

The Social Psychology of Contraception and Prophylaxis:  
What We Already Know About Using Condoms

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November 1987

This paper was supported in part by the Center Grant HD05876 from the National Institute of Child Health and Human Development. I am grateful to Sara S. McLanahan, Roberta Braun Curtin, Frederick C. Licari, and Thomas A. Heberlein for their comments on an earlier version of the manuscript.

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Abstract

This paper reviews theory and research on contraceptive behavior in order to set an agenda for social psychological research on condom use in both heterosexual and homosexual relationships. Rational benefit/costs models bring to our attention systematic biases in perception of risk; differential motivation and motivational thresholds for risk-reduction; and the relationship of prophylactic properties to other contraceptive attributes in their effects on method choice. However, rational models are not sufficient to explain the prophylactic use of condoms, just as they have not fully explained contraceptive behavior. "Rational" decisions and actions depend on reducing intrapersonal as well as interpersonal barriers to contraception and/or prophylaxis. Not everyone is able to accurately assess and cognitively integrate risks of pregnancy and HIV-infection, along with the costs of condom use, in making contraceptive or prophylactic decisions. "Rational" contraceptive or prophylactic behavior also requires sexual self-acceptance and self-assurance, as well as a sense of personal efficacy. Finally, sexual partners and sexual relationships are critical to condom use. Long-term, high-quality, and/or egalitarian relationships foster effective contraception, and are likely to facilitate effective

prophylaxis. Although there is only limited research on actual or potential use of condoms by gay men, what there is suggests that models of heterosexual contraceptive behavior can be extended at a theoretical level to other forms of sexual expression.

"The best hope for stopping the epidemic spread of the AIDS [Acquired Immune Deficiency Syndrome] virus is through changes in the types of behavior responsible for its continued transmission. Yet the forces that shape human behavior and the best approaches to influencing behavior to protect health, are among the most complex and poorly understood aspects of society's response to the AIDS epidemic."

National Academy of Sciences (1986:120)

While it's true that many of the behaviors associated with risk of HIV-infection (the etiologic agent of AIDS) are poorly understood, that is not the case with respect to an important preventive behavior, using condoms. From several decades of research, we understand a great deal about pregnancy risk-taking and about choices between condoms and other methods of fertility control. Unfortunately, this body of research was neglected in the NAS report and subsequent discussions of social science contributions to the AIDS problem. Instead, we have been directed to studies of smoking, dieting, or taking prescriptive medications as a base for understanding behaviors that increase or decrease the risk of AIDS (NAS, 1986).

I don't deny that theories and research about such health-risk behaviors are applicable to transmission of HIV-infection, particularly through non-sexual routes. However, the difference between these behaviors and using condoms as prophylactics is much greater than that between using condoms for prophylaxis versus contraception. Let's begin our search for understanding in the context of sexual relationships and

sexual acts, and then try to understand how infection and disease enter into the equation, rather than vice-versa.

In this paper, I review theory and research on contraceptive behavior in order to set an agenda for social psychological research on using condoms in both heterosexual and homosexual relationships. Of course, biological and socially constructed differences between heterosexual and homosexual relationships must be considered in this analysis. But many, if not most, of the causal variables may be simply human and independent of sexual preference.

I've divided this research into three general categories. First, I discuss contributions of "rational" decision/action models to our understanding of pregnancy risk perception, motivation for/against pregnancy, and perceptions of contraceptive attributes. "Rational" models seem to dominate current thinking about determinants of HIV-preventive behaviors; it is important that we understand their limitations in the sexual domain. The second section considers barriers to "rational" contraceptive and/or prophylactic behavior stemming from intrapersonal processes -- cognitive ability, self-concepts and self-esteem, and personal efficacy. Finally, I discuss perhaps the most important element of all, sexual partners and sexual relationships. Contraception and, especially, prophylaxis are couple behaviors; they cannot be explained solely in terms of individual cognitive processes or personal perceptions.

Throughout each section, I discuss the extension or modification of models of contraceptive behavior to using condoms as prophylactics in heterosexual and male homosexual relationships. I also review the scant direct evidence for such extensions or modifications. [1]

### "Rational" Contraceptive Behavior

"Rational" theories of contraceptive use deal with the basic trade-off between the benefits/costs of pregnancy and the costs of contraception (Easterlin, 1965; Luker, 1975). [2] The trade-off has been elaborately specified with various expectancy-value models (Adler, 1979; Falbo and Becker, 1981; Pagel and Davidson, 1984), and I'm sure that HIV-risk behaviors will provide them a new battleground. However, my interest here is in what this approach offers substantively to a behavioral theory of contraception and prophylaxis.

In relation to HIV-infection, the most important contribution of "rational" theories/models is to our understanding of risk perception. The fact that behavior is likely to be affected only by risks that are perceived is why the term "rational" has so far been placed in quotes. We know that perceptions of pregnancy risk (and reductions in risk associated with contraceptive use) are systematically biased; similar biases are beginning to be documented in perceptions of HIV risk.

