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Maybe Baby : An Examination of Contraceptive Risk Taking

by

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ABSTRACT

Path models were developed to examine the relationship between contraceptive use and low socioeconomic status. One was based on the culture of poverty paradigm and assumes that low socioeconomic status provides a source of cultural variation in attitudes and beliefs. The second was based on structural deprivation theory where low socioeconomic status results in material need.

The analyses used American data from the National Longitudinal Study of Adolescent Health. Behavioural control and positive attitudes had significant associations with use (R^2=0.12), but not with socioeconomic status. This refutes the assumptions of the culture of poverty. There was no significant association between use and the measures of structural deprivation.

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DEDICATION

To Duncan

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Chapter One

Introduction

This thesis emerges from interests in two seemingly divergent areas of study: criminology and health behaviour. However, there is a problematic sociological association to be found in the literature from both areas: the association between low socioeconomic status and negative life events. This research will examine specifically the relationship between socioeconomic status and the use or nonuse of contraception by sexually active adolescents.

The negative life events related to low socioeconomic status include HIV/AIDS infection (International Symposium on the AIDS Pandemic, 1996; Marzuk et al., 1997), crime and delinquency (Pugh et al., 1990; Farnworth et al., 1994; Ramoutar, 1995; Harvey and Spigner, 1995; Janson and Wikstrom, 1995), unintentional injuries (Nixon et al., 1981; Rivara, 1995; Cobb et al., 1995 (both injuries and close calls); Williams et al., 1997; Tuinstra et al., 1998), tobacco, drug and alcohol use (Terre et al., 1992; Graham, 1996; Stroneggar, Freidl and Rasky, 1997; Lynch, Kaplan and Salonen, 1997; Tuinstra et al., 1998),and unplanned pregnancy (Ireson, 1984; Maxwell and Mott, 1987; Pugh et al, 1990; Hayward, Grady and Billy, 1992; Planned Parenthood Ottawa, 1996; Alan Guttmacher Institute, 1998; Ramirez-Valles, Zimmerman and Newcombe, 1998). All of these share a common trait in that they are avoidable to a great degree by making behavioural changes. For example, limiting one's number of sexual partners and using latex condoms can reduce the risk of contracting AIDS and other sexually transmitted

diseases. Using protective equipment such as seat belts and bicycle helmets can reduce the risk of an unintentional injury. Practicing abstinence or using contraception can prevent pregnancy. Simple avoidance can prevent the risk of harm from involvement in crime or substance use. Given this information, one must ask: What is it about people that make them (apparently) participate in more risk taking behaviour than others are ?

Before searching for the causes of the connection between class and risk taking, one must consider whether the apparent association is valid or simply an artifact of the measurement process. The presence of potential, if unintentional, biases in the collection of information can give rise to a spurious relationship between socioeconomic status and risk taking.

Many of the studies used to formulate demographic statistics regarding crime or teen pregnancy use some form of official records. Valentine (1968) warns of the "built-in biases that must be suspected as affecting all information from social workers, service agencies, police and courts" (p. 22) and asks that all such information be subject to validation from independent evidence. For example, there is an extensive literature debating which of official statistics, self reports, or victimization surveys provides the most valid measure of the association between class and crime (Tittle, Smith and Villemez, 1978; Braithwaite, 1981; Hirschi, Hindelang and Weis, 1982; Kleck, 1982; Gottfredson and Hirschi, 1995; Hagan, 1996). When the level of HIV/AIDS infection is based on official reports from publicly funded clinics (Murrain and Barker, 1998; Stockwell, Goza and Luse, 1994), those people who are dependent on publicly funded

facilities for health services will be over represented in official statistics. If the number of young women who apply for assistance to raise a child becomes the pregnancy rate, those who choose abortion or adoption, or whose parents can afford to support them, will never be part of the official record. Williams (1996) found a similar form of class bias in the reporting of unintentional injuries.

Finally, the logical error referred to as the ecological fallacy occurs when researchers use reports that refer to the aggregate level of crime or injuries in a geographical region census tract to make inferences about individual level behaviour (Goldenberg, 1992; Hagan, 1996). Valentine warns us "...census figures alone tell us nothing directly about structure or process in a cultural system." (1968:6).

If one decides that the class – risk association is not an artifact of measurement, then one must consider how lower socioeconomic status members differ from higher socioeconomic status members when a risk is encountered. This thesis will use two approaches suggested by the literature. The structural disadvantage perspective seeks explanations for lower status involvement in risk taking in the individual's inability to access protective or preventative materials and information (Riessman, 1974). For example, a person of lower socioeconomic status may be convicted of a crime because of his or her inability to pay for the best attorney. This same person may fail to use protective equipment when rollerblading because he or she is unable to afford a helmet and wrist, knee and elbow guards after paying for the skates. Using this approach, the association between socioeconomic status and unplanned pregnancy can be explained by

status based differences in the availability and affordability of contraceptive materials, as well as knowledge about their use.

The subcultural approach considers the individual's membership in a subcultural group as the source of his or her failure to avoid apparent risks. For example, a lower socioeconomic status member will be convicted of an offence because he or she fails to display the appropriately deferential and respectful attitude towards the legal system. Similarly, the individual does not use protective equipment when rollerblading because his subcultural group equates such use with non-masculinity.

The subcultural approach which is used frequently to examine socioeconomic status and negative life events is the culture of poverty (Lewis, 1966). This paradigm portrays low socioeconomic status members as possessing values, beliefs, and attitudes that differ from the dominant class. Higher rates of adolescent pregnancy among lower status adolescents occur because they don't care if a pregnancy occurs, feel unable to obtain and use contraception, and have more negative attitudes and less support from significant others for using birth control.

This thesis is an attempt to determine which of cultural and structural factors play the more significant role in explaining contraceptive risk-taking, and to determine whether socioeconomic status is linked more strongly with cultural or with structural explanations of the behaviour.

In order to examine the influence of socioeconomic status on contraceptive risk taking, it was necessary to construct two models. The first model, which is grounded in the culture of poverty paradigm, looks at values and attitudes as constraints on

contraceptive use. This model determines whether, compared to higher status members, the lower socioeconomic status adolescent feels pregnancy is less of a personal threat, whether he or she feels less capable of undertaking the use of contraception, and whether the individual has less positive attitudes towards contraception and perceives little support for its use from significant others. The second model will determine the effects of structural constraints such as cost, knowledge about contraception, and ease of access on contraceptive use. The explanatory power of each on these constraints on reported use is determined, and the level of each of the constraints in the different socioeconomic groups can be determined to see which domains, if any, are associated with socioeconomic status.

It is necessary to include the influence of age, gender and race to the analysis, as the amount of risk taking, the influence of constraints, and the utilization of protective actions can vary for adolescents of different ages, for males and females, and for minority and non-minority groups (Farnworth, 1984; Thomas, 1995; Brindis et al., 1995; Sallis et al., 1996; Cockeram et al., 1986; Dean, 1989; WHO Health Education Unit, 1987).

The relevant constraints will be referred to by the following terminology:

Cultural Model

Harm = perceived amount of harm from pregnancy

Behavioural Control = perceived ability to ensure use of contraception

Attitudes = positive personal attitudes about contraception

Parental Support = perceived support for contraceptive use from parents

Structural Deprivation Model

Access = perception of how easy it is to get birth control

Cost = perception of birth control as 'too expensive'

Knowledge = about contraception and reproduction

Availability = number of places where contraception can be obtained

The basic model for the culture of poverty paradigm is presented in Figure 1. The basic model for the structural approach is presented in Figure 2.

The analysis is a secondary analysis using data from the first wave (1996) of the National Longitudinal Study of Adolescent Health, from the Carolina Population Center at the University of North Carolina at Chapel Hill. Earlier there was a discussion about the association between social class and risk-taking behaviour being an artifact of the measurement process. The National Longitudinal Study of Adolescent Health data comes from a survey in which all the measures are based on self-report by the respondents. This reduces the concern about the relationship being spurious due to bias, as the data is not from an official source or from aggregate data. A spurious relationship due to social desirability must still be considered: higher socioeconomic status adolescents may report higher levels of contraceptive use than lower socioeconomic status adolescents, in order to conform to what they feel is expected behaviour (McNamara and Delamater, 1984).

There is a limitation due to the cross sectional nature of the data. Decision making would be better modeled as a process, with perception of harm being followed by the

Figure 1 : Basic Model of Cultural Constraints on Contraceptive Use

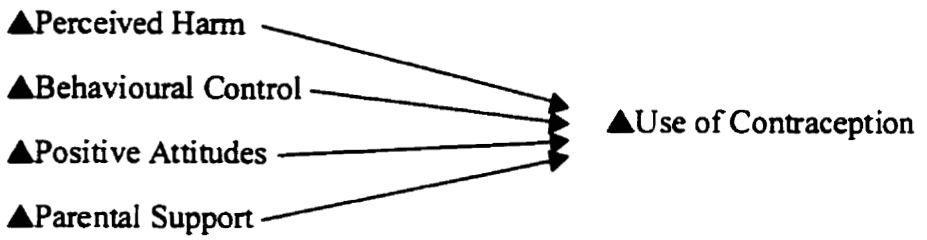
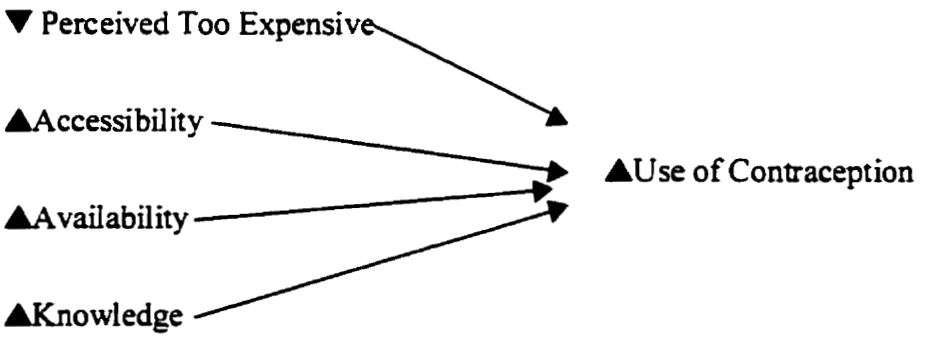


Figure 2: Basic Model Of Structural Constraints on Contraceptive Use



influence from attitudes, perceived control, parental support, cost, and accessibility. Only if a threat is perceived will the balance of the model come into play. However, to examine a process and make causal assumptions requires confirmation of temporal order. This confirmation is not available with cross-sectional data.

The analysis follows these steps. First, it is determined if an association between socioeconomic status and contraceptive use is present in the sample. Then each of the proposed models is examined using Ordinary Least Squares path analysis, to determine which of the constraints is significantly associated with contraceptive use and which of the aforementioned structural variables (age, gender, socioeconomic status) is associated with the constraints.

The thesis is organized as follows. Chapter Two contains a critical review of the existing literature on the cultural and structural correlates of adolescent pregnancy. This material includes information regarding the influence of age, gender, minority status, socioeconomic status, and religiosity on each of the constraints. Chapter Three presents information on the source of the data being used and a discussion of measurement issues. This chapter also contains a demographic profile of the sample and information on the measures used. Chapter Four presents the results of the analysis, and Chapter Five includes a discussion of the implications of the results of the study and comments on the limitations of the study. It also includes suggestions about the direction and focus of future work.

Chapter Two

Approaches to Adolescent Pregnancy: A Critical Review of the Literature

Adolescent pregnancy first appears in the academic literature as a social problem in the late 1960s. Since that time the birthrate among unmarried adolescents has continued to increase and numerous approaches have been used to develop theories about the failure to use birth control. The literature related to structural explanations includes improving access to contraception and the provision of knowledge about reproduction and contraception via sex education programs. The approaches that relate to searching for solutions within the individual (or a subculture) include social learning theory and contraceptive self efficacy, perceptions of pregnancy as a harmful event, attitudes toward contraception, and peer and parental support for contraceptive use.

Structural Approaches

These approaches look at how structural concepts such as race, ethnicity, gender and socioeconomic status act to mediate contraceptive risk taking. Unfortunately, in a significant proportion of the existing research specific racial, ethnic or socioeconomic status class groups are automatically assumed to be at greater risk for pregnancy, and research is only carried out on these 'problem' populations.

The socio-structural deprivation perspective for examining social class and negative behavioural outcomes assumes that the poor share similar values to the dominant class, but lack the economic and educational basis to utilize services that would

allow them to avoid such outcomes (Furstenberg, 1970;Berkanovic and Reeder, 1973; Riessman, 1974; Owens, 1984: Demos, 1989; Quaye, 1994). Riessman (1974) examined the structural barriers to health care utilization in terms of geographical or economic variations in access, discriminatory or second-class types of care being offered, and an inability to deal with the culture of medicine. Berkanovic and Reeder (1973) found that those who have insurance coverage through Medicaid had little access to or continuity of care by a specific physician, and that many specialists had opted out of Medicaid. In reaction to poor quality treatment from health care and other organizational systems. lower class patients became disinclined to seek help.

