers us several benefits in conceptualizing fertility decision-making. First, the level of analysis is clear—the individual. At the same time, the model allows for partners' influence, so couples matter too. This model also has the virtue of assuming a kind of rational goal-seeking behavior without assuming that the underlying motive (the desire for a child) is necessarily rational. Given the mounting evidence in favor of genetically motivated fertility desires, it is not reasonable to assume that the desire for children is itself a rational desire. This model also allows for outcomes other than standard conception. Interest in infertility has been growing recently, but our understanding of how it figures into the overall process of child acquisition has remained weak, and research on adoption is almost non-existent. Given that an estimated 10% of Americans will experience infertility at some point in their lives (Abbey 1991), it is not reasonable to discount this experience in our models.

This child-focused framework is most useful for analyses of gay and lesbian individuals, people who do not have sexual partners but definitely want children in the very near future (1-3 years), people who have experienced problems with infertility, and older (30+) individuals in long-term relationships. For the first three groups, it is intuitively obvious that they must plan to have children in order to acquire them, because

"accidental" pregnancies are simply not going to occur. For the fourth group, empirical evidence suggests that pregnancies are more likely to be "planned" (Henshaw 1998). This framework does not adequately account for *why* older individuals would be more likely to have intended pregnancies, but it does provide a starting point for theories that might answer this question.

This framework has several major disadvantages, however. First, while the level of analysis is clear, the unit of analysis is not. It is not clear what it means to begin analysis at the "moment" when a person decides that s/he wants a child in the near future. While helpful for conceptualization purposes, this unclear unit of analysis does not lend itself well to formulating empirical investigations. Another problem is that this framework fails to account for an incredibly common experience—unintended pregnancy. In the United States, the average woman could expect to have 1.52 unintended pregnancies in her life at 1995 rates, and these same estimates suggest that as many as 50% of pregnancies may be unintended (Henshaw 1998). The empirical evidence suggests that this framework accounts, barely, for a majority of pregnancies. Yet a major theoretical problem makes it a poor candidate for a default model for analyzing fertility in a society like the United States where the majority of fecund adults are heterosexually active: the major underlying assumption of the child-focused model is that people must take action in order to have a child. This assumption is inherently flawed because pregnancy is the *default* outcome of regular heterosexual intercourse, and action must generally be taken to prevent it. Thus I suggest another framework as the "default" for fertility theorizing which is sex-focused rather than child-focused.

Assumptions for the Sex-Focused Model

The sex-focused model makes many specific assumptions which I want to clearly explicate before explaining the model itself. The generalizability of this framework depends on the assumptions that are built into it—assumptions which are based on the United States' legal, cultural, and normative context. This framework will be more or less applicable in other contexts, depending on how well those contexts conform to these theoretical assumptions. These assumptions are:

I. Fertility preferences are determined by individuals. That is, each person in a relationship has fertility desires which are distinct from their partners' and others'; however, others may influence those desires.
II. Individuals are empowered to act upon their own fertility preferences.
    a. This assumption in turn requires a reasonable degree of gender equity in fertility decision-making.
III. Individuals choose their sexual partners.
IV. Sexuality and sexual desire are culturally distinct from child acquisition processes.
V. Couples have some access to contraception, abortion, and adoption.
VI. Couples have a preference for not using contraception.
VII. The primary motivation for couples' use of contraception is the prevention of pregnancy.
VIII. Fertility-related behavior is often not rational.

The theoretical reasoning behind Assumption I has already been explained at length. Strong empirical evidence for this assumption is given by Stewart (2003), who looked at the influence of stepchildren on individuals' fertility preferences. She found that partners frequently disagree about their fertility preferences, but that their own desires were affected by whether or not their partner already had a biological child.

Assumption II—individual's fertility empowerment—is clearly difficult to quantify. Strictly enforced laws that constrain fertility (e.g. in China), or strict norms

which make childbearing the product of extended family preferences (as in much of sub-Saharan Africa) are all examples of limited individual empowerment. Yet it is easier to identify when individuals have limited empowerment than when they are relatively free. At best, we might be able to determine when there is an "absence of constraint," rather than freedom, per se. A reasonable degree of gender equity is clearly essential here. If either women or men are clearly much more constrained than the other, then only the preferences of one gender "count." As I outlined earlier when discussing individual's power, in the United States I think it is fair to say that legally and physiologically women have slightly more say than men in the fertility decision-making process, but norms certainly encourage women to respect men's preferences unless there is dire conflict.

Assumption III—that individuals choose their sexual partners—may be the most limiting one in terms of generalizability. This assumption constrains my framework not only to contexts where forced sex[7] is uncommon, but where arranged marriages are uncommon as well. In both of these contexts, the cultural dynamic is so different that I think that entirely new frameworks are needed. *Neither* my child-focused nor my sex-focused framework is really applicable in such contexts. Once the central cultural focus moves away from the individual, frameworks based on assumptions of individual rights are simply inadequate.