Pregnancy risk associated with unprotected sexual intercourse is usually underestimated (Crosbie and Bitte, 1982; Cvetkovich and Grote, 1981). The most common reasons given by young unmarried women for unprotected sexual intercourse have to do with misperceptions of pregnancy risk; many believe they cannot conceive (Cvetkovich et al., 1975; Shah et al., 1975). Such beliefs share the "optimistic bias" of perceptions of more general health risks (Weinstein, 1980). Even those who correctly perceive pregnancy risks for others may have "personal fables" about their own own infecundity (Cvetkovich et al., 1975).

Understandings of cumulative risk are frequently inaccurate. Given factual information about annual rates of contraceptive failure, about half of a group of respondents believed that cumulative risk (over several years) was the same as annual risk. Those who believed correctly that pregnancy risk increased over time underestimated the rates of increase, believing that the differences in risk using different methods remained about the same, rather than increasing (Shaklee, 1987).

Perceptions of risk independence are also biased by personal probability theories. Studies of preference for sex of children reveal that the "gambler's fallacy" is popular; among U.S. college students, more than a third believed that the probability of having a boy was higher for those who had previously had girls (and vice-versa). Another large minority held a theory of trends, believing that the probability was higher for those who had previously had boys (McClelland and

Hackenberg, 1978). Trend theories would explain why young women who experience pregnancy scares but find they are not pregnant continue to engage in unprotected intercourse (Evans et al., 1976). (Unfounded scares might also bolster personal fables of infecundity.)

As in the case of pregnancy, perceptions of HIV risk often show little correspondence to epidemiological findings (Joseph et al., 1987), and risks are usually underestimated (Bauman and Siegel, 1987; Weinstein, 1984). Unfortunately, the bias is greatest for those engaging in the highest-risk sexual behaviors (Bauman and Siegel, 1987), suggesting that denial of risk is an important way of coping with life threats (Weinstein, 1980). Confusion about or misperception of cumulative HIV-risk is extremely likely, since considerable debate exists about the actual risk of infection from a single sexual encounter or from particular forms of sexual expression.

A second part of rational behavior theories is motivation to achieve or avoid a particular outcome. Although the relationship of motivation to behavior is certainly monotonic, it may not be linear. For example, married couples elect sterilization (of one or the other partner) only when they have a strong aversion to future births; and contracepting couples stop using a method only when their desire for conception and birth is well beyond the neutral point (Beach et al., 1982). On the other hand, young unmarried women who are ambivalent, uncertain, or only mildly favorable toward pregnancy are not likely to use contraception (Cvetkovich and Grote, 1981; Luker,



1975). The effects of motivation interact with the behavioral status quo; ambivalence causes continued risk-taking by those who are not using contraception, and continued vigilance by those who are. Beach and his colleagues (1982) suggest that attainment of a "motivational threshold" is required for behavior to change; the absence of change at lower levels of motivation is attributed to "inertia" (Davidson and Beach, 1981). Neal and Groat (1980) observed a similar phenomenon they labeled "social drift," attributing continued risk-taking to feelings of meaninglessness and normlessness.

Obviously, those who do not have HIV or other sexually transmitted infections should be strongly motivated to avoid them. The threshold hypothesis is particularly important for gay men, since the behavioral status quo (prior to knowledge of AIDS) was to engage in HIV-risky behaviors; in particular, prophylaxis has not traditionally been part of gay sexual expression.

When we consider heterosexual couples, motivations become more complicated; motivation to prevent/achieve pregnancy and motivation to prevent HIV-infection may be at odds. Among those who are ambivalent about pregnancy and who are not using contraception, motivation to prevent HIV-infection or other STDs should "add up" to the threshold for using condoms or spermicides. But, what about the couples who are already over the motivational threshold for more effective methods of fertility control such as oral contraceptives or sterilization? If they believe they are at risk of HIV-infection, the goals of

preventing pregnancy and preventing infection are in some sense competing; the combined goal is most likely to be achieved with condom use, while pregnancy prevention is most likely to be achieved by using more effective but non-prophylactic methods of contraception. And for older divorced persons who are already sterilized, HIV-protection requires the adoption or return to "old" contraceptive methods.

The competition between effective contraception and effective prophylaxis brings to our attention the distinction between motivation to prevent pregnancy and motivation to avoid having a child. The difference between the two feelings depends on the availability and acceptability of induced abortion (Luker, 1975). Abortion is a back-up for contraceptive failure, perhaps contributing to the increase in use of condoms and other barrier methods during the 1970s (Bruce and Shearer, 1979). An early study in Hawaii (one of the first states to legalize abortion) found that pregnancies resulting from condom failure were more likely to be aborted than those occurring to users of other contraceptive methods (Diamond et al., al., 1973). Choice of condoms appeared to result not from weaker motivations to avoid having a child, but from weaker motivations to avoid pregnancy, given abortion as a back-up. For those who want to prevent pregnancy as well as HIV-infection, the acceptability and availability of abortion becomes an even more important factor in the choice of fertility control methods. [3]

The motivation of infected persons to avoid infecting others is of greater concern. Some infected persons may not have crossed the "threshold" to avoid transmitting the virus (or, as may be the case, to avoid exacerbating their own infection). Infected persons are also at high risk for feelings of meaninglessness and normlessness, and therefore likely to experience "social drift" in behaviors that increase others' risk of HIV-infection. [4]

Rational models of contraception have also contributed an extensive inventory of contraceptive attributes affecting their use. Broadly categorized, attributes are ordered in importance: effectiveness, side-effects, convenience, route of administration, frequency of use (Bulatao, forthcoming). The primary benefit (pregnancy prevention) is thus weighed against a variety of costs. [5] Only a few studies include the prophylactic properties of condoms as a potential benefit of their use (e.g., Cohen et al., 1978).

