

The Teen Incentive Program
A Research & Evaluation Model
for
Adolescent Pregnancy Prevention

by

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**The Teen Incentive Program: A research and evaluation model
for adolescent pregnancy prevention**

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ABSTRACT

THE TEEN INCENTIVE PROGRAM

A RESEARCH & EVALUATION MODEL

FOR

ADOLESCENT PREGNANCY PREVENTION

By: Marcia Bayne Smith

For many American adolescents, the decision to delay pregnancy is a manifestation of attitudes and behaviors which increase their ability to avoid unplanned pregnancies. Poor self-perception and external locus of control, in turn, are considered to be major determinants of the quality of decisions that many adolescents make. Research informs us that many factors: family, environmental and psychological, come together to motivate the adolescent's self-perception and perception of the risks of pregnancy and childbearing.

To motivate the freshmen at an inner city high school, a three phase program of interventions using professional staff from a nearby hospital was developed. Built into this program was a research component based on the classic experimental design. The sixty students in the experimental group met once weekly for eight weeks in small groups of 10-12 each, to learn social interaction, communication, and decision-making skills as well as family planning and male/female sexual responsibility. Additionally, condoms were distributed free of charge along with encouragement to use them whenever a decision was made to have sex. The six week career mentorship component of the program made it possible for these students to try out a possible life career by spending time with a professional person in a chosen area of health care. The students then returned to their groups for a six week termination phase. Pretesting, based on the Nowicki-Strickland test and the Rosenberg scales showed no differences between the control and experimental groups, and incremental improvement after treatment which was not statistically significant, however, posttests results show a significant increase in the use of contraception amongst sexually active program participants. In addition, frequency of sexual activity decreased by more than one half after treatment. Students who completed the program participated in a graduation ceremony and were given certificates. These young men and women gave very positive evaluations to the program. More significantly, many of them have returned as volunteers and peer mentors to work with a new group who have just started the new program cycle.

TABLE OF CONTENTS

	<u>Page</u>
List of Charts.....	iii
List of Tables.....	iv
Acknowledgements.....	vi
Chapter I Problem statement.....	1
Past and Current Services.....	9
Future Directions.....	11
Chapter II The Teen Incentive Model.....	13
Literature Review.....	13
Description of Interventions.....	16
Implementation.....	23
Theoretical Basis of Interventions.....	26
Assumptions.....	30
Chapter III Design and Methodology.....	33
Evaluation Design.....	33
Methodology.....	33
Hypotheses.....	39
Chapter IV Results.....	40
Sample Description.....	40
Test of Hypotheses.....	44
Treatment Effect.....	57
Chapter V Conclusions.....	71
Discussion.....	71

TABLE OF CONTENTS (cont'd)

	<u>Page</u>
Limitations.....	73
Implications.....	74
Recommendations.....	76
Bibliography.....	80
Appendix A Glossary.....	89
Appendix B-1 Phase I Workshops.....	93
Appendix B-2 Family Life Skills Seminars.....	94
Appendix C-1 Rosenberg Scales.....	95
Appendix C-2 Children's Nowicki-Strikland Internal- External Control Scale (CNSIE).....	101
Appendix C-3 Confidential Form.....	105
Appendix D-1 Formative Evaluation Form.....	107
Appendix D-2 Summative Evaluation Form.....	109

LIST OF CHARTS

	<u>Page</u>
1. Preliminary Model of Teenage Sexuality, Contraception and Pregnancy in New York City, 1984.....	6
2. Adolescent Pregnancy Information, 1984.....	19

LIST OF TABLES

	<u>Page</u>
1. Chi-Square Tests on Demographic Data.....	41
2. t Test of Pretreatment Self-Perception and Locus of Control by Group.....	43
3. t Test of Pretest Sexual Frequency by Group.....	45
4. Correlations between Sex Frequency Self-Perception and Locus of Control.....	48
5. Summary of Regression Analysis of Pretreatment Absolute Sex Frequency on Predictor Variables.....	50
6. Summary of Regression of Pretreatment Relative Sex Frequency on Predictor Variables.....	52
7. Relative Frequency of Contraceptive Use by Group.....	53
8. Summary of Regression of Pretreatment Contraception Use on Predictor Variables.....	55
9. Pre and Posttest Self-Perception by Group.....	56
10. ANCOVA, Posttest Self-Perception By Group.....	56
11. Pre and Posttest Locus of Control by Group.....	58
12. ANCOVA, Posttest Locus of Control by Group.....	58
13. Pre and Posttest Absolute Sex Frequency by Group.....	60
14. ANCOVA, Posttest Absolute Sex Frequency by Group.....	60
15. Pre and Posttest Relative Sex Frequency by Group.....	61
16. ANCOVA, Posttest Relative Sex Frequency by Group.....	62
17. Pre and Posttest Contraception Use by Group.....	64