Assumption IV—that sexuality and sexual desire are culturally distinct from child acquisition—is easily taken for granted in a culture like the United States. In the US, the average age at sexual debut is years before the average age at first birth, and this arrangement seems not only common, but normative. But in other settings, "marriage,"

[7] By "forced sex," I mean sex which is actively violent (e.g. molestation and rape), or which individuals feel forced to participate in for other reasons, typically material in nature.

"sexual debut," and "onset of childbearing" are culturally equivalent processes. This cultural pattern erases the necessary differentiation between "child-focused" and "sex-focused" in fertility processes, because there is no real difference. For these cultures, other frameworks are necessary.

Assumption V—that individuals have access to contraception, abortion, and adoption—is a difficult one: what counts as "access"? For instance, we can imagine a context in which all three are legally and readily available, but the majority of the population is too poor to afford them. Can we still honestly say that such a population has "access" to contraception? My answer is a tentative "yes," simply because coitus interruptus and the "rhythm" method are free to any who know how to practice them, and there are highly effective, simple, and inexpensive abortifacients[8]. Yet the *degree* of access to contraception, abortion, and adoption should be carefully considered in any application of the sex-focused framework.

Assumption VI—that couples have a preference for not using contraception—is a key assumption for my framework. By "preference" I do not just mean that couples have a "taste" for not using contraception (although I mean that too), but also that contraception is "costly" in several ways. The "taste" for not using contraception originates in its sheer inconvenience. There are many unpleasant side effects associated with almost every form of contraception, ranging from decreased libido from certain hormonal methods, to decreased sexual pleasure from barrier methods. In addition to these physical inconveniences, there are many social costs associated with using contraception as well. These include the many negotiations often required to obtain and use contraception (including with parents, partners, doctors, and pharmacists), as well as

[8] For an intriguing personal account by a woman in the United States, see Muscio (1995).

the potential embarrassment from implied sexual activity. Add to these other costs the considerable economic costs of most forms of contraception, and I think it is reasonable to assume that most people prefer to avoid it if they can.

Assumption VII—that couples' primary motivation for using contraception is the prevention of pregnancy—is not as much a driving force behind my model as Assumption VI. Because my model concerns fertility decision-making, it does not really take into account the possibility that couples will use condoms to prevent disease, or hormonal contraception for medical reasons. There is some empirical support for this assumption in the United States. Cooper, Agocha, and Powers (1999) found that college students' primary motivation for using condoms was to prevent pregnancy, not disease[9]. In the United States and elsewhere, people generally do not seem to perceive themselves or their partners as being at high risk for sexually transmitted infections (Hammer et al. 1996), so we should not expect this fear to be a major factor in their contraceptive decision-making process.

Assumption VIII—that fertility-related behavior is often not rational—will be for some readers the most exciting and intuitively appealing aspect of my framework, and for others be the most off-putting. I do not want to take on the entire rational-choice paradigm in this paper. Suffice it to say that when considering sex and sexuality, the many unknowns (particularly biological ones) make an assumption of rationality a highly dangerous and constraining one. I think, for example, that one could persuasively argue that rational people would never engage in homosexual activity in societies like communist China, where the consequences were dire—*and yet they did* (Chou 2000).

---

[9] By contrast, Grady et al. (1999) found that among men aged 20-27 (but not women), prevention of disease was as important in contraceptive selection as prevention of pregnancy.

Moreover, in cultures like the United States, sex is deeply intertwined with our ideas about love, which we have defined as an irrational emotional force. To try to analyze sex (and love) as rational experiences is so far removed from people's lived experiences of them that we cannot hope to capture reality with such an analysis. I challenge any reader of this paper to honestly claim that all their decisions about romantic relationships, sex, and child-bearing were based entirely on rational calculations. If we cannot have faith that our models represent our own personal experiences—when their relevant analytical population includes us—then how can we have faith that they represent the experiences of others?

Sex-Focused Paths to Pregnancy

Figure 3 shows a five-stage sex-focused model constructed around the assumptions outlined above. Unlike in the child-focused model, here the outcome of interest is not "child acquisition," but pregnancy: this model does not show how people come to acquire children without intercourse. Here the driving force behind fertility behavior is not the desire for children, but heterosexual sexual desire.

In stage 1, a couple discusses having sex or decides to have sex, or ends up having sex. The first two options are not mutually exclusive, which is why they are illustrated as overlapping. A couple that "ends up" having sex, on the other hand, is conceptualized as not having really discussed or communicated about sex at any length beforehand. In stage 2, couples have the option of discussing their fertility preferences. They can agree that they want children now, agree that they do not want children now, disagree or be ambivalent about whether they want children now, or not discuss their fertility preferences. These options are derived from Hass' (1974) framework for understanding

pregnancy intendedness. We should notice that without communication of some kind, people are left with only assumptions about what the other person in the relationship wants (Hollerbach 1980). Stage 3 is the actual stage of sex and contraception, in which people can use contraception, not use contraception, or decide not to have intercourse. Behavior is allowed to proceed rationally from the previous decisions (e.g. people can agree that they do not want children and thus contracept), and behavior is allowed to proceed "irrationally" (e.g. people who agree they do not want children nevertheless do not contracept). In stage 4, people either get pregnant, or they do not, and in stage 5, they must decide what to do with a pregnancy if one occurs. They can abort the pregnancy, have a child and keep it, or have a child and give it up for adoption[10].