Ironically, the prophylactic properties of condoms can be a negative factor in their acceptability among married couples. In many developing countries, condoms were used primarily by prostitutes to prevent the transmission of STDs, and were thus associated with "dirty" or "bad" sex. Although extensive social marketing campaigns have succeeded in changing this image (David, 1977), the experience suggests that promoting condoms as prophylactics could adversely affect their image as contraceptives among some segments of the population.

The most common complaints about condoms are that they reduce sexual stimulation, are messy to use, and interrupt sexual foreplay (Lane, 1978; Misra, 1967; Reading et al., 1980; Roberto, 1974; Sherris, 1982). It has long been argued that condom application can be an erotic act (Harvey, 1972), but studies of Japanese couples do not find much evidence of erotic condom use (Coleman, 1981). Gay men's attitudes toward condoms are improving, but are still on the negative side of the preference scale (Research and Decisions Corporation, 1986). Of course, Keller (1979) points out that "unacceptable" methods of contraception (or prophylaxis) will be used by many couples, so long as the alternatives are less acceptable. For those at risk of sexually-transmitted HIV-infection, condoms are the best game in town.

Condoms do have other (than prophylactic) advantages as contraceptives. Coital-dependence is an advantage for those with infrequent and irregular sexual encounters. Since continuous contraceptive protection is not required, women need not expose themselves to the health risks associated with oral contraceptives or IUDs, nor eliminate their childbearing potential with sterilization. For adolescents or low-income couples, condoms are more accessible than other methods. Thus, for heterosexual couples, there is a positive base upon which the increasingly valuable benefit of prophylaxis can build.

A fundamental criticism of rational models of contraceptive behavior is that they presume an organized decision process, whereas much behavior is not so guided (Hollerbach, 1983; Hull, 1983). A further inherent limitation of the rational approach is that it applies only to behavior under volitional control. As discussed in the following two sections, intra- and interpersonal barriers to decision processes and to volitional action explain a great deal more about pregnancy risk-taking, beyond that implied by the net benefits and costs of unprotected intercourse.

#### Intrapersonal Barriers to Contraception and Prophylaxis

Assessment and integration of perceived benefits and costs of contraception or prophylaxis presumes a certain level of cognitive development and some expectation of future sexual encounters. Translating the resulting motivations into action presumes some level of personal control. Without these intrapersonal resources, individuals are likely to take risks with unprotected sexual intercourse.

Pregnancy risk-taking among adolescents is often attributed to psychological immaturity. Cognitive development liberates adolescents from two forms of egocentric thinking that inhibit contraceptive use (Cvetkovich et al., 1975). The "personal fable" of infecundity was discussed above. Personal fables are probably reinforced by adults' emphasis on pregnancy risk; adolescents who have sex and don't experience pregnancy may conclude they are not at risk (Cvetkovich et al., 1975).

Because sexuality is a relatively taboo subject of discussion, personal fables can persist well into adulthood (Cvetkovich et al., 1975).

Similar fables are constructed about personal risks of HIV-infection. Heterosexual adults are reported to believe that they can intuitively select noninfected sexual partners (Leishman, 1987). Gay men often believe they cannot get AIDS so long as they are in good health, get sufficient exercise and sleep, and manage stress well, regardless of their sexual behaviors (Kotarba and Long, 1986).

Anticipating and planning for potential sexual encounters requires at last some acceptance of one's own sexuality. A major reason given by young, sexually active women for not using contraception is that they don't want to "plan for sex." They may engage in sexual intercourse, but do not want to think of themselves as sexually active. Contraceptive use is directly associated with positive attitudes toward masturbation or heterosexual forms of sexual gratification (Fisher et al., 1979; Kelley, 1979) and inversely associated with sex guilt (Gerard, 1982; McKinney, Sprecher and DeLamater, 1985; Mosher and Vonderheide, 1985; Thomson, 1982).

Almost all of the research on sexual self-concepts has focused on women, particularly young unmarried women. DeLamater and MacCorquodale (1978) report that the relationship between acceptance of sex for self and contraceptive use does not hold for young men. These findings are consistent with the sexual

double standard which ascribes sexual desire only to "bad" women; egalitarian sex-role attitudes increase the likelihood of young women's contraceptive use (Adler, 1981).

Ideological prescriptions on homosexual behavior are even stronger than those on adolescent heterosexual behavior. Acceptance of sexual feelings for and relationships with same-sex partners can be more difficult than (hetero)sexual acceptance by even the most traditional young women. "Coming out" should therefore increase the likelihood of condom use among gay men. Bisexual men probably have the most difficulty in constructing an acceptable sexual identity, and would according to this logic be least likely to use condoms. This is particularly likely for men whose bisexuality serves as a "closet" for sexual feelings and relationships with other men.