LIST OF TABLES (Cont'd)

	<u>Page</u>
18. ANCOVA, Posttest Contraception Use by Group.....	65
19. Summary of Regression Analysis of Posttreatment Absolute Sex Frequency on Predictor Variables.....	67
20. Summary of Regression Analysis of Posttreatment Relative Sex Frequency on Predictor Variables.....	68
21. Summary of Regression Analysis of Posttreatment Contraceptives Use on Predictor Variables.....	69

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CHAPTER I

Statement of the Problem

Health indicators are a particularly powerful source of data. Infant mortality rates for example are universally accepted as an indicator of a nation's health. The poor performance of the U.S. on that indicator is found to be due in large measure to the high numbers of teenage pregnancies as teen mothers do not routinely utilize pre-natal care, exercise poor nutrition habits, frequently have low birth weight babies and have more unplanned and unwanted pregnancies. (Baldwin, 1980) Compared to their older counterparts, pregnant teenagers experience increased incidence of severe anemia, pregnancy toxemia including preeclampsia and eclampsia, prolonged and difficult labor, cephalopelvic disproportion and death (Schinke, 1978).

In addition to the health statistics and the biostatistical and epidemiological research, several social and behavioral studies have been done on the issue of adolescent pregnancy. This wealth of information provides reliable documentation not only on the prevalence of teenage pregnancy and childbearing but also an accumulation of evidence on the long range problems: financial, social, etc. that attend teen pregnancy.

Several studies have shown that there is an association between young parents and larger family size, poor education/

achievement, permanently lower incomes, unemployment and welfare status (e.g., Alan Guttmacher Institute, 1981; Burden and Klerman, 1984; and Moore & Burt, 1982). The decision to prevent an unintended adolescent pregnancy is a key factor in a young person's capability to achieve or maintain self-sufficiency (Jones, 1985). The failure of some adolescents to make careful fertility related decisions must be viewed from the perspective of the changing societal context of today's adolescents. Changes and forces in society: patterns of marriage; family structure; economic stability and poverty levels; racism, cultural differences, women's roles and sexual behavior; media portrayal of sexuality; substance abuse; all can combine to impact on youth development.

A major premise of the prevention program of this evaluation research project is that the societal context within which adolescent development takes place, provides the basis for their perceptions not only of self but of the locus of decision-making control in their lives as well. Therefore, that same social context, also provides the basis for understanding their sexual and fertility related risk-taking behavior (N.Y. State Governor's Advisory Committee on Black Affairs, 1987). Given what we know about the ability of race, ethnicity, income and place of residence to shape how individuals perceive themselves, and are perceived by others, that premise would appear to hold particularly true in the case of Blacks. Trend data on adolescent sexuality and fertility reveal that despite the 10% decline in Black teenage non-marital childbearing between 1970 to 1984, 89% of

births to black teens are non-marital, compared to only 41.5% for white teens (Hayes, 1987).

The Governor's Advisory Committee for Black Affairs have recently published a report on Black Health Issues in New York State (1987). The report discusses the stressful social context within which Black youth develop. This social context contributes to feelings of alienation and hopelessness among poor Black youth that is manifested in many ways amongst which is the problem of early childbearing. In addition to the normal stresses and tasks of adolescence, Black youth must also face the social pressures of living in depressed communities. These pressures are: the combined influences of unemployment, a degrading public assistance system, a failing educational system and inadequate access to both preventive and curative health services. The report concludes with several recommendations (Governor's Committee on Black Affairs, 1987) including regional, comprehensive health and mental health services to adolescents in New York State, with appropriate linkages to schools, hospitals and other community agencies.