Like the child-focused framework, we can also consider the sex-focused framework in terms of the paths as well as the stages. The first point of divergence occurs depending on whether the couple has discussed having sex or not. For couples that "end up" having sex, stage 1 really collapses all the way into stage 3, at which point they either use or do not use contraception without having discussed either. We should note that in terms of cultural scripts portrayed in movies and in books, *this path is portrayed as the ideal sexual script* (Gunasekera, Chapman, and Campbell 2005), even though it probably is not the most common path in real life. For couples who do deliberate about sex, they also have the option of discussing their fertility preferences in stage 2 (or not). If they agree that they want children now, then the framework only gives them the option of having sex without contracepting because of the assumption (explained above) that people have a preference for not contracepting. For the other three

[10] Because this model focuses on decision-making, involuntary abortion (miscarriage) is not included in this model, since individuals by definition do not have control over it.

outcomes, having sex with or without contraception are both options. Couples that agree that they do not want children now or disagree about whether they want children also have the option in stage 3 of deciding not to have intercourse. It should be noted that in the context long-term relationships, strategic abstinence is a method of contraception, but when our unit of analysis is an individual sexual encounter, it is not. In stage 4, both pregnancy outcomes are possible for individuals having sex—thus accounting for the possibility of "contraceptive failures." In stage 5, only individuals who have become pregnant have to decide what to do with the pregnancy. However, we should notice that just as pregnancy is the default outcome for intercourse, childbirth is the default outcome of a pregnancy, so *passive decision-making results in a birth*.

Further theoretical development around this framework needs to focus on the movement from one stage to the next. For instance, we need theories which explain the movement from stage 1 to stage 2: what circumstances will make couples more or less likely to discuss their fertility desires and preferences with one another before engaging in intercourse, even if those desires are uncertain or unknown? We also need theories that articulate the movement from stage 2 to stage 3: when are couples most likely to match their contraceptive behavior to their stated fertility desires? And, similarly, we need more theories about how couples use contraceptives when their fertility desires are uncertain or unknown. Another rich area for theoretical exploration is the movement from stage 4 to stage 5: how do women and couples decide what to do with a pregnancy, especially when it is unintended? These questions are only samples of the abundant questions which become significant and important when we do not assume that the desire for children motivates the entire fertility process.

This model has several major benefits. First, and most importantly, it corrects for a consistent failing in demographic literature by theorizing the importance of sex in fertility decision-making. Second, as with the child-focused model, the level of analysis (the individual plus a partner) is clear. Unlike the child-focused model, however, it also has a clear unit of analysis: individual sexual encounters. These clear levels and units of analysis make this model very useful for formulating empirical research questions. Third, this framework *does not* assume that fertility desires are always known. A basic rational choice framework, and certainly the child-focused framework, all but requires every person to know at any point in time whether s/he wants to have a child in the next year or not. Yet our actual data indicate that fertility preferences are often not well-defined in individuals, let alone in couples (Schoen et al. 1999; Quesnel-Vallee and Morgan 2003). Thus having a framework which does not require people to know their fertility preferences presents a more accurate picture of reality than one which does. Fourth, this framework does not assume that even when fertility desires are known that they are perfectly correlated with contraceptive behavior. In a rational-choice framework, these desires and behaviors should be perfectly correlated, and any "exceptions" are treated as anomalies. But people's motives for using contraception are not solely related to their fertility desires, nor even to the desire to prevent disease; contraception is laden with social meaning—as is sex—in such a way that decisions about contraception are not guaranteed to be "rational." And finally, this framework accounts for the high rate of unintended pregnancy and makes the tenable assumption that people generally have to take action *not* to get pregnant, rather than the assumption that they have to take action *in order* to get pregnant.

This framework is very useful for analyzing initial sexual encounters (approximately the first month) in relationships and/or "one night stands." In the early stages of people's relationships, they may find themselves having sex when they did not necessarily expect to. As stated, this model pretends that people have never had an opportunity to discuss sex or their fertility desires until they actually reach a sexual encounter. Even in relationships where people have not known each other very long, the numbering in stages 1 and 2 is really only for convenience—the two stages can easily be switched, and they can be separated by hours or weeks. However, in the context of long-term relationships, people are unlikely to constantly re-negotiate their contraceptive and fertility preferences with every sexual encounter, and for couples who never discussed these issues in the first place, they are unlikely to do so in the future. Thus in order to understand long-term relationships, a slightly different model is needed.