Even those with positive feelings about sexuality per se may experience anxiety about sexual performance; among both married and single men, sex anxiety is inversely associated with contraceptive use (Gold and Berger, 1983; Keller et al., 1970). Performance anxiety is minimized by keeping sex as simple as possible -- no discussion of contraception (assuming or hoping that the woman is using pills, or IUD), and certainly no complications to the performance, such as applying condoms. Sexual performance anxiety should decrease with sexual experience and should be lower in long-term relationships. Gay men typically have more experience of different partners than do heterosexual men and women, but are also more likely to engage in casual sex (Bell et al., 1981; Blumstein and Schwartz, 1983).

Thus, it is not clear whether performance anxiety will be a more or less important barrier to condom use in homosexual compared to heterosexual relationships.

The development of sexual scripts (Gagnon and Simon, 1973) for prophylaxis could alleviate the discomfort that many people feel in using condoms, particularly with new sexual partners. Of course, scripts work only when both partners know them; one of the explanations for low levels of contraceptive use among adolescents is that males and females have different sexual scripts (Severy, 1979). Emerging norms supporting condom use (Research and Decisions Corporation, 1986) may provide shared prophylactic scripts to even casual partners.

Personal efficacy enables individuals with "rational" contraceptive or prophylactic intentions to translate them into actions. Numerous studies demonstrate a direct effect of personal efficacy on contraceptive use, above and beyond the effects of perceived benefits and costs (Adler, 1981; Robbins et al., 1985; Rosen and Ager, 1981). Conversely, feelings of powerlessness inhibit contraception (Bauman and Udry, 1972; Neal and Groat, 1980), though Morris and Simon (1974) suggest this is explained by the effects of risk-taking and unintended births on powerlessness, rather than the reverse. Adler (1981) asserts that women's sex-role socialization decreases efficacy; perhaps gay men have fewer problems in this regard than traditionally heterosexual women.



### Sexual Partners and Sexual Relationships

Even the most rational, cognitively mature, sexually self-assured and efficacious person may take pregnancy or HIV risks because of partner influence. Studies of individuals and couples consistently find that sexual partners' attitudes, beliefs and behaviors exert major effects on contraceptive behavior (Nathanson and Becker, 1986; Thompson and Spanier, 1978; Werner and Middlestadt, 1979). Further, the quality of the partners' relationship exerts independent effects on their willingness and ability to use effective contraception.

Since men do not experience pregnancies, abortions, and/or births, they often have less information about and less favorable attitudes toward use than do their female partners (Freeman, 1980; Misra, 1967). Unmarried men, in particular, may be unwilling to share responsibility for fertility control (Gold and Berger, 1983; Rosen and Benson, 1982; Scales, 1977), so that contraception depends primarily on the motivations of young unmarried women to avoid pregnancy. Among married couples, on the other hand, both partners' desires seem to have an effect on fertility control; couples who disagree about having a(nother) child behave in much the same way as those who both want to avoid pregnancy (Coombs and Chang, 1981; Thomson, forthcoming; Townes et al., 1980).

Motivation to prevent HIV-infection ought to be shared, since both partners are at some risk. Of course, partners may differ in their perceptions of relative risk, with the extreme

case being the partner who knows he/she is already infected. (As noted above, even infected partners may perceive risks to themselves of exacerbated infections through sexual contact.) It appears that there are differences in risk to men and to women in heterosexual encounters, and possibly differences in risk due to prior infections or other health problems. What we don't know is whether partners' motivations will be additive in their effects on condom use, or whether differences in motivation will be resolved in favor of the more "protective" partner, as is the case for pregnancy risk-taking by married couples. Most gay men in a San Francisco survey reported little difficulty in finding partners who would have safe sex, though over 20 percent disagreed with this statement (Research and Decisions Corporation, 1986). In locations with less intensive educational and community efforts to combat AIDS, partner refusal may be a more common problem.

Partners' willingness to use contraceptives stem in part from their perceptions of the attributes of different methods; in addition to differences in prophylactic properties, most methods have different potential effects on the sexual experience and health status of women and of men. It is no surprise, then, that men and women have different perceptions of and preferences for different methods (Downs, 1977; Neal and Groat, 1976). In Downs' (1977) study, husbands preferred oral contraceptives and IUDs, wives preferred condoms, diaphragms and IUDs. Partner's perceptions of and preferences for different methods then become part of the decision process. After

discussing contraceptive methods with their wives, married men became more concerned about side effects of "female" methods; there were no shifts in either partner's concerns about the effects of methods on sexual enjoyment. These shifts in perceptions of method attributes resulted in joint ratings of diaphragm and IUD as the most preferred methods (Downs, 1977). Similarly, the intentions of young unmarried women to use condoms were more strongly affected by their partner's opinions of condoms than by their own attitudes, but no such effects were found for intentions to use "female" methods such as oral contraceptives or IUDs (Cohen et al., 1978). When partners' motivations to avoid pregnancy differ, the relative costs of different methods for each partner assume greater importance in method choice. Thomson (forthcoming) reports that disagreement about having children shifts couples towards contraceptive methods that are relatively more costly for the partner who wants to prevent pregnancy.