Personal costs to teens notwithstanding, the children of adolescents are also highly likely to incur their own personal costs. There are two studies which show that these children manifest more behavior problems and have less intellectual ability than children of older parents (Baldwin, 1980; Zelnick & Kantner, 1978). In the absence then of a national policy on adolescent pregnancy prevention,

trend data projections illustrated by this excerpt from a New York Times Editorial of 6-12-86, entitled "Pregnancy Prevention," seem to be the expected route of this problem:

"Babies born to single mothers are off to a bad start: They're four times more likely to grow up poor than children of two-parent households. If the mothers are very young the odds are worse. That means that every year in New York City some 13,000 newborns start life behind.... The Pill, the most effective contraceptive in general use, holds less risk for teenagers than for any other group. Even so, one in four New York girls who are 14 now would be pregnant by age 18."

In a recent study of 12 western countries conducted by the Alan Guttmacher Institute, this recognition of the high personal costs to the teen parent and to their children resulted in national commitments to adolescent pregnancy prevention. These commitments were found to be the key variable in the study. As one informant in Holland remarked "allowing young people in my country to become parents before they are responsible adults is unthinkable" (Jones, 1985).

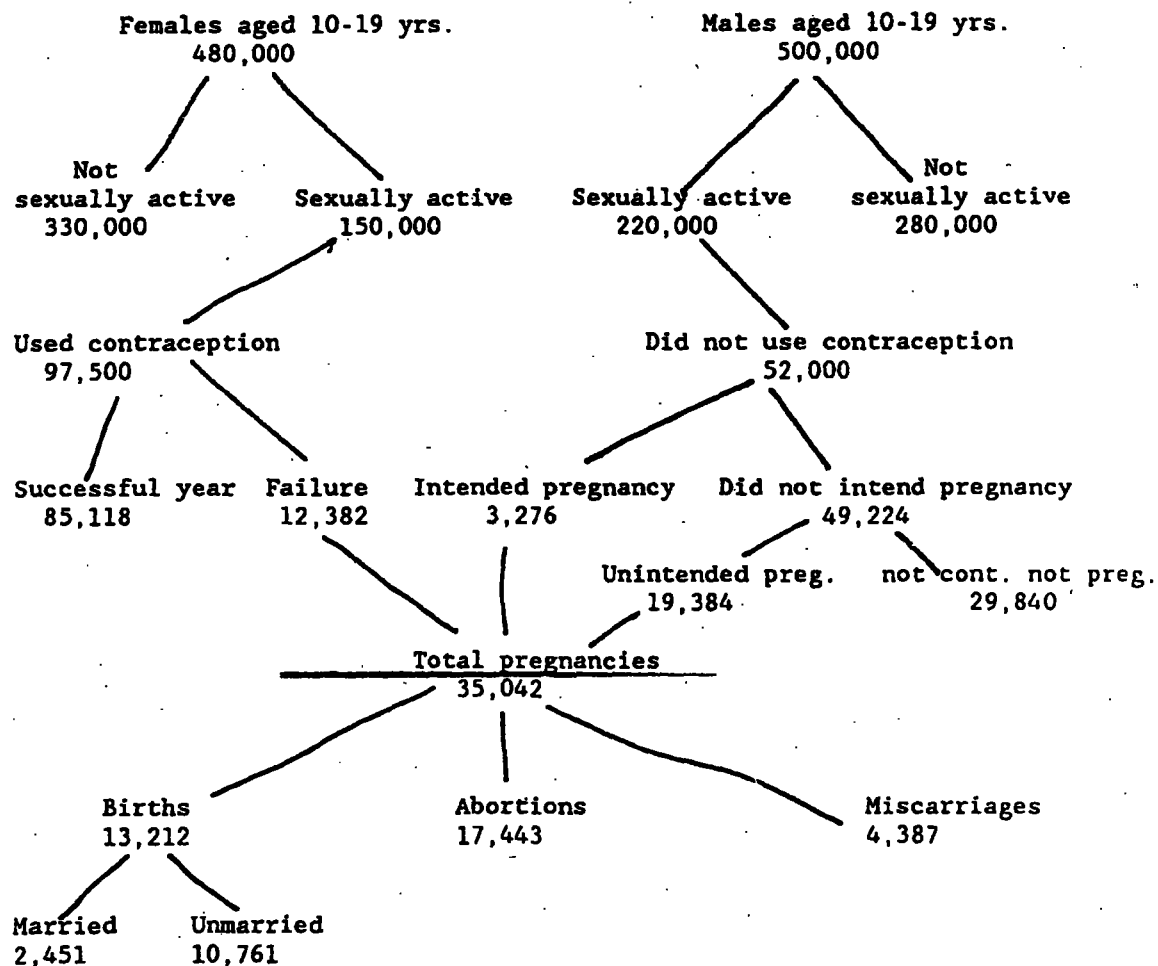
A similar commitment and consensus about the prevention of teen pregnancy in this country is necessary in order to make long term impact on the problem. A reality assessment of the problem in terms of a consensus dictates that the fact of political feasibility must not be ignored in the building of any consensus. In terms of this