Long-term Relationships versus "One-Night Stands"

With only a few changes, the sex-focused model described above can become a much better framework for understanding long-term relationships. Essentially, the modified model, shown in figure 4, replaces stages 1 and 2 with "previous sexual experience with this partner." After the first month or so in a relationship, this theory argues that the best predictor (though certainly not the only one) of future contraceptive behavior in a given relationship is the most recent contraceptive behavior in that relationship. Thus if a couple used condoms in their last sexual encounter, they are likely to use condoms in their next encounter; similarly, if they have not previously used contraception at all, they are unlikely to begin to do so. In part because fertility preferences are relatively stable over the short-term (one to two years) (Rindfuss,

Morgan, and Swicegood 1988), couples do not need to constantly discuss and re-negotiate their contraceptive practices unless there is some major source of conflict. On the other hand, one of the most interesting qualitative research pursuits in this area is looking at when and how couples engage in re-negotiation of contraception and fertility preferences; unfortunately, this framework will not help illuminate that question.

Sex-focused Models and Unintended Pregnancy

I developed these sex-focused models based on my interest in better understanding unintended pregnancy, and I certainly hope that they can be applied to the study of this phenomenon as well as others. The short-term framework helps clarify why defining unintended pregnancy can be so difficult. Any path ending in pregnancy which goes through stage 2's "agree that they want children now" is clearly an intended pregnancy; similarly, any path ending in pregnancy which goes through stage 3's "have sex and contracept" is clearly an unintended pregnancy. However, there are numerous ambiguous paths. We cannot definitively say that a couple who has sex and does not contracept (stage 3) without discussing their fertility preferences, after agreeing that they did not want children now, or disagreeing that they do not want children now (all in stage 2) has experienced an unintended pregnancy (nor can we say that they have not experienced one). The individuals involved might have felt quite clearly one way or another, but their actions may not match their stated sentiments. Trying to get a better understanding of these ambiguous cases is one of our richest areas for further research.

In the short-term framework, the most interesting cases are ones where behavior is inconsistent with stated opinions. In the long-term framework, consistent behavior is the focus; however, the most theoretically interesting cases are ones in which

contraceptive behavior is *in*consistent. Particularly for researchers interested in unintended pregnancy, it is important to understand why couples who use contraception most of the time do not use contraception in a given encounter. Moreover, we should also focus our attention on couples who are typically inconsistent users of contraception to see what characterizes them. Deepening our understanding of ambiguous and "irrational" behavior is crucial to gaining a better understanding of unintended pregnancy, both in long- and short-term relationships.

Conclusion

In many cases, people decide with their partners when to have children and keep to their stated schedules; for these cases, sex is simply one "proximate determinant" of fertility among many. For these numerous individuals and couples, the child-focused framework that I have outlined is necessary and applicable. In addition, individuals who acquire children without intercourse also require a child-focused framework in order to best understand the accomplishment of their fertility desires.

However, many other people describe their children as "just happening." In reality, of course, children never "just happen"—they are the product of heterosexual intercourse. Whether welcome or unwelcome, these pregnancies and births were not the product of rational calculus. Rather, they were the product of sex, and the context of these conceptions, as outlined in my sex-focused frameworks, influences people's later decisions about what to do with these pregnancies. These frameworks are more appealing "default" frameworks for analyzing fertility because in a highly heterosexually active population, action must be taken to prevent pregnancy, not make it happen.

Sophisticated empirical research is impossible without sophisticated foundational theories. I readily admit that the frameworks I have introduced here are only a starting point for the development of more theorizing about the importance of sex and relationships in the context of fertility. While I realize that these frameworks are limited in their scope, I hope that their limitations will not prevent my most important points from remaining clear: sex is a highly complicated social process, and virtually all pregnancies and births are the product of it; our research will be disconnected from social reality in direct proportion to our failure to acknowledge this relationship.

Appendix I: Demography and Theory

Since one of the goals of this paper is to participate in and encourage the development of demographic theorizing, I provide here a very brief overview of the state of theory in demography. Demographers regularly lament their lack of theory (Greenhalgh 1996). Greenhalgh (1996) argues that the reason for this lack is that theory has not been valued as an intellectual commodity from demographers. Burch (1979) and Watkins (1993) point out that demographers actually *do* have theories, but they are underdeveloped and often not explicitly acknowledged. Riley (1999) agrees that "theoretical assumptions are rarely made explicit [by demographers]" (p. 387). Her use of the term "assumption" here is revealing: since demographers rarely explicitly discuss their theories, they are left with "assumptions" to guide their research rather than advanced theoretical toolkits.

When I have identified myself as a "theoretical demographer," people have frequently responded with, "What do you mean by theory?" The question is a fair one, and it deserves a sound answer if we are to seriously embark on a theoretical project

within demography. There are scales of theoretical positions. The first level is paradigms. Paradigms are untestable, almost faith-based ideas about how the social world operates. Relatively few paradigms exist, but the most common one in demography is Rational-Choice theory, which argues that people attempt to maximize their perceived self-interest to the best of their abilities. Based on these paradigms, we create theories, the second level. Merton's (1967) essay "The Bearing of Sociological Theory on Empirical Research" provides the best picture of what social theory should look like, and I can only give a very brief outline here of its main points. Essentially, Merton argues that strong social theories systematically relate concepts in such a way that specific hypotheses can be derived from them. We cannot test theories themselves, but we can derive testable hypotheses from them which may or may not provide support for our theories. In demography, "Demographic Transition Theory[11]" is by far the best-known theory, and critiquing its strengths and weaknesses has been a focus of the discipline almost since its beginning (Greene and Biddlecom 2000; Greenhalgh 1996).