Condoms have more negative effects on men than on women, and are more costly to men than women's use of oral contraceptives or IUDs. However, condoms have the advantage of greater sharing of responsibility for fertility control (Bruce and Shearer, 1979). Their use is also more visible, an advantage for men who would share responsibilities for unintended pregnancies and/or births. These advantages accrue to the prophylactic use of condoms in both heterosexual and homosexual relationships, since both partners are at risk. Since gay men experience exactly the same costs, they are more

likely than heterosexual couples to agree about using condoms. Of course, they may agree the costs of condom use are too high to pay for protection from HIV-infection.

Relationship quality and stability are extremely important factors in contraceptive use, particularly use of condoms (Beckman, 1983; Cvetkovich and Grote, 1981; Foreit and Foreit, 1981; Gold and Berger, 1983; Jorgenson et al., 1980; Opong, 1984). Some of this effect may be attributed to effects of relationship quality and stability on sexual self-concepts (see above). In addition, greater intimacy and communication should reduce sexual performance anxiety, and enable the development of shared sexual scripts for contraception and prophylaxis.

Moral reasoning becomes "interactive" in longer-term and high-quality relationships (D'Augelli and D'Augelli, 1977); partners take fully into account each other's welfare in making joint decisions. This type of decision making fosters contraception and prophylaxis when either partner desires to prevent pregnancy or HIV-infection. At present, however, the issue of trust appears to inhibit prophylactic use; in primary, committed relationships, using condoms may imply lack of trust in partner's sexual fidelity (Goldsmith, 1987).

Sex roles in heterosexual relationships are a major factor in contraceptive behavior. Female autonomy and power are directly associated with contraceptive use (Beckman, 1983; Cvetkovich and Grote, 1981; Jorgenson et al., 1980; Opong, 1984). This is consistent with findings reported above that

women have stronger motivations to prevent pregnancy than do men; given the power to do so, women will see that pregnancy is prevented. Among men, egalitarian attitudes toward responsibility for birth control are associated with more positive feelings about using contraception (Weinstein and Goebel, 1979). Gay men ought to have, on average, more egalitarian relationships than do heterosexual couples; however, they have essentially the same motivation to avoid HIV-infection, so relationship equality may not have similar effects on condom use.

#### Summary And Conclusions

Rational benefit/costs models are not sufficient to explain prophylaxis, as they have not sufficed to explain contraceptive behaviors. They provide a good starting point by bringing to our attention systematic biases in perception of risk; differential motivation and motivational thresholds for risk-reduction; and the relationship of prophylactic properties to other contraceptive attributes in their effects on method choice.

From years of research on heterosexual couples' contraceptive use, we know that "rational" decisions and actions depend on reducing intrapersonal as well as interpersonal barriers to contraception and/or prophylaxis. First we must recognize that not everyone has the cognitive ability to accurately assess and integrate risks of pregnancy and HIV-infection, along with the costs of condom use. Second,

"rational" contraceptive or prophylactic behavior requires sexual self-acceptance and self-assurance; those at highest risk of HIV-infection are least likely to have well-integrated sexual self-concepts. Third, contraception and prophylaxis require a sense of efficacy, even when the "decision" is clearly in their favor. Fourth, sexual partners and sexual relationships are critical to condom use. Long-term, high-quality, and egalitarian relationships foster effective contraception. Such relationships are more likely to be monogamous and to be at low risk of HIV-infection. However, for those who believe themselves to be at risk, relationship quality increases the likelihood of condom use.

This research review clearly sets an agenda for research on condom use in heterosexual and gay male relationships. It also demonstrates how the threat of AIDS is likely to change not only the distribution but also the determinants of contraceptive use and contraceptive choice in heterosexual relationships. It places both contraception and prophylaxis squarely within sexual relationships, where they belong, rather than in more general categories of individual health preventive behaviors.

## NOTES

1. I could also attempt to extend theoretical conclusions to lesbian women, and particularly bisexual women. However, given their extremely low risk at present, this would be merely an intellectual exercise and less useful in terms of setting a research agenda.
2. The Health Belief Model which has been developed to explain health-risky or or preventive health behaviors such as smoking, dieting, exercise, etc., is also a rational model, incorporating elements of motivation and risk discussed here. Nathanson and Becker (1983) developed an "Adapted Health Belief Model" of contraceptive adoption and continuation among young unmarried women, which incorporates intrapersonal barriers to contraceptive use and partner relationships. It is, however, specified at a much more general level than are the research findings and theoretical hypotheses presented here.
3. Couples who wish to conceive would have motivational thresholds in opposite directions, so the weaker must be "subtracted" from the other. This means that among couples currently using condoms, the motivational threshold required to stop contracepting could be increased beyond its pre-AIDS level. Of course, few such couples are at risk of HIV-infection, so the overall effect on intended births is likely to be very small.

4. In a related vein, Des Jarlais and his colleagues (1986) report that intravenous drug users perceive AIDS as simply one more potentially fatal threat, and thus are not motivated to change their behavior.
  
5. At least one beneficial side-effect of oral contraceptives is regulation of menstrual cycles, though rarely is that benefit specified as a potential reason for using the method. Other advantages of methods are really low costs rather than true benefits. For example, "convenience" is always inconvenience in comparison to using no method at all.