In these instances. avoidance can be seen as a "situational or circumstantial adaptation" to the existing situation (Valentine. 1968:7). Studies have found that increased access, in the form of closer facilities and group insurance, combined with supportive staff, leads to a reversal of this situation for both health and family planning services (Furstenberg, 1970; Riessman, 1974; Quaye, 1994). Riessman (1974) examined the effects of a supportive attitude in improving utilization of a medical clinic in a poor section of New York. Neighbourhood families that were sent invitations to welcome them to use the clinic facilities did so at a greater rate than families that were notified by via a more impersonal newspaper announcement.

An example of searching for the structural underpinnings of class – risk behaviour is found in Sallis et al. (1996) when they discovered that high socioeconomic status adolescents participated in more aerobic exercise than did lower socioeconomic status adolescents. This pattern for health promotion also has been found for dietary changes

(Stroneggar, Freidl and Rasky, 1997), regular exercise (Lynch, Kaplan and Salonen, 1997), preventative checkups (Coburn and Pope, 1974), and the adoption of a 'health consumer' attitude (WHO Health Education Unit, 1987; Segall and Goldstein, 1989; Sussman et al., 1994). However, Sallis et al. (1996) also found that higher socioeconomic status adolescents had greater access to fitness and exercise facilities and to organized programs than did lower socioeconomic status adolescents. These adolescents also had less concern about their neighbourhood being an unsafe site for participating in sports or exercise. This suggests that structural factors, such as cost and accessibility, may be more of a deterrent to the practice of preventative health than are class-based differences in concern about health.

Access to Contraception

Both recent and past literature points to the need to improve access to contraceptive counseling and materials to the subject population, i.e. sexually active adolescents (Goldsmith, 1969; Corcoran, Franklin and Bell, 1995). During the late 1960s, only physicians were permitted to dispense contraceptive materials, which meant a person under the age of consent needed parental permission to obtain contraception (Goldsmith, 1969). Later, in the 1980s, it was difficult for very young girls to obtain the oral contraceptive pill, even though the age of consent had been lowered for such prescription materials (Herold and Samson, 1980). Limited access to birth control and abortion still persists in other countries such as Ireland and Nicaragua (Zelaya et al., 1997).

The initial solution to access was found in the establishment of freestanding family planning clinics or school-based clinics (Edwards et al., 1980; Forrest, Hermalin and Henshaw, 1981; Webb, 1986). While these authors all report a reduction in unplanned pregnancies after the clinics were opened, adolescents were still becoming pregnant because they did not attend the clinics. Many were embarrassed about being seen walking into the clinics (Herold and Samson, 1980; Hanna, 1994). Zelaya et al. (1997) found that young women in Nicaragua could be stigmatized by being seen purchasing condoms from a pharmacy, so would buy an inferior product or folk nostrum in a quiet market area.

Access to birth control may be more difficult for the very young adolescent, who may need still parental permission (Goldsmith, 1969; Zelaya et al.; 1997). Young women who wish to use a non-barrier method of birth control, such as the oral pill or intrauterine device, will need to find a convenient facility to provide the examination and training needed to use these methods effectively. They may also be too embarrassed to obtain barrier methods, such as condoms or foam, if there is no place where they can do so privately.

The cost of birth control may play a part in the use of contraception by adolescents. Lower socioeconomic status adolescents may express an inability to afford contraception, as may younger adolescents who have less access to their own money.

Sex Education

It was assumed that young people failed to avoid pregnancy because they lacked knowledge about human reproduction and contraception. There is an apparent logical link

between having knowledge about reproduction and avoiding pregnancy, so sex education programs were designed and implemented. However, there are numerous studies that found the link among knowledge, belief, and practices to be absent (Barth, Middleton, and Wagner, 1989; Arnett, 1990; Demb, 1990; Caldas, 1993;Wilson et al. 1993; Levinson, 1995). The reasons for this failure were two-fold. First, in many cases, the sex education classes were out of phase with the sexual activity of the students; many of them were sexually active before sex education was offered (Jorgensen, 1981, Rodriguez and Moore, 1995). Second, the programs were overloaded with facts on reproductive biology and warnings about the dangers of pregnancy and disease without giving the students a sense of agency or control over their preventative behaviour (Fine, 1988). Research using Protection Motivation Theory (Rogers, 1975) found that if the perceptions of threat of a negative health outcome were increased without providing the patient with an improved sense of behavioural control, he or she would retreat into a maladaptive response, such as denial, fatalism or avoidance (Rippetoe and Rogers,1987).

The next stage in sex education took the form of sexuality education. This included information about obtaining and using various forms of contraception, problem solving, interpersonal skills, self efficacy, and how to manage one's attitudes about the barriers and benefits of contraception (Schinke and Gilchrist, 1978; Schinke, Blyth, Gilchrist and Burt, 1985; Webb, 1986; Eisen, Zellman and McAlister, 1990). Although these programs failed to reduce the level of sexual activity among adolescents, they did result in improved attitudes, a greater sense of self-efficacy, and more effective use of

contraception (Schinke and Gilchrist, 1978; Schinke, Blyth, Burt, and Gilchrist, 1985; Eisen, Zellman and McAlister, 1990; Levinson, 1995).

A study conducted in Canada allowed grade 7 to 12 students to express their perception of what they needed from sex education, and who their preferred sources of such information were (McKay and Holowaty, 1997). The students asked for explicit, factual information and skills with respect to topic such as prevention of pregnancy and sexually transmitted diseases, how to get testing and treatment for sexually transmitted diseases, building good relationships, talking to partners and parents about sexuality, decision making, and coping with peer pressure. They preferred the school most as a source of information, followed by parents, friends, television, books and pamphlets, and, finally, medical professionals.

Schools in areas of lower socioeconomic status may have lower operating budgets than those in higher socioeconomic status areas: this can be reflected in the loss of non-academic programs such as sex education. Younger students may score lower on tests of reproductive and contraceptive knowledge because they have not had classes in sex education (Jorgensen, 1981; Rodriguez and Moore, 1995).

Individual and Subcultural Approaches

What all these perspectives have in common is an orientation to the individual (or a subculture) as possessing flawed values, attitudes or thoughts, and that these individual or subcultural faults translate into risk taking. The criminological literature is replete with theories of deviant or criminal subcultures emerging from the lower class, such as Cohen's strain–subcultural theory, Sutherland's differential association theory, and

Cloward and Ohlin's differential opportunity theory (Ellis, 1987). What these theories have in common is the concept of a distinct criminal subculture whose members share beliefs, values, and attitudes counter to those of the dominant culture. They commit, and continue to commit, deviant acts because their subculture supplies reinforcement and social support for the acts (Gottfredson and Hirschi, 1995).

The most notable approach to deviant behaviour and social class comes from Oscar Lewis' culture of poverty (1966). Lewis, an anthropologist, coined the phrase 'culture of poverty' in describing poor families in Mexico and poor Puerto Rican families in New York City (1966). While culture is defined as encompassing "all socially standardized ways of seeing and thinking about the world; of establishing relationships among people, things and events; of establishing preferences and purposes; of carrying out actions and pursuing goals" (Valentine, 1968: 3), Lewis felt that the exposure of certain groups to long term disadvantage has led to the formation of a distinct culture: the 'culture of poverty'. This culture is characterized by a number of attributes. Its members are disengaged from or not integrated into the major institutions in society, such as labour unions, hospitals, political parties, and banks. At the same time, they do use specific institutions such as welfare and the jails. They live in 'slums' where unemployment or underemployment is chronic, receive low wages, and lack property, savings, liquid assets or even food reserves. The family structure is described as 'disorganized':

> " (their) pathological attitudes toward love and marriage, transmitted intergenerationally, are the root causes of family disorganization among lower class Blacks " (Schlossman, 1974: 151)

The values and attitudes of this 'cultural' group differs from mainstream cultural groups. The members are hostile towards the dominant class structures, such as police, the church and the government, place no value on work, and have no sense of community or group organization. Childhood is not seen as a distinct life stage, and involvement in adult behaviour, such as sex, at an early age is not discouraged. They lack future orientation in their thinking and are unable to defer gratification (Schneider and Lysgaard, 1953; Lewis, 1966: Donoghue, 1993). In general they see themselves as helpless, dependent and inferior, with a fatalistic attitude towards their ability to improve their condition.

What is distinct about the culture of poverty paradigm is the assumption that membership in this cultural group means that the attitudes, beliefs and norms that regulate behaviour are not easily amenable to change. Children born into the culture of poverty are socialized into the same values and attitudes as their parents, and the culture of poverty becomes intergenerational. There is no point in attempting to improve the conditions under which such people live, via programs such as income equalization or increased services, for they are "culturally unable to use" (Berkanovic and Reeder, 1973: 249; Riessman, 1974) such assistance even if it is supplied.

When risk-taking behaviour is examined using a culture of poverty perspective, one expects to find the antecedents of the behaviour within the actor's subculture. An unwed adolescent pregnancy holds no stigma in this culture, for such people don't think about morality or long term consequences. Therefore there is no reason to avoid pregnancy.

There are numerous criticisms of this perspective aimed at the original culture of poverty thesis, its application to sites outside those used by Lewis, and the welfare policies emerging from it (Valentine, 1968; Irelan, Moles, and O'Shea, 1969; Furstenberg, 1970; Berkanovic and Reeder, 1973; Riessman, 1974; Ryan, 1976; Demos, 1989). Yet the pervasiveness of the paradigm, and how implicit the belief in it has become, can be seen in very recent research that focuses on the lower class as culturally distinct, and searches for solutions to their problems within personal characteristics such as motivations, attitudes, beliefs, and values.

The majority of research into sexual risk taking behaviour is conducted specifically within disadvantaged groups or ecological settings. Organista et al. (1997) surveyed only Mexican migrant workers about condom beliefs and use, focusing on marital status and use of prostitutes as explanatory variables. When examining the reasons why pregnant adolescents did not use contraception, Stevens–Simon et al. (1996) focused on adolescents that were Medicaid recipients and were poor, as did Staunton et al. (1996). A study on the socio-psychological correlates of adolescent pregnancy in the U.S. Virgin Islands is a classic example of research done with the culture of poverty paradigm as a framework. The author blames the increase in pregnancy there on an influx of immigrants from areas (cultures) where pregnancy rates were higher, and the lower class' affection for calypso music, which portrays females as sex slaves and males as their masters (Donoghue, 1993).

These and similar types of research are examples of what Ryan (1974) called 'blaming the victim'. This perspective criticizes the attitude that disadvantaged groups

are responsible for their position in the world, for they suffer from subcultural failings of some type. It is the responsibility of the caring social scientist to ferret out these failings and attempt to help the indigent to conquer them. Academic underachievement in poor children from disadvantaged neighbourhood can be attributed to lower inherent intellectual ability, or to the lack of higher aspirations in the lower class, or to some fault in their socialization. Similarly the problem of unwed childbirth and parenting in the poor and racial minority groups can be attributed to "wanton sexuality and willful reproduction" in an attempt to collect welfare benefits (Ryan, 1976: 92).

Ryan's critique of the culture of poverty paradigm asks readers to be aware of the danger of accepting this culture as fact and failing to search for underlying structural forms of social disadvantage. For example, perhaps the children in poor neighbourhood fail to achieve in school because they have bad schools. School funding is based on taxation, so lower income areas where lower taxes are paid may receive insufficient school funding. They may also have teachers who have been indoctrinated with the culture of poverty paradigm, and who fail to expect anything beyond marginal achievement from their students.

Perceptions of Harm from Pregnancy

The culture of poverty paradigm suggests that low socioeconomic status members may not feel the outcome of the risky behaviour is as harmful as do higher socioeconomic status members. According to this paradigm, adolescent pregnancy would not be regarded as stigmatized behaviour among low socioeconomic status groups, while being regarded as stigmatized in high socioeconomic status groups.

In a study of 13 to 18 year old females (Stevens-Simon et al., 1996) the authors found the absence of negative attitudes about childbearing to be the most common reason for reporting a failure to use contraception. However these authors chose to investigate only poor girls who were Medicaid patients at a publicly funded clinic, and give the impression that this absence of negative attitudes is particular to that social group. In choosing such a sample this author appears to have accepted the culture of poverty paradigm, not considering that ambivalence about pregnancy may cross class boundaries.

The literature regarding social class and perceptions of severity is very limited due to the failure of researchers to include social class as a variable. In a small-scale study of unmarried, adolescent mothers (n=28), Farber (1994) found that, for working class girls, having a child out of wedlock is not perceived to be as negative a life event when compared to the perceptions of middle class girls. Females are expected to express more concerns about pregnancy as harmful, than are males, while older adolescents will view pregnancy as less harmful (Leland and Barth, 1992).

Attitudes about Contraception

Attitudes towards a specific risk behaviour can influence the implementation of protective measures. Positive attitudes towards alcohol and drugs can make avoidance a nonnormative behaviour (Eisner et al., 1991;Thomas, 1995; Graham, 1996) while positive attitudes about protective behaviour can make it normative (Sallis et al., 1996). The culture of poverty paradigm suggests that low socioeconomic status will result in more negative attitudes towards performing socially sanctioned behaviours as part of a general rejection of the norms of dominant society.