Beneath theories are concepts, which are theoretical building-blocks; they are terms for describing broad social phenomena. Merton's own idea of the "self-fulfilling prophecy[12]" is one of sociology's most famous concepts; Bongaarts' idea of "proximate determinants[13]" of fertility is one of demography's most famous concepts. These ideas allow us to broadly understand social phenomena and uncover patterns of experience. Theoretical frameworks are the final level, and they provide guides for our thinking about

---

[11] Demographic Transition Theory argues at its core that as societies modernize, mortality usually declines, and then fertility declines (Mason 1997).

[12] "Self-fulfilling prophecy" refers to the tendency of society to impose social constraints upon groups which compel those groups to fulfill society's expectations of them.

[13] In the same paper in which Bongaarts introduced the concept of "proximate determinants," he placed the concept in a theoretical framework. "Proximate determinants" refer to the social and biological processes which directly affect fertility, such as breastfeeding and contraceptive use.

a particular topic: they are idea maps to help us navigate complex social phenomena. Given demography's alleged theoretical weaknesses, it is perhaps surprising that the discipline positively abounds in theoretical frameworks. From Davis and Blake's (1956) early framework examining the relationship of structural social factors on fertility to Easterlin and Crimmins' (1985) framework for looking at the "demand" for children, demographers have many frameworks to draw upon for analyzing fertility at the very least. In general, it seems like a good idea to build up: to create frameworks and concepts with the ultimate goal of constructing sophisticated theories. Consequently, I have begun the process of constructing a theory of the impact of sex on fertility in this paper by creating relevant frameworks.

REFERENCES

Abbey, Antonia. 1991. "Gender's Role in Response to Infertility." *Psychology of Women Quarterly* 15:295-316.

Adler, Nancy E. 1979. "Decision Models in Population Research." *Journal of Population* 2:187-202.

Becker, G. S. and H. G. Lewis. 1973. "On the Interaction between Quantity and Quality of Children." *Journal of Political Economy* 84:279-88.

Bongaarts, John. 1978. "Framework for Analyzing the Proximate Determinants of Fertility." *Population and Development Review* 4:105-32.

Brewster, K. and R. Rindfuss. 2000. "Fertility and Women's Employment in Industrialized Nations." *Annual Review of Sociology* 26:271-96.

Burch, Thomas K. 1979. "The Structure of Demographic Action." *Journal of Population* 2:279-93.

Chou, Wah-shan. 2000. *Tongzhi: Politics of Same-Sex Eroticism in Chinese Societies.* New York: Haworth.

Cooper, M. L., V. B. Agocha and A. A. Powers. 1999. "Motivations for Condom use: Do Pregnancy Prevention Goals Undermine Disease Prevention among Heterosexual Young Adults?" *Health Psychology* 18:464-74.

Dalton, Susan and Sarah Fenstermaker. 2002. "'Doing Gender' Differently: Institutional Change in Second-Parent Adoptions." *Doing Gender, Doing Difference: Inequality, Power, and Institutional Change,* edited by Sarah Fenstermaker and Candace West. New York: Routledge.

Davis, Kingsley and Judith Blake. 1956. "Social Structure and Fertility: An Analytical Framework." *Economic Development and Cultural Change* 4:211-35.

De Laat, Joost and Almudena S. Sanz. 2005. *Working Women, Men's Home Time, and Lowest Low Fertility.* Brown University, Department of Economics: .

Dodoo, F. N. and Maria Tempenis. 2002. "Power, and Reproduction: Rural-Urban Differences in the Relationship between Fertility Goals and Contraceptive use in Kenya." *Rural Sociology* 67:46-70.

Easterlin, Richard A. and Eileen Crimmins. 1985. "Theoretical Framework." *The Fertility Revolution: A Supply-Demand Analysis,* Chicago: Chicago UP.

Folbre, Nancy. 1993. "Micro, Macro, Choice, and Structure." *Theory on Gender/Feminism on Theory,* edited by Paula England. New York: Aldine de Gruyter.

Grady, William R., Daniel H. Klepinger and Anjanette Nelson-Wally. 1999. "Contraceptive Characteristics: The Perceptions and Priorities of Men and Women." *Family Planning Perspectives* 31:168-75.

Greenhalgh, Susan. 1996. "The Social Construction of Population Science: An Intellectual, Institutional, and Political History of Twentieth-Century Demography." *Comparative Studies in Society and History* 38:26-66.

Gunasekera, Hasantha, Simon Chapman and Sharon Campbell. 2005. "Sex and Drugs in Popular Movies: An Analysis of the Top 200 Films." *Journal of the Royal Society of Medicine* 98:464-70.