## REFERENCES

- Adler, N.E. 1979. "Decision models in population research." *Journal of Population [Population and Environment]* 2(Fall):187-202.
- Adler, Nancy E. 1981. "Sex Roles and Unwanted Pregnancy in Adolescent and Adult Women." *Professional Psychology* 12(1):56-66.
- Bauman, K.E., and J.R. Udry. 1972. "Powerlessness and Regularity of Contraception in an Urban Negro Male Sample: A Research Note." *Journal of Marriage and the Family* 34:112.
- Bauman, L.J., and K. Siegel. 1987. "Misperception Among Gay Men of the Risk for AIDS Associated with Their Sexual Behavior." *Journal of Applied Social Psychology* 17:329-350.
- Beach, L.R., A. Hope, B.D. Townes, and F.L. Campbell. 1982. "The Expectation-Threshold Model of Reproductive Decision Making." *Population and Environment* 5(Summer)95-108.
- Beckman, L.J. 1983. "Communication, Power, and the Influence of Social Networks in Couple Decisions on Fertility." In R.A. Bulatao and R.D. Lee (eds.), *Determinants of Fertility in Developing Countries. Volume 2, Fertility Regulation and Institutional Influences.* New York: Academic Press.
- Bell, A.P., M.S. Weinberg, and S.K. Hammersmith. 1981. *Sexual Preference: Its Development in Men and Women.* Bloomington, Indiana: Indiana University Press.
- Blumstein, Philip, and Pepper Schwartz. 1983. *American Couples: Money, Work, Sex.* New York: William Morrow and Company.
- Bruce, Judith, and S. Bruce Shearer. 1979. *Contraceptives and Common Sense: Conventional Methods Reconsidered.* New York: The Population Council.
- Cohen, J.B., L.J. Severy, and O.T. Ahtola. 1978. "An Extended Expectancy-Value Approach to Contraceptive Alternatives." *Journal of Population [Population and Environment]* 1:22-41.
- Coleman, S. 1981. "The Cultural Context of Condom Use in Japan." *Studies in Family Planning* 12(1):28-39.
- Coombs, L.C., and M. Chang. 1981. "Do Husbands and Wives Agree? Fertility Attitudes and Later Behavior." *Population and Environment* 4(Summer):109-127.
- Crosbie, P.V., and D. Bitte. 1982. "A Test of Luker's Theory of Contraceptive Risk-Taking." *Studies in Family Planning* 13(3):67-78.
- Cvetkovich, G., and B. Grote. 1981. "Psychosocial Maturity and Teenage Contraceptive Use: An Investigation of Decision-Making and Communication Skills." *Population and Environment* 4(4):211-226.

- Cvetkovich, G., B. Grote, A. Bjorseth, and J. Sarkissian. 1975. "On the Psychology of Adolescents' Use of Contraceptives." *Journal of Sex Research* 11:256-270.
- D'Augelli, J.F., and A.R. D'Augelli. 1977. "Moral Reasoning and Premarital Sexual Behavior: Toward Reasoning About Relationships." *Journal of Social Issues* 33(2):44-66.
- David, H.P. 1977. "Acceptability of Fertility Regulating Methods in Cross-Cultural Perspective." *International Journal of Psychology* 12(4):297-306.
- Davidson, Andrew R., and Lee Roy Beach. 1981. "Error Patterns in the Prediction of Fertility Behavior." *Journal of Applied Social Psychology* 11:475-488.
- DeLamater, J., and P. MacCorquodale. 1978. "Premarital Contraceptive Use: A Test of Two Models." *Journal of Marriage and the Family* 40(May):235-247.
- Des Jarlais, D.C., S. Friedman, and D. Strong. 1986. "AIDS and Needle-Sharing within the IV-Drug Use Subculture." Pp. 111-125 in Douglas A. Feldman and Thomas M. Johnson (Eds.), *The Social Dimensions of AIDS: Method and Theory*. New York: Praeger.
- Diamond, Milton, Patricia G. Steinhoff, James A. Palmore, and Roy G. Smith. 1973. "Sexuality, Birth Control, and Abortion: A Decision-Making Sequence." *Journal of Biosocial Science* 5:347-361.
- Downs, P.E. 1977. "Intrafamily Decision Making in Family Planning." *Journal of Business Research* 5(March):63-74.
- Easterlin, Richard A. 1975. "An Economic Framework for Fertility Analysis." *Studies in Family Planning* 6(March):54-63.
- Evans, J.R., G. Selstad, and W. Welcher. 1976. "Teenagers: Fertility Control Behavior and Attitudes Before and After Abortion, Childbearing, or Negative Pregnancy Test." *Family Planning Perspectives* 8:192-200.
- Falbo, T., and H.A. Becker. 1981. "The Fishbein model: Triumphs, Problems, and Prospects." Pp. 125-140 in T.K. Burch (ed.), *Demographic Behavior: Interdisciplinary Perspectives on Decision-Making*. Boulder, Colorado: Westview Press.
- Fisher, W.A., D. Byrne, M. Edmunds, C.T. Miller, K. Kelley, and L.A. White. 1979. "Psychological and Situation-Specific Correlates of Contraceptive Behavior among University Women." *Journal of Sex Research* 15:38-55.
- Foreit, J.R., and K.G. Foreit. 1981. "Risk-Taking and Contraceptive Behavior among Unmarried College Students." *Population and Environment* 4(Fall):174-188.
- Freeman, E.W. et al. 1980. "Adolescent Contraceptive Use: Comparisons of Male and Female Attitudes and Information." *American Journal of Public Health* 70(8):790-797.