Many studies have looked at attitudes that act as barriers to the use of contraception. Adolescents report being embarrassed about using condoms (Pleck, Sonenstein and Ku, 1990) and oral contraceptives (Balassone, 1987; Hanna, 1994). Contraception can be a 'hassle', in that effective methods such as the pill or Norplant require a doctor's visit, an internal examination and substantial cost (McKinney, 1990; Hanna, 1994). Adolescents have concerns about a partner objecting to the use of birth control (Boyce and Benoit, 1975; Valdies and Hale, 1977; Zelnik and Kantner, 1979). They worry that contraceptives may reduce sexual pleasure (Reichelt, 1979; McKinney, 1990) or take the 'spontaneity or naturalness out of sex' due to the need for advance planning and preparation (Emans, 1983; McKinney, 1990; Hanna, 1994). Forsyth and Palmer express it well when they state that concerns about contraception are not congruent with "the heat of the moment" (1990: 86). There are also concerns about medical side effects (Boyce and Benoit, 1975; Donoghue, 1993; Hanna, 1994; Stevens–Simon, 1996).

During Demb's (1990) study of inner city, Black girls and condoms, she recorded these statements from the focus group members:

> " I don't like the way it looks and I don't like the way it feels ". (p. 403)
>
> " A condom could come off and get stuck inside of you ". (p. 403)

Only Hanna (1994) includes attitudes that address the benefits of birth control. The interviewees in her focus group favoured using contraception as it allowed them to enjoy

sex without worry. They also stated that taking charge of one's own contraceptive needs gave them a sense of personal autonomy. An increase in the level of positive attitudes about contraception has been associated with more effective use (Laraque et al., 1997).

Hanna's (1994) study is of particular interest as the female college students who comprise her focus group express many of the same attitudes as the poor, Black female adolescents in the Demb (1990) study. This suggests that something more than social class is affecting attitudes. Fine (1988) criticized the presence of a dominant ideology that permits only sexual abstinence outside of marriage as the source of the extreme difference in adolescent pregnancy rates between North America, and the Netherlands and Scandinavian nations. Perhaps this is what is operating in both the college women and poor, Black young women in these studies. Neither group is comfortable dealing with the less romantic aspects of sexual activity when they are not supposed to even consider being sexually active.

There is nothing in the literature that suggests a connection between attitudes and socioeconomic status, except that members of higher status groups tend to be more liberal in general (Kiecolt, 1988). However, Nathanson and Becker (1986) found lower parental support for contraception among higher socioeconomic status females, so the assumption of more liberal attitudes in higher socioeconomic status groups may be incorrect. High self-esteem, which is associated with higher socioeconomic status, is associated with more favourable attitudes about contraception (Holmbeck – Grayson et al.,1993). As they are expected to perceive pregnancy as more harmful than do males, females are expected to report less negative attitudes about using contraception (Leland and Barth, 1992).

Parental / Peer Support for Contraceptive Use

Membership in a culture that does not value protective behaviour suggests such an individual will have no peers or family members who support prosocial behaviour. This type of effect may explain Williams et al.'s (1996) finding that lower socioeconomic status adolescents used less protective equipment when driving or participating in sports. There is a need to distinguish between cost or access (structural deprivation) and cultural beliefs and attitudes (culture of poverty) as explaining use or nonuse. Sallis et al. (1996) found that adolescents, whose peers participated in regular exercise, and whose parents encouraged involvement, were also more likely to participate. However there was no attempt to determine if social class plays a role in the association.

Actual parent support for the use of contraception removes a serious barrier to obtaining and using birth control: the adolescent's fear of his or her parents finding out that he or she is sexually active (Goldsmith, 1969; Herold and Samson, 1980; Zabin and Clarke, 1981). There is considerable evidence that if a parent initiates the discussion and encourages the adolescent to use contraception, the adolescent will get and use it (Bennett and Dickinson, 1980; Herold and Samson, 1980; Zabin and Clarke, 1981; Evans, 1987; Baker, Thalberg and Morrison, 1988; Forsyth and Palmer, 1990; Wilson et al., 1993 (for condoms); Laraque et al., 1997). There is no reason to expect that class will influence this process, unless it is assumed that poor parents see no problem in getting pregnant and don't bother to discuss contraception with their children (culture of poverty). The Furstenberg (1970) study belies this assumption: not only were the poor, Black girls unhappy about their pregnancy, but their mothers were also upset. This study

is of particular interest as the author sought out a group of people who were racially disadvantaged, poor, manual or unskilled labourers, and, in may cases, welfare recipients, and used his results to challenge the culture of poverty paradigm. The girls in his study reported having little knowledge of or access to contraception. Once contraceptive information and materials were supplied, many of the young women avoided a second pregnancy, and carried on to complete high school and marry the fathers of their children.

The only study which examined socioeconomic status and parental support for contraception found the young women in their study received less support if they were in higher socioeconomic status groups (Nathanson and Becker, 1986). Females are expected to report less parental support for both sexual activity and contraceptive use (Holmbeck-Grayson et al., 1993; Organista et al., 1997) as are younger adolescents. A sense of strong family attachment is expected to cause more positive perceptions of parental support and provide the motivational component for use (Bennett and Dickinson, 1980).

There are conflicts in the literature as to whether peer or parent opinions have more influence on adolescent contraceptive behaviour. Some studies find peer attitudes to be of more influence on contraceptive risk-taking (Levinson, 1995; Rodriguez and Moore, 1995; Weisman et. al, 1991; Forsyth and Palmer, 1990). Others find the opposite situation to exist (Bennett and Dickinson, 1980; Jorgenson and Sonstegard,1984; Nathanson and Becker, 1986). In fact Jorgenson (1980) found that the associations between pro-contraceptive values and actual behaviour to be weakened by a conflict between parent and peer input. There is no measure of perceived peer attitudes about or

support for the use of birth control in the National Longitudinal Study of Adolescent Health data being used for this thesis, so it is not possible to ascertain the relative importance of parental and peer support.

Self Efficacy

Self-efficacy, as derived from Bandura's social learning theory, refers to the belief that one can successfully perform a particular action (Gecas, 1988). This sense of competence, or efficacy expectation, determines whether the person will initiate and persist in a particular behaviour. The culture of poverty paradigm suggests that being a member of a lower socioeconomic status group may have an adverse effect on the perception of being able to perform a protective behaviour. Rogers (1975) defined perceived behavioural control as the feeling that one has the knowledge and skills needed to perform a protective action. This sense of behavioural control translates into more involvement and persistence in the particular activity. It was found that increasing the magnitude of the threat message without increasing the subjects' belief that they could perform the action led to a maladaptive response (Rippetoe and Rogers, 1987). This maladaptive response to a health threat matches the responses attributed to members of a culture of poverty; a sense of fatalism (acceptance that the outcome is inevitable and complacency that proposed solutions can't help) and hopelessness (absence of belief that any possible solution exists) (Cockburn and Pope, 1974; Cockerham et al., 1985; Pill and Stott, 1987; Sussman et al., 1994; Lynch, Kaplan and Salonen, 1997). However, Rippetoe and Rogers (1987) were not dealing with a 'disadvantaged' group, but attempting to

improve programs to increase breast self examination in a group of women whose class was not disclosed.

As self-efficacy is generally measured with respect to a specific task, the measure suggested is a scale of contraceptive self-efficacy (Levinson, 1989,1995). This scale can measure motivational barriers to effective contraceptive behaviour. Levinson's scale is multidimensional in that it measures four constructs underlying contraceptive self efficacy. These are 1) conscious acceptance of sexual activity by thinking and talking about it, 2) assuming responsibility for the direction of sexual activity and contraception, 3) assertiveness in preventing sexual intercourse in an involved situation, and 4) acceptance of strong feelings of arousal (Levinson, 1989).

Self efficacy is frequently judged as the site for intervention in problem behaviours (Hagenhoff et al., 1987). The development of contraceptive self efficacy in sexuality education uses role playing exercises to model talking about sexuality with a partner, and assertiveness in negotiating contraceptive use, and has been found to improve the student's ability to negotiate (Barth, Middleton and Wagman, 1989).

Farber (1994) found that working class girls had a lower sense of self-efficacy when the prevention of pregnancy was discussed:

> "...I thought after I had the last baby it'd stick in my head. I mean, it's still not. I forget. I still forget." (teen with two children) (p. 483)

Gecas (1988) found low socioeconomic status, low self-esteem, and younger age to be determinants of self-efficacy.

Females are disadvantaged with respect to their ability to insist that a partner use birth control during sexual intercourse. Much of this disadvantage originates from social norms regarding feminine behaviour: and "internalized set of traditional and cultural ideas and beliefs about what constitutes being a normal, acceptable, or good woman in our society." (Tollman, 1995:5). Females are expected to be docile and acquiescent in sexual encounters (Gupta and Weiss, 1993; Zabin and Hayward, 1993; Forsyth and Palmer, 1990; Luker, 1975). Consistent use of an effective form of contraception requires a female be able to define herself as sexually active, to plan for sexual activity, and "to accept some of the less romantic aspects of bodily functions" (Luker, 1975: 211). The inability to perform these functions within the constraints of socially approved 'feminine' behaviour is reflected in lowered contracptive self-efficacy (Levinson, 1995; Levinson, 1989).

Factors Significant to Both Approaches

Nonvoluntary Sexual Activity

It is necessary to consider the effect of forced or non-voluntary sexual activity on contracptive use. Adolescents who have been sexually abused report more sexual partners, less use of contraception, and more pregnancy than non-abused adolescents (Stock et al., 1997; Luster and Small, 1996; Moore, Nord, and Peterson, 1989). Abuse affects contraceptive use in two ways. First, during the nonvoluntary sexual activity, the child or adolescent is unable to insist that contraception be used (direct effect). Second, the loss of self esteem resulting from the abuse results in lower self efficacy (indirect

effect) and less use in later sexual relationships (Stock et al.. 1997; Becker-Lausen and Rickel, 1995).

Religiosity

Religiosity is expected to reduce the incidence of sexual activity, but may also serve as a barrier to the use of contraception, indirectly via attitudes about contraception and directly on actual use (Luker, 1975; Jessor and Jessor. 1977; Studer and Thornton. 1987; West, Wight, and MacIntyre, 1993). Thus the effects of religiosity on attitudes (indirect) and actual use (direct) should be included.

Summary

There seems to be a lack of willingness to integrate the characteristics of contraceptive use or nonuse. Some research focuses on strictly intrapsychic resources. some on attitudes. some on accessibility. and some on family structure or functioning. It would be helpful to consolidate various aspects in theoretically driven models, and to examine the relative contribution of each to the variation in contraceptive use. For example, if self efficacy is not a significant contributor to the explanations of behaviour. there is not much reason to target it as a site for intervention. This study will attempt to do this by developing a model that may be useful in studying other forms of risk-taking.

There is a shortcoming in not determining how socioeconomic status operates when a decision to avoid or indulge in risk-taking is made. A seeming acceptance of the culture of poverty paradigm has lead to focusing on the unique problems of being poor (or Black or Native), and failing to recognize the substantial role of structural disadvantage. As much of the research on adolescent pregnancy is intended to inform

interventional or educational programs, there is a need to find out whether the association between low socioeconomic status and adolescent pregnancy is more than a function of economically based differential access to resources.

There are three goals in this study. The first is to use a single sample of adolescents and compare the relative explanatory power of the variables in the cultural constraint and structural constraint models in explaining contraceptive use. The second is to determine if, and where, socioeconomic status enters the models and adds to their explanatory power. Finally, attention will be paid to how socioeconomic status acts, for it can contribute via the existence of class based differences in values and beliefs, or it can be a source of structural barriers related to access or cost.

The final models to be used for the analysis are presented in the next two figures. Figure 3 is the cultural constraint model, while Figure 4 is the structural constraint model. Both models include the expected associations suggested by the literature.