Hammel, E. A. 1990. "A Theory of Culture for Demography." *Population and Development Review* 16:455-85.

Hammer, J.C. et al. 1996. "When Two Heads Aren't Better One: AIDS Risk Behavior in College-Aged Couples." *Journal of Applied Social Psychology* 26:375-97.

Hass, Paula H. 1974. "Wanted and Unwanted Pregnancies: A Fertility Decision-Making Model." *Journal of Social Issues* 30:125-65.

Henshaw, S. K. 1998. "Unintended Pregnancy in the United States." *Family Planning Perspectives* 30:24-9.

Hodgson, Dennis. 1991. "The Ideological Origins of the Population Association of America." *Population and Development Review* 17:1-34.

Hodgson, Dennis. 1988. "Orthodoxy and Revisionism in American Demography." *Population and Development Review* 14:541-69.

Hodgson, Dennis. 1983. "Demography as Social Science and Policy Science." *Population and Development Review* 9:1-34.

Hollerbach, Paula E. 1980. "Power in Families, Communication, and Fertility Decision-Making." *Population and Environment* 3:146-73.

Lawson, Annette. 1988. *Adultery: An Analysis of Love and Betrayal.* New York: Basic.

Mason, Karen. 1997. "Explaining Fertility Transitions." *Demography* 34:443-54.

McDaniel, Susan A. "Toward a Synthesis of Feminist and Demographic Perspectives on Fertility." *Sociological Quarterly* 37:83-104.

Merton, Robert K. 1967. "The Bearing of Sociological Theory on Empirical Research." *on Theoretical Sociology,* Anonymous New York: Free Press.

Muscio, Inga. 1995. "Abortion, Vacuum Cleaners, and the Power within." *Listen Up: Voices from the Next Feminist Generation,* edited by Barbara Findlen. Seattle: Seal.

Quesnel-Vallee, A. and S. P. Morgan. 2003. "Missing the Target? Correspondence of Fertility Intentions and Behavior in the US." *Population Research and Policy Review* 22:497-525.

Riley, Nancy E. "Challenging Demography: Contributions from Feminist Theory." *Sociological Forum* 14:369-97.

Rindfuss, R. R., S. P. Morgan and G. Swicegood. 1988. *First Births in America: Changes in the Timing of Parenthood.* Berkeley, CA: University of CA Press.

Schoen, R., N. M. Astone, Y. J. Kim, C. A. Nathanson and J. A. Fields. 1999. "Do Ferility Intentions Affect Fertility Behavior?" *Journal of Marriage and the Family* 61:790-9.

Stewart, Susan D. 2002. "The Effect of Stepchildren on Childbearing Intentions and Births." *Demography* 39:181-97.

Thomson, Elizabeth and Yvonne Brandreth. 1995. "Measuring Fertility Demand." *Demography* 32:81-96.

Treas, Judith and Deirdre Geisen. 2000. "Sexual Infidelity among Married and Cohabiting Americans." *Journal of Marriage and the Family* 62:48-60.

Watkins, Susan C. 1993. "If All We Knew About Women Was What We Read in *Demography*, What Would We Know?" *Demography* 30:551-77.