particular problem, consensus is difficult judging from recent headlines, which denounced school based clinics for providing prescriptions for contraceptives without parental consent. This outrage from conservatives such as William J. Bennett, Secretary of Education, during the Reagan Administration, despite the fact that:

- A. teenagers do not seek parental consent to become sexually active and;
- B. these same conservative elements are also not happy about the costs to taxpayers for adolescent pregnancy.

The first point is sexual activity. The most recent year for which data is available in New York City, is 1984. Joy Dryfoos developed a chart that starts out with almost 1 million teenagers; boys and girls ages 10-19. The chart ends with 13,000 young women who bore children in 1984. It is clear from the chart that even in New York City not all young people are sexually active, but amongst those that are, 30%, there is an estimate that 1/3 of that 30% or 105,000 are not using any contraceptives and so are at risk for a pregnancy. (See Chart 1).

Chart 1 Preliminary Model of Teenage Sexuality, Contraception and Pregnancy in New York City, 1984



(27,700 - total teen mothers)

(33,600 - their children under age six)

Population and pregnancy data compiled for New York City Office of Adolescent Pregnancy and Parenting Services for forthcoming report. Additional assumptions based on national research findings extrapolated to New York City population: about 42 percent of females and 50 percent of males aged 10-19 are sexually active; about two-thirds of sexually active teenage females use contraception; failure rate for teen contraceptors equals 12.7 percent.

The second point is that though the major concern is about the personal costs of benefits foregone to the teenager and to their children there are also very real economic and social costs. Alice Radosh, Coordinator of Adolescent Pregnancy and Parenting Services, Office of the Mayor of New York City under the Koch Administration, cited a study released by the Center for Population Options, that those costs in New York City runs to \$16,000,000 per year in AFDC, food stamps and medicaid alone.

The national costs of households in which the mother was a teenager when the first child was born have been estimated by several researchers to have an annual public cost, for AFDC payments, food stamps and Medicaid close to \$10 billion (Quint & Riccio, 1985). The problem of adolescent pregnancy, thus stands well documented and clearly defined.

Much research has already been done on the alternative policy choices that would best bring about a reduction in adolescent pregnancy. One very definitive report of an exhaustive literature review conducted over a two year period of time by the National Research Council was made public two years ago. The Council which is an arm of the National Academy was chartered by Congress to conduct this research. Their report urges that the best way to combat teen pregnancies is through the free or low cost distribution of contraceptives, with or without parental consent (Hayes, 1987). This particular choice of a solution to the problem is supported by the results of a Harris Poll commissioned by the Planned Parenthood

Federation of America. The Harris Poll conducted in September and October of 1986, randomly selected sites around the country, adjusted to reflect population density, ethnicity as well as other socio-economic factors. L. Harris & Associates reported the following:

- 57% of 17 year olds reported having had sexual intercourse, only
- 33% of these said they use contraceptives regularly
- 27% of teens polled said they never used contraceptives
- 40% of American teenagers say that clinics where contraceptives can be obtained should be in or near schools, while
- 49% say birth control clinics should be away from schools in order to ensure confidentiality from school officials.

The most significant finding however, was that the poll showed the strong effect of social class. That is, the kids who had more to lose used contraceptives more. The kids who are trapped at the bottom of low SES were caught in a cycle of low grades, low information about sex and low motivation to use contraceptives (Hevesi, 1986). Clearly then, within the selected option of distributing contraceptives as the best way to fight teen pregnancy there is need for further services in order to motivate certain groups specifically those in the lower socio-economic strata, who are at greater risk, to make careful sexual and fertility related risk taking decisions.