Figure 3 :The Structural Constraint Model:
Expected Relationships Among Variables

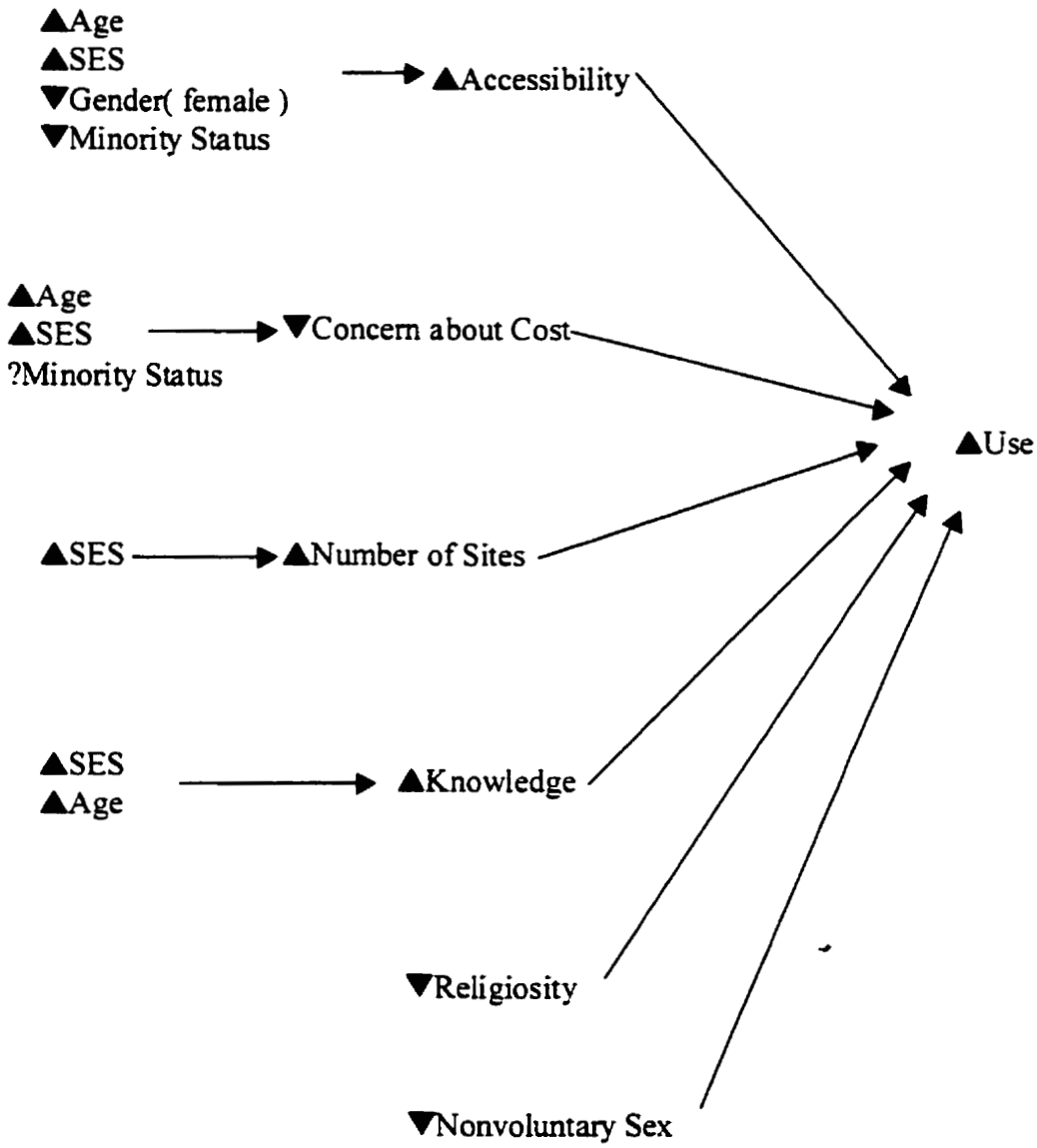
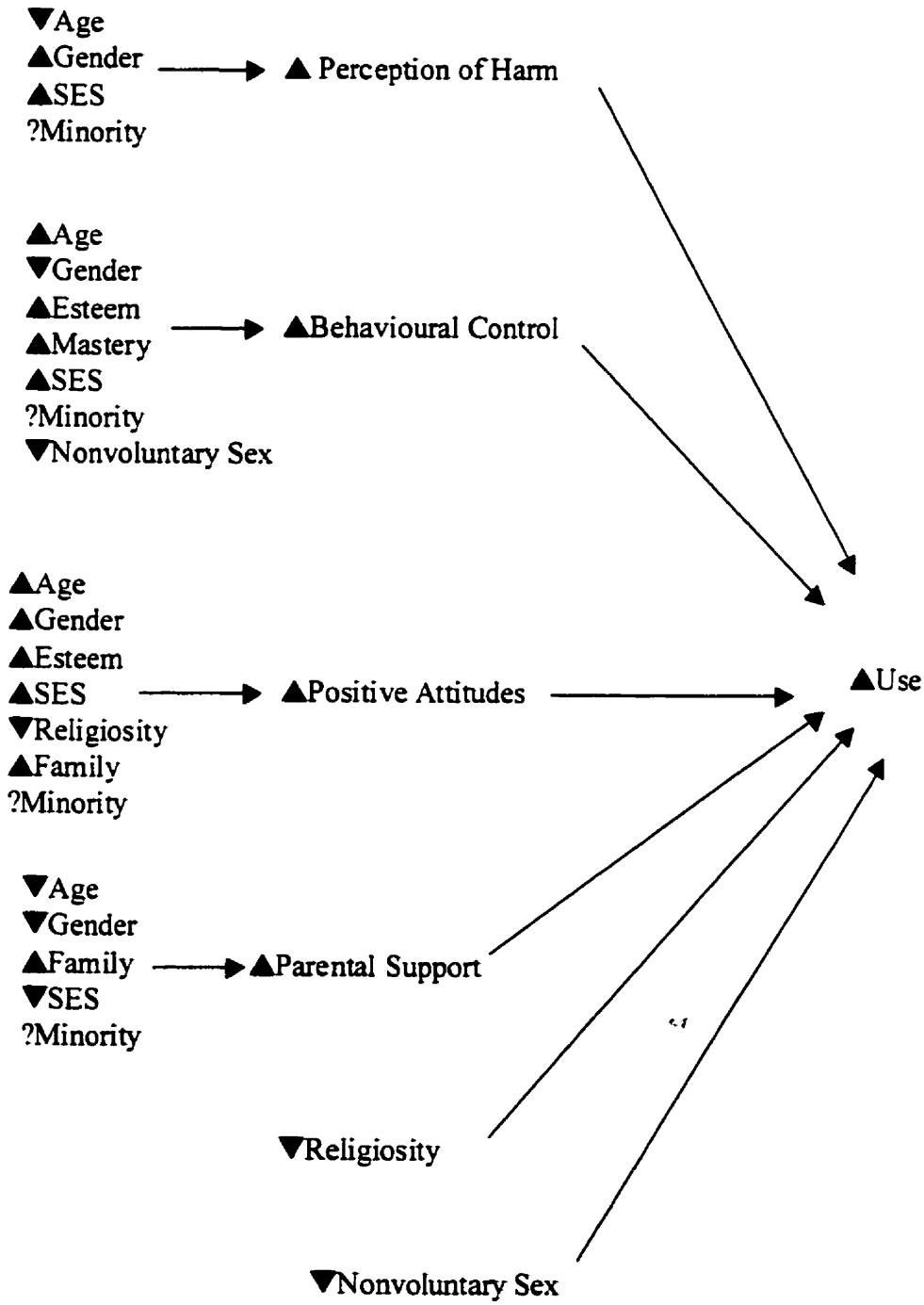


Figure 4 :The Cultural Constraint Model:
Expected Relationships Among Variables



Chapter Three

Data and Methods

The purpose of this chapter is to describe the data and measures used to examine the relationship between socioeconomic status and decision making. It includes a description of the data source, and information on measurement issues.

Data Source: The National Longitudinal Study on Adolescent Health

The data for this study come from the first wave (Release 1) of public-use data from the National Longitudinal Study of Adolescent Health conducted by the Carolina Population Center at the University of North Carolina at Chapel Hill (Resnick et al., 1997). This study was designed determine the distribution of illness and infirmity in American adolescents in grade 7 to 12, and to explore the social, psychological, biological, cultural, and environmental determinants of health in that population (Gordis, 1998).

The primary sampling frame was a listing of all schools in the United States that had an eleventh grade and at least 30 students registered in the school (N = 26,666). From this a systematic random sample of 80 schools was selected proportional to enrollment size, stratified by region, whether urban or rural, school type, and percentage of students being white. If available, the largest feeder school associated with the initial 80 schools was also recruited to participate. This allows the collection of data on students that will likely attend that school in the future and become part of the study then. Seventy nine

percent of the schools contacted agreed to participate for a final sample size of 134 schools. One hundred and thirty school administrators completed a questionnaire supplying information on school policies, environments and characteristics (Resnick et al. 1997).

The schools supplied a listing of all students who were eligible to attend, so adolescents who had dropped out of school could be included in the study. One hundred and twenty nine of the schools conducted a confidential in-school survey from September 1994 to April 1995. This survey was completed by 90,118 of 119,233 eligible students (Resnick et al., 1997).

From the roster of eligible students and the sample of students completing the in-school survey, a random sample of 15,243 adolescents, stratified by grade and sex, were chosen for Wave One in-home interviews. These were conducted between April and December of 1995, and were completed by 79.5% (N = 12,118). Of those participating, 85.6% also had a parent interviewed (Resnick et al., 1997).

Data collected during the in-home phase included information on health status, health service utilization, family dynamics, peer networks, decision making, romantic and friendship relations, aspirations and attitudes. For more sensitive issues such as risk taking with respect to drug and alcohol use, sexual activity and participation in criminal activities, the audio Computer Aided Survey Instrument (audio - CASI) technique was used. Respondents listen over headphones to spoken questions that have been recorded. The questions and responses have been recorded on a laptop computer, and the respondents press numbered keys to answer. This allows the respondent to truthfully

answer sensitive questions without concern about face-to-face disclosure to the interviewer (Turner at al., 1996). In the case of adolescents, the use of audio-CASI allows them to answer without the presence of parents acting as an influence (Kelley, Peterson and Peterson, 1997).

The public use data is composed of 50% of the core sample and 50% of the oversampled African American respondents, for a total sample size of 6504. This oversample was drawn from African American household where at least one parent had a college degree (Kelley, Peterson and Peterson, 1997). This was likely done to separate race effects from socioeconomic status effects in analyses.

An effort was made to find Canadian data for this thesis. However neither the National Longitudinal Study of Children and Youth nor the Canadian National Population Health Survey (1996) included the concepts of interest in a sample of adolescents of sufficient size.

Secondary Data Analysis

Secondary data analysis is defined as the "further analysis of an existing dataset which presents interpretations, conclusions, or knowledge additional to, or different from, those presented in the first report on the inquiry" (Hakim, 1982). This analysis uses information on cultural and structural constraints on contraceptive use or nonuse included in a large study of adolescent health.

The primary advantage of secondary data analysis is the saving of time, financial resources, and manpower when compared to undertaking original survey research (Kiecolt and Nathan, 1985). This public use data from this survey includes information

from more than 6,000 respondents, a number beyond the reach of a university graduate student's budget. The second advantage of this type of analysis is that it allows the researcher access to nationally representative samples originating from large scale surveys (Kiecolt and Nathan, 1985).

However, there are limitations to secondary data analysis that must be considered by the researcher. The most significant of these is that the dataset may not include the precise measures of interest, resulting in concern about the validity of the measures (Hakim, 1982; Kiecolt and Nathan, 1985). The researcher must be aware of the limitations of these less than perfect measures when making conclusions from his or her analysis. These concerns are addressed in the section on validity in this chapter and in the final chapter where limitations of the study are discussed. Another disadvantage of using secondary data is the researcher's inability to examine if errors were incorporated in the survey or to discover if such errors occurred at the interview stage, during coding, or during data entry (Kiecolt and Nathan, 1985). Only simple tests for errors could be conducted with this data: checking that those who claimed to have used or not used birth control had also responded that they were sexually active.

Characteristics of the Sample

Many of the measures have missing values due to the respondents refusing to answer questions, or replying 'Do not know' or 'Not applicable' to questions. Thus the descriptive statistics of the measures are based on a number less than the original 6504 present in the public release data.

The measure of socioeconomic status used in this study is a compound measure calculated using values for total annual family income, the higher of maternal or paternal education, and the higher of maternal or paternal occupational prestige. If any of these three were missing, the adolescent does not have a value for socioeconomic status.

The age distribution of the sample is based on the 4733 respondents who reported their age. The mean age is 14.87 years with a standard deviation of 1.73 years, and a range of 10 years or younger to 19 years or older. The majority of the sample (84.9%) is 13 to 17 years of age. (Table 1).

Table 1: Age Distribution of the Sample

Age in years	N	%
10 or less	1	0.0
11	13	0.3
12	466	9.8
13	690	14.6
14	859	18.1
15	867	18.3
16	860	18.2
17	743	15.7
18	199	4.3
19 or older	35	1.7
Totals	4733	100.0

Of the respondents who reported being in a specific grade (6337), 15.4% were in grade 7, 15.7% were in grade 8, 17.5% were in grade 9, 18.0% were in grade 10, 17.7% were in grade 11, and 15.7% were in grade 12. The missing respondents included 128

who were not in school, 35 who were in schools that did not have a system of grades, and 4 who refused to answer or responded 'Do not know'.

Males made up 48.4% (3147) of the sample, while females made up the balance (3356). One person refused to respond. Respondents who reported being White made up 66% (4280) of the sample, while 34 % of the respondents reported belonging to a minority group. These minority groups include Hispanic, Black, Asian or Pacific Islander, and Native American. One respondent refused to answer.

Of those answering the question about whether they were sexually active, 60% reported they were not, while the balance reported they were. Eighty-six responded ' Do not know' or 'Not Applicable' (34), or refused to answer (52).

Forty two percent of males report being sexually active, compared with 38% of females (Table 3).