Fig. 1 Active and Passive Decisions in Heterosexual Relationships

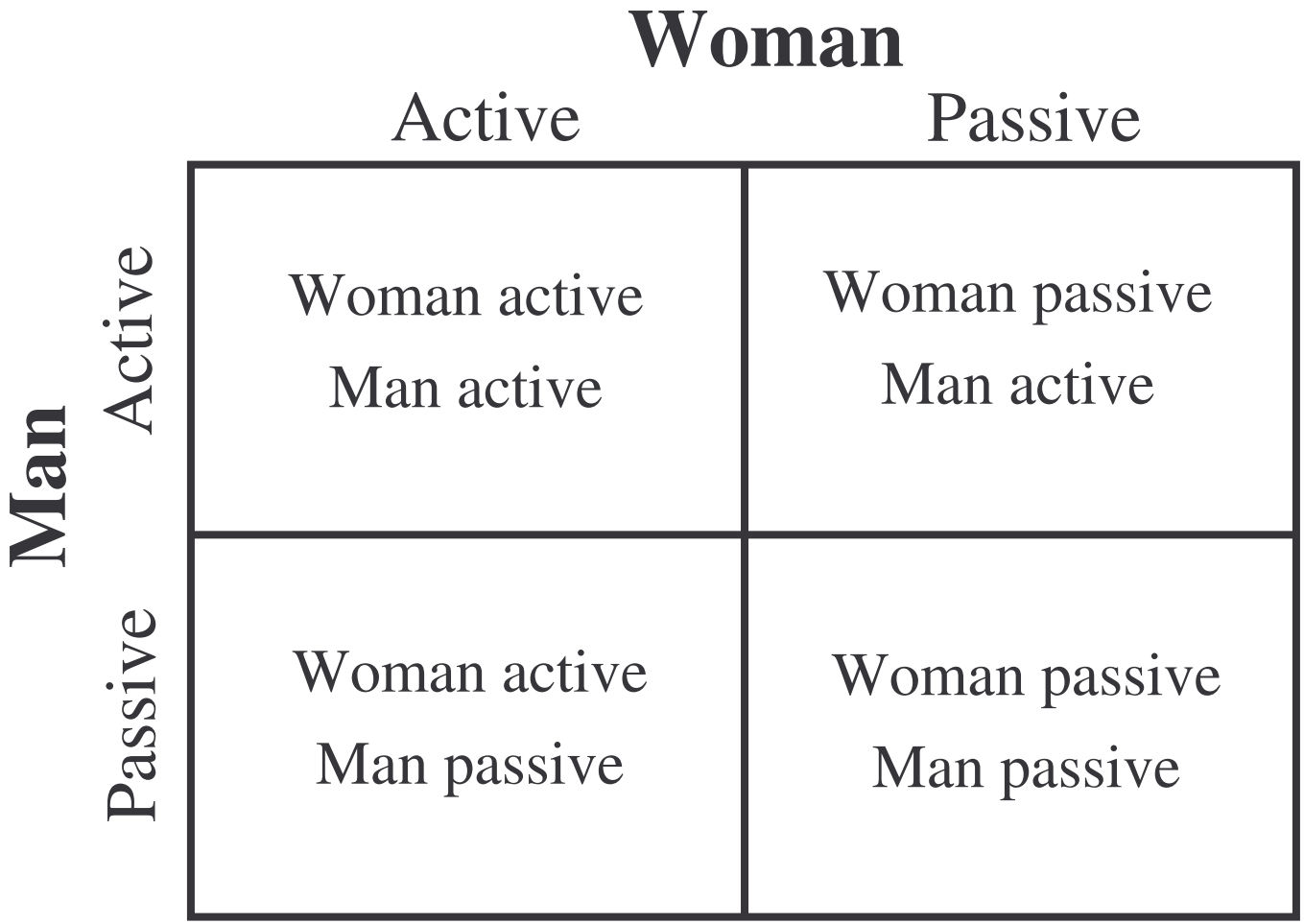

Fig. 2 Child-Focused Paths to Child Acquisition