- Gagnon, John, and William Simon. 1973. *Sexual Conduct: The Social Sources of Human Sexuality*. Chicago, Illinois: Aldine.
- Gerard, M. 1982. "Sex, Sex Guilt, and Contraceptive Use." *Journal of Personality and Social Psychology* 42:153-158.
- Gold, D., and C. Berger. 1983. "The Influence of Psychological and Situational Factors on the Contraceptive Behavior of Single Men: A Review of the Literature." *Population and Environment* 6:113-129.
- Goldsmith, M.F. 1987. "Sex in the Age of AIDS Calls for Common Sense and 'Condom Sense.'" *Journal of the American Medical Association* 257(17):2261-2266.
- Harvey, Philip. 1972. "Condoms: A New Look." *Family Planning Perspectives* 4(4):27-30.
- Hollerbach, Paula E. 1983. "Fertility Decision-Making Processes: A Critical Essay." Pp. ??? in Rodolfo A. Bulatao and Ronald D. Lee (Eds.), *Determinants of Fertility in Developing Countries. Volume 2. Fertility Regulation and Institutional Influences*. New York: Academic Press.
- Hull, Terence H. 1983. "Cultural Influences on Fertility Decision Styles." In R.A. Bulatao and R.D. Lee (Eds.), *Determinants of Fertility in Developing Countries. Volume 2, Fertility Regulation and Institutional Influences*. New York: Academic Press.
- Jorgenson, S.R., S.L. King, and B.A. Torrey. 1980. "Dyadic and Social Network Influences on Adolescent Exposure to Pregnancy Risk." *Journal of Marriage and the Family* 42(1):141-155.
- Joseph, J.G., S.B. Montgomery, C. Emmons, J.P. Kirscht, R. Kessler, D.G. Ostrow, C.B. Wortman, and K. O'Brien. 1987. "Perceived Risk of AIDS: Assessing the Behavioral and Psychosocial Consequences in a Cohort of Gay Men." *Journal of Applied Social Psychology* 17:231-250.
- Keller, A. 1979. "Contraceptive Acceptability Research: Utility and Limitations." *Studies in Family Planning* 10(8-9):230-237.
- Keller, A.B., J.H. Sims, W.E. Henry, and T.J. Crawford. 1970. "Psychological Sources of Resistance to Family Planning." *Merrill Palmer Quarterly of Behavior and Development* 16:286-302.
- Kelley, K. 1979. "Socialization Factors in Contraceptive Attitudes: Roles of Affective Responses, Parental Attitudes and Sexual Experience." *Journal of Sex Research* 15:6-20.
- Kotarba, J.A., and N.G. Lang. 1986. "Gay Lifestyle Change and AIDS: Preventive Health Care." Pp. 127-143 in D.A. Feldman and T.M. Johnson (Eds.), *The Social Dimensions of AIDS: Method and Theory*. New York: Praeger.

- Lane, Mary. 1978. "Benefits and Risks of Diaphragm and condom Use." Pp. 547-555 in John J. Sciarra, Gerald I. Zatuchni, and J. Joseph Speidel (Eds.), *Risks, Benefits, and Controversies in Fertility Control*. Hagerstown, Maryland: Harper and Row.
- Leishman, K. 1987. "Heterosexuals and AIDS: The Second Stage of the Epidemic." *The Atlantic Monthly* 259(2):39-58.
- Luker, K. 1975. *Taking Chances: Abortion and the Decision Not to Contracept*. Berkeley, California: University of California Press.
- McClelland, G.H., and B.H. Hackenberg. 1978. "Subjective Probabilities for Sex of Next Child: U.S. College Students and Philippine Villagers." *Journal of Population [Population and Environment]* 1(Summer):132-148.
- McKinney, K., S. Sprecher, and J. DeLamater. 1985. "Contributions of Sex Guilt and Masturbation Guilt to Women's Contraceptive Attitudes and Use." *Journal of Sex Research* 21:24-39.
- Misra, B.D. 1967. "Correlates of Males' Attitudes toward Family Planning." Pp. 161-271 in D.J. Bogue (ed.), *Sociological Contributions to Family Planning Research*. Chicago: Community and Family Study Center, University of Chicago.
- Morris, N.M., and B.S. Sison. 1974. "Correlates of Female Powerlessness: Parity, Methods of Birth Control, Pregnancy." *Journal of Marriage and the Family* 36:708-712.
- Mosher, William D., and Christine A. Bachrach. 1987. "First Premarital Contraceptive Use: United States, 1960-1982." *Studies in Family Planning* 18(2):83-95.
- Mosher, D., and S. Vonderheide. 1985. "Contributions of Sex Guilt and Masturbation Guilt to Women's Contraceptive Attitudes and Use." *Journal of Sex Research* 21:24-39.
- Nathanson, Constance A., and Marshall H. Becker. 1983. "Contraceptive Behavior Among Unmarried Young Women: A Theoretical Framework for Research." *Population and Environment* 6(1):39-59.
- Nathanson, Constance A., and Marshall H. Becker. 1986. "Family and Peer Influence on Obtaining a Method of Contraception." *Journal of Marriage and the Family* 48(3):513-525.
- National Academy of Sciences, Committee on a National Strategy for AIDS. 1986. *Confronting AIDS: Directions for Public Health, Health Care and Research*. Washington, D.C.: National Academy Press.
- Neal, A.G., and H.T. Groat. 1976. "Consensus in the Marital Dyad: Couples' Perceptions of Contraception, Communication, and Family Life." *Sociological Focus* 9(October):317-329.
- Neal, Arthur G., and Theodore Groat. 1980. "Fertility Decision Making, Unintended Births, and the Social Drift Hypothesis: A Longitudinal Study." *Population and Environment* 80 (Fall/Winter):221-236.