Table 2: Status as Sexually Active by Gender

Sexually Active	Gender: Male	Gender: Female
No	1791 57.8%	2026 62.1%
Yes	1305 42.2%	1260 37.9%
Total N Total %	3096 100%	3286 100%

N = 6382

The distribution of being sexually active or not by age group (Table 3: pg. 38) discloses some rather alarming results for the respondents who report being under 15 years of age. Almost 10% of the 12 year old group, 15% of the 13 year old group and 26% of the 14 year old group report being sexually active. By age 16 slightly over half of the respondents (53.4%) report being sexually active. The missing responses (1812) correspond to respondents who failed to supply a valid response to the either of the questions about their age or their status as sexually active, or to both questions.

Table 4: Having Learned about Pregnancy in School by Gender

		Gender	
		Male	Female
Learned About Pregnancy In School	No	507 16.2%	392 11.7%
	Yes	2628 83.8%	2958 88.3%
	Total N Total %	3135 100%	3350 100%

N=6485

When asked if they had learned about pregnancy in school, 85.9% (5856) reported that they had, while the balance had not. Almost 84% of males who reported having learned about pregnancy in school, while 88.3% of females reported also having done so.

The annual, total, family income, as reported by one of the respondent's parents ranges from $ 0 to $ 999,000 with the mean income being $ 47,701 with a standard deviation of $ 56,355.

Age in Years

Sexually Active	10 or less	11	12	13	14	15	16	17	18	19+
No		12 92.3%	414 90.2%	584 85.0%	634 74.4%	519 60.6%	398 46.6%	283 38.3%	61 31.2%	12 29.2%
Yes	1 100%	1 7.7%	45 9.8%	103 15.0%	218 25.6%	338 39.4%	456 53.4%	456 61.7%	134 68.7%	23 65.7%
Total N Total %	1 100%	13 100%	459 100%	687 100%	852 100%	857 100%	854 100%	739 100%	195 100%	35 100%

Table 3:Distribution of Sexually Active Respondents by Age

N = 4692

Table 5: Annual Total Family Income in the Sample

Annual Income ($)	N	%
0 – 12 000	641	13.0%
13 000 – 21 000	590	12.0%
22 000 – 29 000	519	10.5%
30 000 – 39 000	699	14.2%
40 000 – 49 000	623	12.6%
50 000 – 59 000	547	11.1%
60 000 – 79 000	692	14.0%
80 000 – 999 000	618	12.5%
Totals	4929	100%

The interviewer reported on the environment the respondent lived in. The environment referred to the area of approximately one block around the respondent's dwelling.

Table 6: Dominant Land Use in Neighbourhood

Land Use	N	%
Rural	1794	27.9
Suburban	2344	36.4
Urban (residential only)	2061	32.0
Three or more commercial properties (retail)	136	2.1
Three or more commercial properties (wholesale/industrial)	51	0.8
Other	46	0.7
Totals	6335	100

Almost 28% of the respondents lived in rural areas, while 36.4% lived in suburban areas. The balance lived in urban environments with 32% dwelling in residential only areas and 2.9% in commercial areas. Seventy five percent lived in single family detached homes,

while the balance lived in trailer or mobile homes (2.3%), single family row housing (7.6%), divided houses (1.1%),small apartment buildings (3.8%), free access apartment buildings (5.8%), and restricted access apartment buildings (1.8%). The interviewers classified 2.6% of the dwellings as 'Other'. Almost 88% of the dwellings were classified as 'very well kept' or fairly well kept (need cosmetic work).

The Measures

Socioeconomic Status

Socioeconomic status was measured as a linear combination of income, parental education and parental occupational prestige.

1. Income – parental reported, annual, family income in thousands of dollars collapsed into eight categories.

   1 0 – 12, 000
   2 13,000 – 21, 000
   3 22,000 – 29,000
   4 30,000 – 39,000
   5 40,000 – 49,000
   6 50,000 – 59,000
   7 60,000 – 79,000
   8 80, 000 – 999, 000

2. Parental educational achievement

   This is the higher of maternal and paternal as reported by the adolescent. Where the adolescent as unsure the response was coded as missing.

   1 no schooling
   2 Less than or equal to eighth grade
   3 more than eighth grade but not high school graduate

4 high school or GED graduate
5 trade, vocational or business school graduate
6 some college
7 college degree
8 professional education after four year degree

3. Parental Occupational Prestige

I was unable to find out if a particular scale of occupational prestige was used in this study. Therefore I assigned a prestige score to each of the occupations given as examples in the categories used. This was done using the Nakao–Treas Scale of occupational prestige scores (1994). The mean score of the sample occupations was assigned to each category to create a 15-point scale of occupational prestige. For purposes of the analysis the higher of adolescent reported paternal and maternal prestige is used.

1	Professional 1 – doctor, lawyer, scientist	78
2	Manager – executive, director	70
3	Technical – computer specialist, radiologist	66
4	Professional 2 – teacher, librarian, nurse	62
5	Military / Security – police, firefighter, soldier	54
6a	Homemaker – female only	51
6b	Homemaker – male	36
7	Mechanical – plumber, electrician, machinist	48
8	Craftsperson – woodworker, toolmaker	44
9	Construction – crane operator, carpenter	43
10	Office Worker – clerk, bookkeeper, secretary	42
11	Sales – insurance agent, store clerk	41
12	Restaurant / Domestic – waiter, housekeeper	32
13	Transportation – bus / taxi driver	30

14	Factory / Labour – assembler, janitor	29
15	Farm / Fishery	23

These measures are combined in the formula:

Income + Education + (8/15) Occupational Prestige

Perceived Behavioural Control

The respondents are given three statements to measure their perception of their ability to ensure that they use birth control in a situation where sexual intercourse is likely to take place. The responses are very sure, moderately sure, neither sure nor unsure, moderately unsure, and very unsure. The responses are scored so that a high value refers to high self-perceptions of the respondent's ability to make sure he or she make sure birth control will be used.

> If you wanted to use birth control, how sure are you that you could stop yourself and use birth control once you were highly aroused or 'turned on' ?
>
> How sure are you that you could resist sexual intercourse if your partner did not want to use some form of birth control ?
>
> How sure are you that you could plan ahead to have contraception available?

The scale has an alpha reliability of 0.65.

Severity of the Threat of Pregnancy

The statements asking the respondents about potential harm resulting from a pregnancy were subjected to exploratory factor analysis. The analysis resulted in the partitioning of two factors: Personal Distress, which refers to emotional harm, and Negative Life Changes, which refers to how the adolescent's life may change.

Personal Distress

Two statements about personal feelings about a pregnancy are included.

If you got (someone) pregnant it would embarrass your mother.
If you got (someone) pregnant it would embarrass you.

The responses were strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree. The responses are coded so that a high score refers to a high perception of the personal distress. The scale has an alpha reliability of 0.83.

Negative Life Changes

Five statements measure the respondent's perception of negative changes to his or her life should pregnancy occur.

If you got (someone) pregnant, you would have to leave school.
If you got (someone) pregnant, you might marry the wrong person.
If you got (someone) pregnant, you would have to grow up too fast.
If you got (someone) pregnant, you would have to make hard decisions.
It wouldn't be all that bad if you got (someone) pregnant at this time in your life. (recode)

This is scored like Personal Distress. The scale has a calculated alpha reliability of 0.68.

Attitudes about Birth Control

The National Longitudinal Study of Adolescent Health data includes an eight component scale of attitudes towards birth control. These are scored using Lickert-type responses of strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree, and will be coded so that high scores will refer to positive attitudes about birth control.

Exploratory factor analysis of the eight items revealed one factor with four items, one factor with two items, and two single items. Factor 1 is called Attitudes towards Use and Factor 2 is called Moral Objections. The remaining items were used to measure Accessibility and Cost.

Positive Attitudes about Use

Birth control is bothersome to use.
It requires too much planning to use birth control.
It is hard to get your partner to use birth control.
Birth control interferes with pleasure.

All the statements were recoded so a high score refers to more positive attitudes. This measure is the sum of the scores for the above statements and has an alpha reliability of 0.80.

Moral Objections

Birth control is morally wrong.
Having birth control means you are looking for sex.

This measure is the sum of the responses to the two statements above.

Parent Support for Contraception

The respondents were asked how his or her mother and father felt about them using birth control. The responses were scored strongly disapprove, disapprove, neither disapprove nor approve, approve, or strongly approve, and are coded so that high scores are associated with strong parental support for birth control use. As was done with the measures of education and occupational prestige, the higher of maternal and paternal support was used.

Accessibility

This is measure using a single statement about the ease of acquiring contraception:

Birth control is easy to get.

and is coded strongly agree, agree, neither agree nor disagree, disagree or strongly disagree and scored so that a high score refers to a high perception of easy access.

Cost

This is measure using a single statement about contraception being expensive.

Birth control is too expensive to buy.

This is coded like accessibility and scored so a high score corresponds refers to a high perception that contraception is too expensive.

Number of Sites to Obtain Contraception

The respondents were asked how many of the following sites they had used for contraceptive information and materials. The possible locations were a private physician, a school clinic, a health clinic, a hospital, or other. The value for this measure is the sum of the locations.

Reproductive and Contraceptive Knowledge

The respondents were asked to answer a series of ten true/false questions and were given one point for each correct response. The measure is the sum of the correct responses.

1. When a woman has sexual intercourse, almost all sperm die inside her body after about six hours. (F)

2. when using a condom, the man should pull out of the woman right after he had ejaculated (come). (T)
3. Most women's periods are regular, that is, they ovulate (are fertile) fourteen days after their periods begin. (F)
4. Natural (lambskin) condoms provide better protection against AIDS than latex condoms. (F)
5. When putting on a condom, it is important to have it fit tightly, leaving no space at the tip. (F)
6. Vaseline can be used with condoms and they will work just as well. (F)
7. The most likely time for a woman to get pregnant is right before her period starts. (F)
8. Even if a man pulls out before he ejaculates (even if ejaculation occurs outside of the woman's body), it is still possible for the woman to become pregnant. (T)
9. As long as the condom fits over the tip of the penis, it doesn't matter how far down it is unrolled. (F)
10. In general, a woman is most likely to get pregnant if she has sex during her period, as compared with other times of the month. (F)

Family Attachment

For this measure I used the measure of parent –family attachment used by Resnick et al. (1997), who used the same data.

Most of the time your mother is warm and loving to you.
You are satisfied with the way your mother and you communicate.
Overall you are satisfied with your relationship with your mother.
Most of the time your father is warm and loving to you.
You are satisfied with the way your father and you communicate.
Overall you are satisfied with your relationship with your father.
How close do you feel to your mother ?

How much do you thinks she cares about you ?

How close do you feel to your father ?

How much do you thinks he cares about you ?

How much do you feel your parents care about you ?

How much do you feel that people in your family understand you ?

How much do you feel that your family has fun together ?

How much do you feel that your family pays attention to you ?

This scale is scored so a high value refers to a high level of parent-family attachment. It has a reliability alpha value of 0.90.

Self Esteem

These statements have the responses strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. These will be coded so that high scores will refer to high levels of self-esteem.

You have a lot of good qualities.

You have a lot to be proud of.

You like yourself just the way you are.

You feel like you are doing everything just about right.

You feel socially accepted.

You feel loved and wanted.

This scale has an alpha reliability of 0.85.

Religiosity

This concept is measured using the responses to a single question:

How important is religion to you ?

The response categories are not very important, somewhat important, fairly important, and very important, and are scored so a high score refers to a high level of importance being placed on religion.

Nonvoluntary Sexual Activity

The respondents were asked if they had ever been forced to have sex. Those who responded 'Yes' were given a score of 1, while those who answered 'No' were assigned a 0. Almost 12% (304) of the sexually active adolescents in the National Longitudinal Study of Adolescent Health reported having been forced to have sex, with 260 of those being female.

Birth Control Use

The respondents were asked if they used birth control the first time they had sex and the most recent time they had sex. The sum of these is used to measure use. This concept would be better measured by a question that asked how frequently the respondent used birth control, with responses of 'all the time, most of the time, 50-50, some of the time, and never'. However neither this survey, nor the possible alternative (Canadian National Population Health Survey, 1996), included such a question. A table was created which showed the zero order correlations of first time and most recent use, along with the combined measure, with the variables from the two models (Table 7). This table shows that the individual measures and the combined behave similarly with respect to their associations with the model variables.