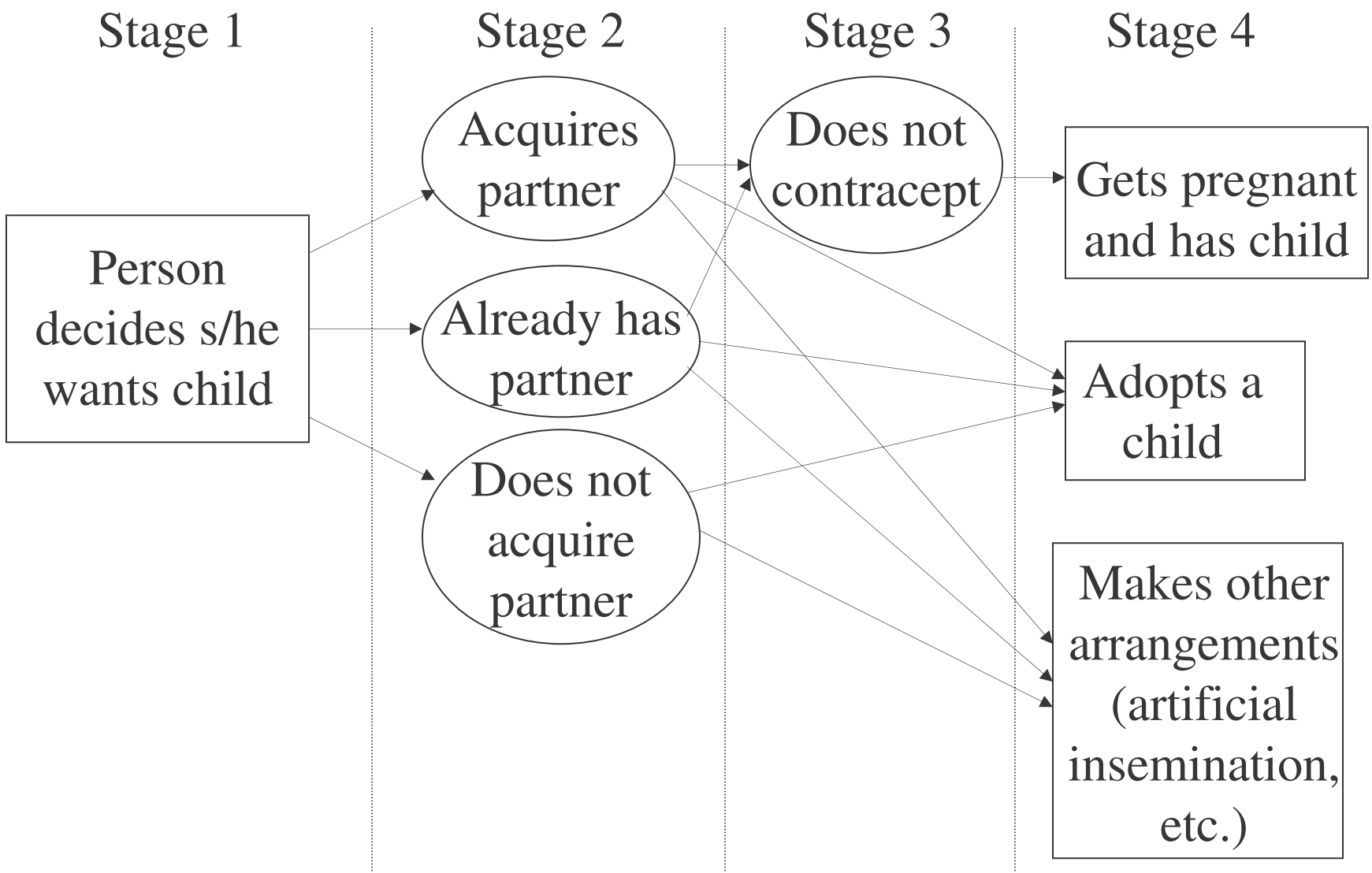

Fig. 3 Sex-Focused Paths to Pregnancy

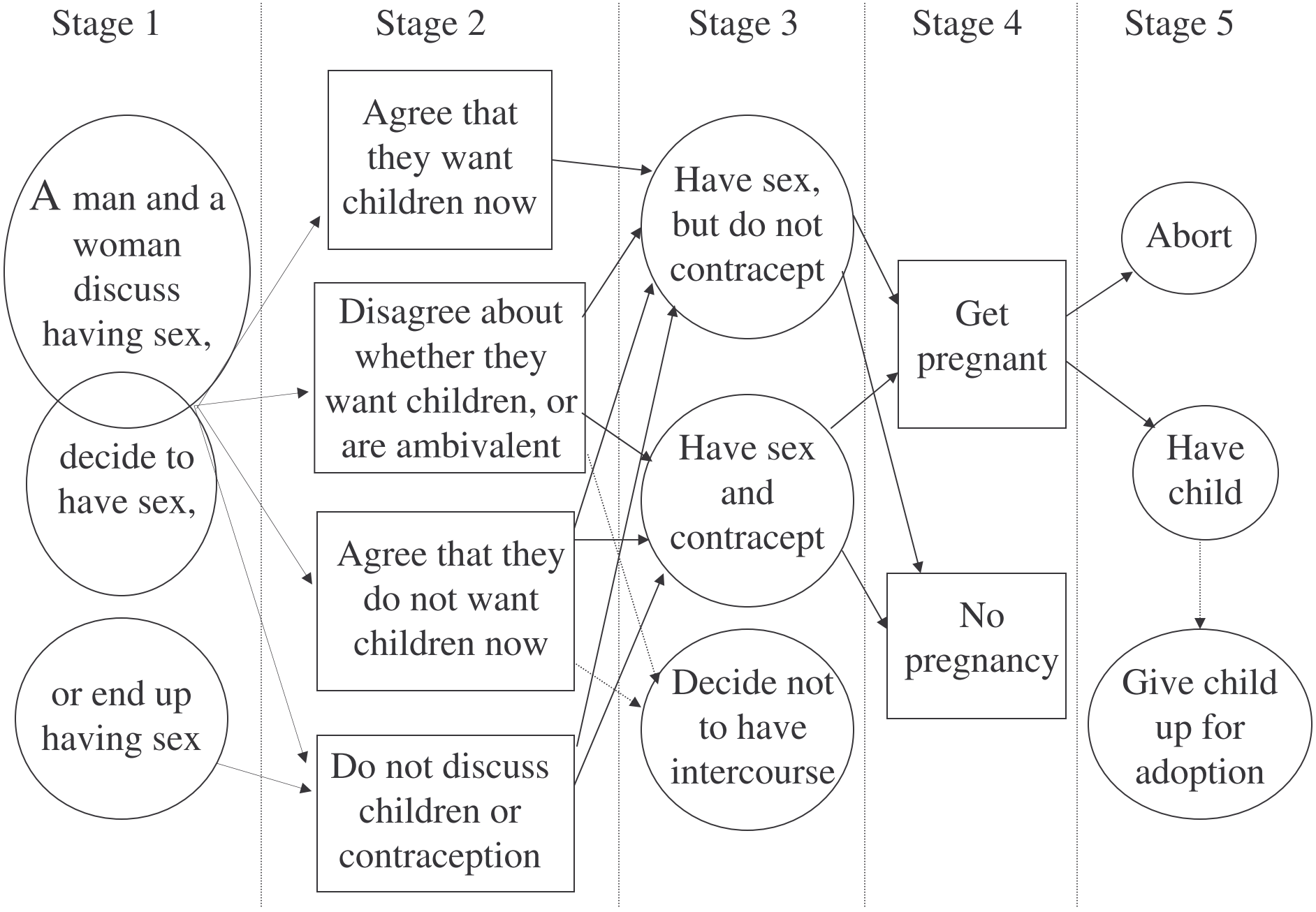

Fig. 4 Long-term Paths to Pregnancy