- Oppong, C. 1984. "Familial Roles and Fertility." Pp. 320-351 in United Nations Department of International Economic and Social Affairs (Ed.), *Fertility and Family: Proceedings of the Expert Group on Fertility and Family*, New Delhi, 5-11 January 1983. New York: United Nations.
- Pagel, M., and A. Davidson. 1984. "A Comparison of Three Psychological Models of Attitude and Behavioral Plan: Prediction of Contraceptive Behavior." *Journal of Personality and Social Psychology* 47:517-533.
- Reading, A.E., D.M. Sledmere, and J.R. Newton. 1980. "A survey of attitudes toward permanent contraceptive methods." *Journal of Biosocial Science* 12(4):383-392.
- Research and Decisions Corporation. 1986. *A Report on Designing an Effective AIDS Risk Reduction Program for San Francisco: Results from the Third Probability Sample of an Urban Gay/Bisexual Male Population*. San Francisco, California: RDC.
- Robbins, C., H. Kaplan, and S. Martin. 1985. "Antecedents of Pregnancy Among Unmarried Adolescents." *Journal of Marriage and the Family* 47:567-583.
- Roberto, E.L. 1974. "Marital and Family Planning Expectancies of Men Regarding Vasectomy." *Journal of Marriage and the Family* 36(4):698-706.
- Rosen, R.H., and J.W. Ager. 1981. "Self-Concept and Contraception: Pre-Conception Decision-Making." *Population and Environment* 4(Spring):11-23.
- Rosen, Raye Hudson, and Twylah Benson. 1982. "The Second-Class Partner: The Male Role in Family-Planning Decisions." Pp. 97-123 in Greer Litton Fox (Ed.), *The Childbearing Decision: Fertility Attitudes and Behavior*. Beverly Hills, California: Sage.
- Scales, Peter. 1977. "Males and Morals: Teenage Contraceptive Behavior Amid the Double Standard." *The Family Coordinator* 26(3): 211-222.
- Severy, L.S. 1979. "Sex, Contraception, and Fertility Attitudes and Behavior: An Overview." *Journal of Sex Research* 15:76-83.
- Shah, F., M. Zelnick, and J.F. Kantner. 1975. "Unprotected Intercourse among Unwed Teenagers." *Family Planning Perspectives* 7:39-44.
- Shaklee, H. 1987. "The Psychology of Contraceptive Surprises: Cumulative Risk and Contraceptive Effectiveness." Paper presented at the annual meetings of the Population Association of America, Chicago, Illinois, April 3- - May 2.
- Sherris, Jacqueline D. 1982. "Update on Condoms -- Products, Protection, Promotion." *Population Reports, Series H.*, No. 6.
- Thompson, L., and G. Spanier. 1978. "Influence of Parents, Peers and Partners on the Contraceptive Use of College Men and Women." *Journal of Marriage and the Family* 40:481-492.

- Thomson, E. Forthcoming. "Dyadic Models of Contraceptive Choice, 1957 and 1975." In David Brinberg and James Jaccard (Eds.), *Dyadic Decision Making*. New York: Springer-Verlag.
- Thomson, Elizabeth. 1982. "Socialization for Sexual and Contraceptive Behavior: Moral Absolutes Versus Relative Consequences." *Youth and Society* 14(1):103-128.
- Townes, Brenda D., Lee Roy Beach, Frederick L. Campbell, and Roberta L. Wood. 1980. "Family Building: A Social Psychological Study of Fertility Decisions." *Population and Environment* 3(Fall/Winter):210-220.
- Weinstein, N.D. 1984. "Why It Won't Happen to Me: Perceptions of Risk Factors and Susceptibility." *Health Psychology* 3:431-457.
- Weinstein, N.D. 1980. "Unrealistic Optimism about Future Life Events." *Journal of Personality and Social Psychology* 39:806-820.
- Weinstein, Sanford A., and Gloria Goebel. 1979. "The Relationship Between Contraceptive Sex Role Stereotyping and Attitudes Toward Male Contraception Among Males." *Journal of Sex Research* 15(3):235-242.
- Werner, P.D., and S.E. Middlestadt. 1979. "Factors in the Use of Oral Contraceptives by Young Women." *Journal of Applied Social Psychology* 9:537-547.