Measurement Issues

Measurement is the "process of linking abstract concepts to empirical indicants" (Carmines and Zeller, 1979:10). High quality measures must be consistent and they must

Table 7: Comparison of Zero Order Correlations for Individual and Composite Measures of Contraceptive Use

	Zero Order Correlations with		
Model Variables	Use at First Intercourse	Use at Most Recent Intercourse	Combined Measure of Use
Cost	- 0.13 ***	- 0.14 ***	- 0.12 ***
Access	0.05 *	0.04	0.07
Knowledge	0.06 **	0.06 **	0.08 ***
Number of Sites	- 0.02	- 0.08	- 0.06
Personal Distress	0.06 **	0.14 ***	0.09 ***
Negative Life Changes	0.07 **	0.09 ***	0.12 ***
Perceived Control	0.23 ***	0.23 ***	0.23 ***
Positive Attitudes	0.23 ***	0.25 ***	0.26 ***
Moral Objections	- 0.16 ***	- 0.14 ***	- 0.19 ***
Parental Support	0.05	0.03	0.02
Self Esteem	0.08 **	0.09 ***	0.09**
Religiosity	- 0.02	- 0.01	- 0.02
Nonvoluntary Sex	- 0.07 ***	- 0.09 ***	- 0.09 **
Family Attachment	0.09 **	0.07 **	0.10 ***
Socioeconomic Status	0.07 *	0.09 *	0.09 *
Gender (female)	0.03	0.07 *	0.03
Age	0.05	0.04	0.02
Minority Status	- 0.03	- 0.02	- 0.03

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$: Two Tailed Test

measure the concept of interest as completely and specifically as possible. These issues need to be considered when examining the measures used in this study. In addition, measurement issues with respect to the Ordinary Least Squares (OLS) path analysis method needs to be addressed.

Reliability

Reliability concerns "the extent to which an experiment, test, or any measuring procedure yields the same results on repeated tests" (Carmines and Zeller, 1979:11). Reliable measures show consistent measurement of the concept of interest over time and for varying samples, assuming the underlying concept has not changed (Goldenberg, 1992). As it would be unrealistic to expect to address this latter difficulty, reliability is more generally considered to be " the consistency of measurement of an item or a scale employed by ...users simultaneously " (Goldenberg, 1992: 109).

The most used measure for reliability of multiple measures of a single concept is Cronbach's Alpha. This coefficient measures the degree of correlation among a group of items purporting to measure the same concept, or the internal consistency of the results of the multiple measures of the concept (Neuman, 1991). Possible values for Cronbach's Alpha range from 0.00, for scales with no internal consistency, to 1.00 for scales with perfect consistency. As this study uses many concepts that are measured by multiple indicators, the Cronbach's Alpha, along with descriptive measures for all variables used, was calculated and is reported in Table 7 (pg. 51). A reminder must be made that these statistics refer to sexually active adolescents.

Table 8: Descriptive Statistics and Reliability Values

Variable	No. of Items	Mean	S.D.	Range	Cronbach's Alpha
Cultural Constraints Model					
Personal Distress	2	7.20	2.42	2-10	0.83
Negative Changes	5	15.92	3.97	5-25	0.68
Behavioural Control	3	11.82	1.76	3-15	0.65
Positive Attitudes	4	16.07	3.42	4-20	0.80
Moral Objection	2	4.12	1.77	2-10	NA
Parental Support	1	1.95	0.86	1-5	NA
Religiosity	1	3.25	0.80	1-4	NA
Family Attachment	14	58.18	8.25	22-70	0.90
Self Esteem	6	24.53	3.56	12-30	0.85
Mastery	1	3.93	0.86	1-5	NA
Structural Constraint Model					
Accessibility	1	3.83	1.28	1-5	NA
Cost	1	2.02	1.01	1-5	NA
Knowledge	10	16.48	1.67	11-20	NA
Number of Sites	5	1.09	0.29	1-2	NA
Explanatory Variables					
Socioeconomic status	3	45.00	0.200	19.5-55.0	NA
Gender (female=1)	1	0.50	0.50	0-1	NA
Age (years)	1	15.73	1.40	10-19+	NA
Minority (minority=1)	1	0.70	0.456	0-1	NA

Validity

Validity is a measure of how well an indicator " ... represents the intended – and only the intended, concept " (Carmines and Zeller, 1979: 13). The goal is to have the

indicator measure all aspects of the underlying construct accurately, without including any extraneous aspects.

Face validity refers to the measures or indicators having plausibility in the manner in which they are employed (Goldenberg, 1992). As most of the concepts being measured (self-esteem, contraceptive self-efficacy, contraceptive attitudes) have been used in other research, they can be said to have some face validity.

Construct validity is concerned with "the extent to which a particular measure relates to other measures consistent with theoretically derived hypotheses concerning the concepts (or constructs) being measured" (Carmines and Zeller, 1979: 23). In order to examine this, a matrix of zero order correlations was constructed for each of the models. The matrix for the cultural constraint model is presented in Table 9 (pg.56) and the matrix for the structural constraint model is presented in Table 10 (pg.57).

The correlations for the variables representing cultural constraints on contraceptive use and contraceptive use are 0.29 ($p<0.001$) for attitudes about use, - 0.19 ($p<0.001$) for moral objections, 0.23 ($p<0.001$) for perceived behavioural control, 0.12 ($p<0.001$) for perceived negative life changes, and 0.12 ($p<0.001$) for perceived personal distress. In addition, nonvoluntary sex was significantly correlated with use ($r=-0.09$, $p<0.001$). Only parental support and religiosity did not demonstrate the expected correlations with use in this sample.

The correlations for the structural constraints on contraceptive use and contraceptive use are -0.17 ($p<0.001$) for perceived cost and 0.05 ($p < 0.05$) for ease of access, and 0.08 ($p<0.001$) for knowledge about contraception and reproduction. Only the

number of sites was not significantly associated with use. All correlations are fairly strong and in the direction specified in the literature. Although this test is not conclusive, it does indicate that the variables of interest are operating in the expected direction. This increases confidence in the construct validity of the measures.

The failure of some of the constraint variables to demonstrate the correlations with contraceptive use expected from the literature may have been due to several reasons. The measures may not be valid measures of parental support or availability, or the expected relationships do not occur within the sample, or the theory linking such variables may be incorrect. However, the fact that the less than perfect measure of contraceptive use correlates significantly with the majority of the constraint variables, in the manner suggested by the literature, increases confidence in the measure.

The correlations for the cultural constraint variables and socioeconomic status are 0.07 ($p<0.05$) for positive attitudes about use, 0.11 ($p<0.05$) for behavioural control, and 0.12 ($p<0.001$) for personal distress, but are not significant for negative life changes, parental support or moral objections. The weak or non-significant correlations for attitudes, control, distress, and objections, and socioeconomic status imply that the hypothesized relationships between these pairs of variables, originating within the culture of poverty paradigm, may not be valid.

The correlations for the structural constraint variables and socioeconomic status are significant only for knowledge ($r=0.14$, $p<0.05$). The non-significant correlations of the structural variables with socioeconomic status may be due to poor construct validity of the measures, as they are based on attitudes and not on reports of easily accessible,

inexpensive sources of contraception. There may also be no class based differences in perceived access or cost. These concerns must be considered as the analysis is conducted.

Multicollinearity

When the zero order correlations between two variables is too high, one is unsure whether one is measuring distinctly different concepts (Norussis, 1990). Excessively high correlations result in large standard errors, and imprecise values for Beta (Fox, 1991). None of the correlations in Table 9 and 10 are excessively large (> 0.70) suggesting that multicollinearity is not a problem (Pedhazur, 1984). To confirm this, the Tolerance and the Variance Inflation Factor were calculated. Tolerance and the Variance Inflation Factor measure the impact of collinearity on the precision of the estimates of Beta, the standardized regression coefficient (Pedhazur, 1984). Fox (1991) states that if the Tolerance level is below 0.2 or the Variance Inflation Factor is greater than four, the estimates of Beta are too imprecise to be used. As none of the values for these approached the levels flagged by Fox, it is safe to assume that multicollinearity is not a concern in this analysis.

Methodological Concerns

The use of Ordinary Least Squares regression requires that the equations be examined for violations of the regression assumptions (Fox, 1991). Along with the absence of perfect multicollinearity, the assumptions of Ordinary Least Squares regression include a linear relationship between the dependent and independent variables. The variance of the errors for the dependent variables is constant for all values of the

independent variable (homoscedasticity), the errors are not correlated with the independent variable, and are normally distributed, and the mean of the errors for the dependent variable equals zero for multiple measurement of it. Finally, testing was done for outlying or influential values (Pedhazur, 1984; Fox, 1991). The regression diagnostics were performed and found no significant difficulties.

	SES	Distress	Changes	Control	Attitudes	Objection	Support	Use	Esteem	Religion	Family	Minority	Gender	Age
SES	1.00													
Distress	.12**	1.00												
Changes	.08	.44**	1.00											
Control	.11*	.08	.11*	1.00										
Attitudes	.07*	0.7 *	-.03	.39**	1.00									
Objections	-.02	.02	0.06	-.28**	-.51**	1.00								
Support	-.09	-.28**	-.10*	-.08	-.10**	.04	1.00							
Use	.09*	0.12 **	.12*	.23**	.29**	-.19**	.04	1.00						
Esteem	.09*	-.03	.05	.18**	.10**	-.03	.06*	.10*	1.00					
Religion	-.04	-.01	-.04	-.03	.00	.07*	-.12*	-.02	.13*	1.00				
Family	-.01	-.02	.13*	.12*	.08*	-.04	.11*	.07*	.49**	.13*	1.00			
Minority	.11*	-.17**	-.16**	.03	- .07**	.08*	.01	.03	.11*	.28**	0.05	1.00		
Gender	.04	0.07 *	-.16**	.20**	.17**	-.24**	-.23**	.03	-.15**	.04*	-.16*	-.01	1.00	
Age	.06	- .09**	.05	.00	.09*	-.10	.13*	.05*	-.01	.08	.00	-.13**	0.02	1.00

Table 9: Correlation Matrix for the Cultural Constraints Model

* $p < 0.05$, ** $p < 0.001$ (Two tailed test)

	SES	Sites	Cost	Access	Knowledge	Use	Minority	Gender	Age	Religiosity
SES	1.00									
Sites	-.02	1.00								
Cost	-.02	-.04	1.00							
Access	.00	.00	-.08**	1.00						
Knowledge	.14*	.00	-.07*	.05*	1.00					
Use	.09*	-.06	-.17*	.05*	.08**	1.00				
Minority	.10*	.06	-.02	.00	-.14*	.03	1.00			
Gender	.04	.10	-.08**	.06*	.12**	.03	-.01	1.00		
Age	.06	-.09	-.07*	.12**	.05	.05	-.19**	.03	1.00	
Religiosity	-.03	.10	-.04*	-.02	-.10**	-.02	.20**	.04*	.00	1.00

Table 10: Correlation Matrix for the Structural Constraints Model

* $p < 0.05$, ** $p < 0.001$ (Two tailed test)

Chapter Four

Results

This chapter presents the empirical investigation of the cultural and structural constraint models of contraceptive use or nonuse and the role of socioeconomic status in each. First the relationship between socioeconomic status and contraceptive use is examined. Next, each of the cultural and structural constraint models is analyzed using Ordinary Least Squares path analysis.

The Association between Contraceptive Use and Socioeconomic Status

This research is intended to investigate the role of socioeconomic status in two models being used to explain the positive relationship between social class and contraceptive use, using data from the National Longitudinal Study of Adolescent Health (Wave One). Therefore, there must be an association between socioeconomic status and the use of contraception in that data. The zero order correlation of 0.09 ($p < 0.01$) between use and socioeconomic status supports this. To confirm this, a contingency table was constructed to provide an illustration of the relationship. The results are presented in Table 11.

The table shows a very weak, positive relationship between contraceptive use and socioeconomic status (Chi square = 9.51, df = 4, $p < 0.05$). As socioeconomic status increases the proportion of respondents reporting using contraception intermittently or not at all decreases, while the proportion of respondents reporting use both times increases, from 53.4% to 65.7%.

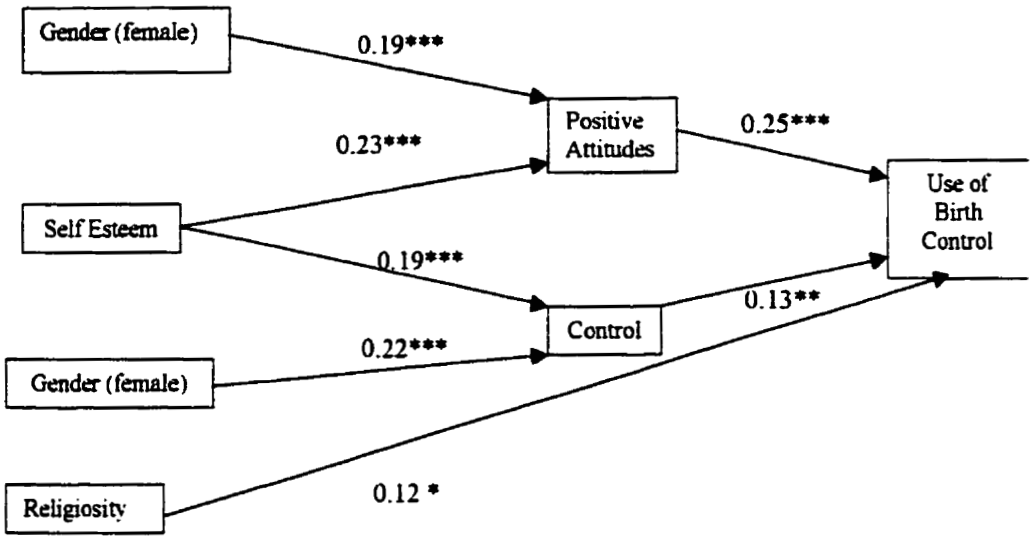
Table 11: Association between Contraceptive Use and Socioeconomic Status

		Socioeconomic Status		
		Low	Medium	High
Use of Birth Control	No (0)	56 20.1%	50 18.2%	42 15.2%
	Intermittent (1)	74 26.5%	66 24.0%	53 19.1%
	Yes (2)	149 53.4%	159 57.8%	182 65.7%
	Total N Total %	279 100.0%	275 100.0%	277 100.0%
Chi square=9.51, df=4, p<0.05; r = 0.09, p<0.05				N = 831

Path Analysis of the Cultural Constraint Model

The path model of this analysis is presented in Figure 5. The path analysis of this demonstrates no direct or indirect association between socioeconomic status and contraceptive use. The constraints from this model that have a significant association with contraceptive use are perceived behavioural control ($\beta = 0.13$, $p < 0.01$) and positive attitudes about contraception ($\beta = 0.25$, $p < 0.001$), and neither of these have a significant association with socioeconomic status. These results suggest that using only disadvantaged groups to study the failure of adolescents to use contraception is an error. As expected from the literature, religiosity was found to have a negative direct association with contraceptive use ($\beta = -0.12$, $p < 0.05$).

Figure 5: Path Analysis of Cultural Constraint Model



* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ (Two tailed test)

Gender and self esteem demonstrate indirect effects on contraceptive use, via perceived behavioural control and attitudes. The total effects for each of these is presented in Table 12.

The relationship between contraceptive use and self esteem is interesting, especially given the presence of a significant correlation between esteem and socioeconomic status ($r = 0.09$, $p < 0.05$). However, it is beyond the scope of this study to investigate this relationship further. There are indications in the literature that suggest that the relationship among self esteem, socioeconomic status, and risk taking needs to be conducted using longitudinal data, to establish the direct of changes in self-esteem after

Table 12: Indirect and Total Effects of Gender and Self-Esteem on Contraceptive Use

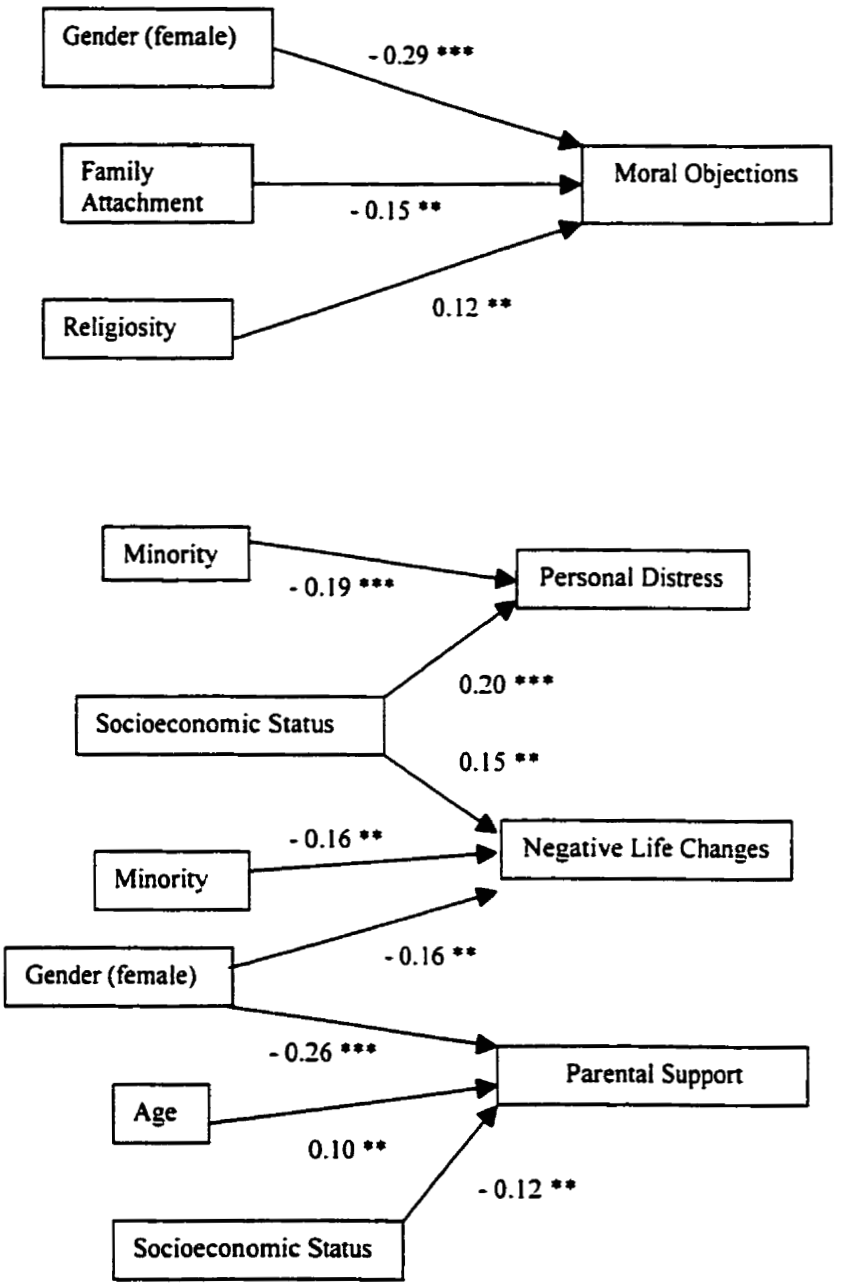
Explanatory Variables	Path to Use Of Birth Control	Path Coefficients	Indirect Effects	Total Effects
Gender	via Control	(0.22)(0.13)	0.03	
	via Attitudes	(0.19)(0.25)	0.05	0.08
Self Esteem	via Control	(0.19)(0.13)	0.03	
	via Attitudes	(0.23)(0.25)	0.06	0.09

risk taking for different status groups (Rosenberg, Schooler, and Schoenbach, 1989; Keddie, 1992).

The association of gender with use via control was not expected, as females are assumed to be passive in sexual behaviour. However the total effect of gender on use does not result in higher reported use of contraception by female respondents ($r_{use.gender}$= -0.03, p not significant). This suggests that there may be variables that exert a negative effect on use for female respondents and are not included in this model.

While none of the measures of harm, parental support or moral objections contribute significantly to the explanation of variation in contraceptive use, they do show interesting associations with a number of the structural variables used in the path analysis (Figure 6). There is a significant association of reduced perception of harm from a pregnancy with low socioeconomic status, for both personal distress (β=0.20, $p<0.001$) and negative life changes (β=0.15, $p<0.05$).

Figure 6: Path Analyses for ~~Cultural Constraints not associated with~~ Contraceptive Use



$p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ (Two tailed test)

This judgement of less harm by lower socioeconomic status adolescents may be an adaptation to the lack of the realistic alternatives to parenthood when secondary school is completed. If one does not have a realistic expectation of post-secondary education or a career, parenthood may not be determined to be as harmful. This does not mean that education and career are valued less but that they are outside the expectations of disadvantaged adolescents (Valentine, 1968). A similar scenario may explain the association of minority status and decreased concern about personal distress (β=-0.19, $p<0.001$) and negative life changes (β=-0.16, $p<0.05$).

One must also consider the results for socioeconomic status, minority status, and perceptions of harm to be in agreement with the culture of poverty paradigm. It may be true that low socioeconomic status adolescents do not care if they become pregnant. However, in this sample, perceptions of harm does not relate to use, so there is no reason to see lowered concern as flouting the values of the dominant status group.

Being female shows an association with being less concerned about negative life changes (β=-0.16, $p< 0.01$) and having less parental support for birth control use (β=-0.26, $p<0.001$), but feeling less concern about moral objections to use (β=-0.29, $p<0.001$). The first result is surprising: the expectation was that young women would see themselves a bearing the majority of responsibility for a pregnancy and see it as more harmful. The responses may reflect the young woman's willingness to adjust to an unexpected pregnancy should it occur (Boyce and Benoit, 1975; Forsyth and Palmer, 1990). As was seen in the case of lower socioeconomic status, reduced perceptions of

harm do not translate into less use of birth control ($r_{use.\ gender} = 0.03$, p not significant) suggesting that pregnancy is not desired.

The results for parental support and socioeconomic status, age, and gender are those expected from the literature. Similarly the associations between moral objections and family attachment, gender, and religiosity are as expected.

Path Analysis of the Structural Constraint Model

The path analysis of this model failed to explain a significant amount of the variation in contraceptive use so no diagram is presented. There is a significant negative association of socioeconomic status with the perception of birth control as too expensive (β=-0.56, $p<0.001$). While this does not translate into a variation in the use of birth control, it does support the idea that cost can become a concern to those who are structurally disadvantaged.

These results may be due to the use of attitudes about accessibility and cost rather than asking if the respondents can find free or inexpensive birth control without having to tell their parents or travel a long distance. It may also be due to the removal of structural barriers to accessing contraception. Many schools have in-house nurses so the adolescents do not have to go to a doctor for help. This will ease their discomfort, as well as remove constraints due to excessive travel to a clinic. This result may also reflect the availability of condoms in neighbourhood pharmacies and service stations, negating the need to travel to a medical facility.

Summary of Results

The analysis of the cultural constraint model showed no association of socioeconomic status with the significant determinants of contraceptive use. Having positive attitudes about contraception and a sense of control over whether contraception is used are associated with use, regardless of status group membership. The constraints that were positively associated with socioeconomic status were the two measures of perceived harm from a pregnancy, but these were not associated significantly with use. An interesting finding is the negative influences of religiosity on contraceptive use, as was expected from the literature. Having non-voluntary sex was not significantly associated with use for the sample used in this analysis.

The analysis of the structural constraint showed no significant associations with birth control use, so it was impossible to examine the role of socioeconomic status. Perceived cost was associated with socioeconomic status but not with use.

Chapter Five

Discussion and Conclusions

Discussion

Many of the studies seeking the antecedents of contraceptive nonuse in adolescents are conducted within groups that are disadvantaged with respect to their social status. These groups are seen as having a distinct subculture that leads them to have different values, attitudes, and beliefs that impede their use of contraception. Grounded in Lewis' work on the culture of poverty (1966), this subcultural approach has led researchers to neglect structural limitations that disadvantage these groups, and to see them as morally inferior and responsible for negative events in their lives (Valentine, 1968; Ryan, 1976). This study was conducted to empirically test whether the association between socioeconomic status and contraceptive use was better explained using the culture of poverty paradigm or a structural deprivation approach.

While there was a significant association between low socioeconomic status and nonuse of contraception, this was explained neither by the measures used to construct the culture of poverty model nor by those comprising the structural deprivation model. This suggests that using the culture of poverty paradigm as a framework for this type of research may be an error.

The finding of no association between perceived control and socioeconomic status is in direct opposition to the culture of poverty paradigm. The lower status adolescents in this study are neither more fatalistic nor more helpless than higher status adolescents when they consider protecting themselves from a pregnancy. Similarly, there is no status

difference in positive attitudes about birth control, so the assumption that lower socioeconomic status members differ in attitudes has been shown to be incorrect.

The structural constraints model failed to explain any of the variation in contraceptive use. While cost did not serve to explain a significant amount of the variation in contraceptive use, respondents from lower socioeconomic status levels expressed greater concern about cost.

The results would suggest the need to consider adolescents from all socioeconomic status groups to be subject to the same factors that deter them from using contraception. The full model shows that behavioural control and attitudes combine to explain a significant amount of the variation in contraceptive use (R^2=0.12, $p<0.001$).

When compared to their male counterparts, the females in this study have, on average, more positive attitudes about using contraception and higher perceived behavioural control. However, this does not translate into greater use of contraception. This suggests that neither of the models used in this thesis captures what other influences act on females when contraceptive use is considered.

One of the greatest difficulties in approaching this thesis and its results lies in the dual nature of what are referred to as 'structural' variables. Gender can place a barrier to contraceptive use in two ways. Young females are socialized to behave passively in sexual encounters (Luker, 1975; Forsyth and Palmer, 1990; Gupta and Weiss, 1993; Zabin and Hayward, 1993), so they share what might be loosely termed a 'culture of femininity' and cannot be assertive about using contraception (Tollman, 1995). However, being female can also mean being subject to discriminatory hiring practices and

unemployment or underemployment, so those financial barriers may impede use. Gender appears to place both cultural and structural influences on behaviour.

This study used parental socioeconomic status as a measure of the 'culture' into which the adolescents were socialized. If being of lower socioeconomic status meant the adolescents were socialized into a culture where adolescent pregnancy was not stigmatized behaviour, they were expected to report lower perceived behavioural control and less positive attitudes about contraception, and, thus, less use. However no status difference was found in attitudes or behavioural control, which influence contraceptive use, so socioeconomic status does not act as the source of a culture with different values and attitudes.

Limitations of the Study

1. Neither of the models explained the weak, positive association between socioeconomic status and contraceptive use that was found in the data. There may be significant explanatory variables not included in the models: these will be addressed in the following section of the thesis. The association may also be due to socioeconomic status based differences in social desirability. As was addressed in the Introduction, upper status adolescents may report higher than actual levels of use in order to conform to what they feel is expected behaviour (McNamara and Delamater, 1984).

2. This study lacks the information about whether a pregnancy is specifically desired by lower socioeconomic status adolescents as compared to upper or middle status adolescents. This data also does not allow one to distinguish those for whom a pregnancy would perform a positive function from those who wish to avoid it but are willing to cope with the event if it occurs.

Childbearing can be functional in fulfilling the desire to have someone to love (Jorgensen, 1981; Lineman and Scott, 1981; Withal, 1990; Goodson, Evans and Edmunson, 1997; Corcoran, Franklin and Bell, 1995) or in forcing commitment from a partner (Pete and DiSantis, 1990; Goodson, Evans and Edmunson, 1997). Luker (1975), who was interviewing adult women reported statements such as:

> "...getting pregnant means having someone who will take my love and care, 'cause lots of times I think no one else wants it " (p. 68)
>
> "I thought I would probably get married, that he would want to..." (p. 70)

Zabin and Clarke (1981), Weisman et al. (1991), Ballassone (1987), Muram et al. (1991), Zabin, Astone and Emerson (1992), Farber (1994), Stanton et al. (1996), and Schinke (1997), found a similar link between ambivalence regarding the severity of pregnancy as an outcome and the failure to use contraception. However, none of these included a measure of social class, so this ambivalence may be common to certain young women from all classes or only those from a certain social class.

For some of these young women, motherhood takes the form of a rite of passage and a source of increased status (Hogan and Kitagawa, 1985; Ballassone, 1989; Forsyth and Palmer, 1990; Fernandez–Kelly, 1994; Stevens, 1994; Zelaya et al., 1997). Similar findings occur in the literature about crime involvement and status in poor communities (Katz, 1986; Rosenberg, Schooler and Schoenbach, 1989): there is a status benefit to being a tough guy or 'badass', and being able to outsmart police. There is no attempt to disentangle whether the involvement emerges from a cultural value, or gender role socialization, or is a response to structural inequalities that bar certain people from conventional forms of status achievement.

There are also young women who would prefer to postpone pregnancy but feel an early pregnancy would create no difficulty or stigma (Boyce and Benoit, 1975; Forsyth and Palmer,1990). Others see motherhood as conforming to the sex role expectations of their community (Stewart, 1981; Jorgensen, 1981), particularly if their partner is an older, non-adolescent male (Males, 1992). Again there is no effort made to determine if the acceptance of pregnancy is cultural or simply the next stage in the expected life course of these girls.

Finally, there is the opinion that if the proposed costs of a pregnancy are not meaningful to the adolescents they may not perceive pregnancy as a negative outcome:

> "the consequences commonly associated with adolescent pregnancy-truncated education, welfare dependency, and poor medical care- are also generic to poverty, and therefore lose their punishment or cost implications for adolescents who already live in poverty"
> (Balassone, 1987: 605)

However a study by Furstenberg (1970) found the majority of the poor, Black adolescents in his focus group were very unhappy about finding out they were pregnant, so the initial culture of poverty based assumption may be incorrect.

3. The measure of contraceptive use is not as informative as might be desired, as there no way to tell how frequently overall contraception is used. While the chosen measure did demonstrate the expected correlations with most of the model components, asking how often the respondent used birth control would give a more suitable measure.

4. There is one limitation that applies to the data analysis. The proportion of variation explained by the various regression analyses is small in many cases. This probably reflects the presence of other significant variables that were excluded by the

theoretical orientation of the study. These will be considered next. However the F-tests in all regression models indicate that a statistically significant amount of the variance is being explained by the combination of dependent variables.

Other Explanatory Variables

The final path model in this study does not explain the weak positive association between socioeconomic status and contraceptive use and only explains 12% of the variation in contraceptive use. While this second amount is statistically significant ($p<0.001$), there may be associated variables that were excluded either due to the limits of the theoretical framework or because they fail to vary for the sample group. Two of these are examined here.

1. Family Structure and Functioning

Certain types of family structure or forms have been associated with increased levels of adolescent pregnancy. Zelaya et al. (1997) found that living with her biological father reduced the likelihood a girl will become pregnant, while living with a stepfather will increase it. However, these authors present no explanation for their findings. The strongest association is that between early sexual debut, pregnancy, and living in a single parent, female-headed family (Scott and Perry, 1990; Forsyth and Palmer, 1990; Rodriguez and Moore, 1995). There are two explanations for this phenomenon. Forsyth and Palmer (1990) feel the sexual activity takes place because the working mother is unable to supervise her children, while Rodriguez and Moore (1995) found that living with a single mother who is dating and sexually active exerts a powerful influence on the adolescent's decision to become sexually active. However, neither of these explanations is proposed as being related to a particular socioeconomic status group.

The influence of living in a single parent, female headed family would likely add to the explanatory power to the models of contraceptive use. The data does include a measure of whether the adolescent lives only with his or her mother. If the culture of poverty paradigm is correct, the single mother would be expected to report that she was never married. This paradigm claims that women of such a culture forgo marriage for greater control over poverty and offspring (Lewis, 1966). This measure might also be a measure of structural disadvantage, if living in a single parent, female headed family is correlated with low socioeconomic status and poverty. The single parent also reported whether she is dating, and how much time she is available to supervise the adolescent. Lack of supervision was also found to be associated with adolescent pregnancy.

The measure of family structure, dating and marital status of the single mother could not be used in this study as the respondents who have valid measures of the other variables in the models all report living in two parent households. Thus family structure is not a variable for this group.

2. Perception of Risk of Pregnancy

In order to feel the use of contraception is necessary, the adolescent must assess how likely it is he will make someone pregnant or she will become pregnant. Cognitive development approaches to adolescent pregnancy employ Piaget's Theory of Cognitive Development: "operational thinking, necessary for planning for the future, is not fully operational in teens" (Rodriguez and Moore, 1995). Adolescents are unlikely to anticipate the consequences of present action and to feel immune to danger (Demb, 1990; Levinson, 1995). They have a 'crisis' orientation to contraception, only seeking

birth control when they thought they might be pregnant (Zabin and Clarke, 1981; Zabin and Hayward, 1993).

There are those who argue that this perspective is incorrect. Males (1992) found that a large proportion of births to teenage girls involved fathers over 19 years of age, and that these fathers should be capable of thinking of future consequences. He is also highly critical of approaches that put all of the responsibility for contraception on the young woman, when her partner is frequently an adult male. Pete and DiSantis (1990) found that adolescents were quite capable of framing their decisions in terms of future outcomes.

Some adolescents have a sense that they are invulnerable to pregnancy (Zelnik and Kantner, 1979; Arnett, 1990; Pete and DiSantis, 1990; Farber, 1994; Goodson, Evans and Edmunson, 1997):

> " I never thought about the risk before. Because I always thought that I was never one to (have to) face reality - it can't happen to me, you know. I'm me and nobody else is like me. " (Farber, 1984: 481)

This perception of oneself as personally invulnerable contributes to the adolescent's involvement in various forms of reckless behaviour (Stevens - Simon et al; 1996; Demb, 1990; Arnett, 1990).

Other misconceptions that lead to ineffective contraception are the belief that one must have intercourse frequently and regularly to become pregnant (Zelnik and Kantner, 1979; Zabin and Clarke, 1981; Donoghue, 1993; Zelaya et al., 1997), that contraception need not be used during the 'safe time of the month' (Zelnik and Kantner, 1979; Forsyth and Palmer, 1990; Donoghue, 1993), and that one is too young to get pregnant (Zelnick

and Kantner, 1979; Donoghue, 1993). There is no reason to suspect that such misconceptions are limited to a specific class group, unless structural barriers to knowledge, via sex education, are present in the different status groups.

Future Directions for Research

This thesis has been an attempt to investigate the impact of socioeconomic status on an adolescent's decision whether to use contraception or not. This was done using explanatory variables from the culture of poverty and structural disadvantage perspectives. There have been some interesting results that emerged from the analysis, but conducting this study has also suggested several directions for future study.

The scale of contraceptive attitudes is the ideal target for information gained from qualitative, semi-structured, face to face interviews. It is insufficient to measure contraceptive attitudes without knowing the source of the attitudes (sex education classes, peers, parents, personal experience), the relative salience and credibility of each source of information and opinions to the adolescent, and the specific method the young person is talking about. Both Demb (1990) and Hanna (1994) chose qualitative methods to measure attitudes, but each limited their investigation to a single method (condoms in Demb, oral contraceptive pills in Hanna). Several aspects of attitudes are common to both studies, despite the very different methods being considered, so these attitudes may be of more importance to a scale of general attitudes that those that are method specific. In particular, it would be interesting to further examine the concept of 'not romantic' as it was applied to both methods. It is possible it is the aspect of advance planning for sexual activity that is considered not romantic when using either oral contraceptive pills or

barrier type methods. However, not romantic may also mean having to stop sexual activity to use the method, which would apply only to the barrier type.

One suspects that a similar type of investigation needs to be done to link specific methods of contraception to the dimensions in the self efficacy scale. Research into the prevention of sexually transmitted diseases has resulted in the development of specific self efficacy scales that address the intrusive nature of condoms as well as the need to negotiate use with one's partner (Moore and Halford, 1999; Dilorio et al., 1997; Brien et al., 1994). The failure of negotiation with the partner can obliterate the effects of personal self-efficacy and planning. In contrast, if the young woman chooses the oral contraceptive pill, there is no need to consider intrusiveness or to negotiate use with anyone, so personal self efficacy and planning become more important determinants of contraceptive self efficacy.

Conclusion

The thesis came out of a concern that the high rates of teenage pregnancy, and other negative life events, among lower socioeconomic status members would indicate that the preventative programs being used were not meeting the specific needs of this vulnerable population. The association of socioeconomic status and negative life events has been investigated, using adolescent contraceptive use as an example of a protective or risk reducing behaviour.

After examining numerous studies linking socioeconomic status and negative life events, it became evident that many researchers employed the culture of poverty paradigm as a theoretical framework. Much of the work is conducted within structurally disadvantaged communities, as though the problem of interest and its determinants exist

only within those groups. This has been done in spite of the fact that some of the evidence about high levels of adolescent pregnancy and other risk taking activities in lower status groups may be an artifact of the measurement process.

There was no evidence in this study that socioeconomic status acts as a source of culture. Given this result, one must avoid assuming that people who are of lower socioeconomic status are 'culturally' different, thus inherently unable to avoid negative life events. The disadvantaged group is seen as "culturally unable to use" (Berkanovic and Reeder, 1973: 249; Riessman, 1974) preventative assistance even if it is supplied. If this assumption is made, the best that can be done is to try to 'fix' the problems that result from the particular group's inability to protect themselves. Ryan (1976) was critical of such exceptionalist approaches to solving social problems:

> " ... (the problems) occur as a result of individual defect, accident, or unfortunate circumstances, and must be remedied by means that are particular and, as it were, tailored to the individual case." (p. 17)

For example, if lower socioeconomic status adolescents fail to avoid pregnancy because they are culturally unable or unwilling to use contraception, then prevention programs are abandoned in favour of special welfare programs to (marginally) support them and their infants.

Ryan's preference is for more universalist approaches to social problems:

> "...social problems are a function of the social arrangements of the community or the society and that, since these social arrangements are quite imperfect and inequitable, such problems are both predictable, and more important, preventable through public action." (1976: 18)

The universalistic solution to adolescent pregnancy then becomes prevention, as adolescents of all status groups are considered at risk due to their attitudes towards and behavioural control over contraception.

One has only to look at the financial and emotional cost of the HIV/AIDS epidemic to understand the shortcomings of focusing on fixing a problem within a specific group rather than preventing its general occurrence. There was a need through the early history of this disease to associate it with groups whose social status was marginal: drug users, and homosexual males. These groups became infected due to their specific behaviour, and those who did not indulge in the behaviour need not worry. However, the most recent information reports the most rapid increase in the rate of infection to be among young, non drug using, heterosexual, females (International Symposium on the AIDS Pandemic, 1996). The failure to apply preventative actions to the entire sexually active population, in the form of relatively cheap condoms, has lead to a shift in the demographic status of new cases. At the same time, a great deal of money and effort has been spent on finding a cure that few, even in the West, will be able to afford (International Symposium on the AIDS Pandemic, 1996).

Even with the limitations of this study, the results do suggest a way to research risk taking or to design intervention programs. The success of the influences from attitudes about contraception and the ability to control contraceptive use in explaining variation in the use of birth control allows these be treated as the logical sites for intervention in pregnancy prevention. These components could then be used to continue to clarify the relationships between knowledge, access to protective materials, attitudes, support from others, behavioural control, and practice in the complex process of risk avoidance.

While the overall aim of this thesis was to determine if and how socioeconomic status as a culture affected the involvement in risk taking, it also made me more aware of

the need to be critical when the phrase ' at risk' is used to describe a certain group. Perhaps their greatest risk is from well meaning people who see them as inherently flawed rather than unfortunate.

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