Past and Current Services

Historically, social workers have been servicing at risk adolescents and their families since our early days in settlement houses and community centers. A developmental history of services to youth has not yet been written, it can only be generalized from studies of the American social welfare system. The more traditional youth services programs developed during the growth of volunteerism in America. Prevailing themes in services to adolescents have been the educational/recreational needs of youth as well as the character building experiences and opportunities through small group activities. These themes have been viewed historically as necessary to initiate young people into making the transition to the adult work of responsible behavior. Some of the early vehicles for doing this, developed with private as well as public funds appropriated through legislation, have been: 4H clubs, Girl/Boy Scouts of America, YMCA and YWCA later followed by YMHA and YWHA and many others.

After World War II, youth service agencies employed social workers who brought an impressive quality of group work skills learned in schools of social work. However, as a result of that period of political suppression during the 1950's, programs were cut back and methodologies constricted. In the mean time, the problems of young people in the cities continued to expand beyond the reach of many of the agencies to serve them. In the early 1960's, a new policy step with regard to public responsibility for youth, was taken by the Kennedy Administration which was then merged into the Johnson

Administration's War on Poverty. This policy, the federal Juvenile Delinquency and Youth Offenses Act, created in 1961, appropriated \$30 million for demonstration project grants to deal comprehensively with juvenile delinquency in the ghettos.

The fundamental theme of these programs was that disadvantaged youth became delinquent or deviant because they do not have access to the resources necessary for survival or to the opportunity structure that would allow them to move, grow and become upwardly mobile. Out of this political climate came such programs as Mobilization for Youth and the Harlem Youth Opportunities Unlimited Project. However these programs, despite their very good intentions, could not deal with the major, seemingly intractable ills of urban "inner city" areas, such as housing, poor educational systems, drug addiction, adolescent pregnancies and economic marginality. This urban crisis, the Vietnam War, distrust of government, all came together in a convulsive reaction on the part of youth, both poor as well as middle class, Black as well as White, high school as well as college. These young people emerged out of this time period with a new "counterculture" identity which further strained the ability of traditional youth agencies to reach out to and help young people.

Additionally the change of administration in 1972 led to a marked decrease in funds granted to those organizations providing youth services. Dramatically diminished opportunities, together with the recession of the mid-1970's, created widespread unemployment for

all youth and crystallized what many people have recently been referring to as the permanent "underclass". This condition though improved for white youth, continues to constitute a problem for Black and other minority youth in the 1980's, with no immediate resolution as yet apparent as we enter the 1990's.

Current social work efforts with adolescents, focus on encouraging their participation in the educational system, in order for them to be able to take better advantage of employment opportunities; avoiding unplanned pregnancies and advocating for the few treatment slots available for handling the massive drug problem, in the face of even higher rates of recidivism. Therefore, current themes in youth services are being concentrated almost exclusively on prevention: drug abuse, adolescent pregnancies or school drop outs, especially in terms of disadvantaged youth who are at greater risk for all of these social ills.

Future Directions

Future professional direction for service delivery to adolescent populations must include ongoing research which would serve as the basis for social work input into the development and implementation of national policies that would benefit America's adolescents.

This evaluation study of the effectiveness of behavioral interventions in helping teenagers at risk for unwanted pregnancies, is therefore very significant for social work because it contributes to our knowledge base in the following manner:

1. Generated data from baseline and post training assessments and from end of sessions-phases evaluations by experimentals, that statistically determined the efficacy or lack thereof, of this particular set of behavioral interventions.
2. Empirically defined the nature of the relationship between self-perception, locus of control and adolescent sexual and fertility related decision-making.
3. Yielded research findings based on the amount of variance accounted for in the dependent variables of: sexual activity and contraceptive use.
4. Established the appropriateness of social work interventions in bringing about change in adolescent sexual and fertility related risk-taking behavior as well as its capacity for input at the level of policy and program development.

CHAPTER II

The Teen Incentive Model

Literature Review

Over a two year period (1984-1986), the Panel on Adolescent Pregnancy and Childbearing appointed by the National Research Council's Committee on Child Development Research and Public Policy conducted an exhaustive review of the literature on adolescent pregnancy and childbearing. That study indicated that the preventive programs, aimed at helping young people avoid unplanned pregnancy and childbearing generally fall into three categories: (1) knowledge improvement and/or influencing attitudes; (2) family planning and access to contraception; (3) life options enhancement. Programs under the first category include sex education, interpersonal skills, training that encourage assertiveness, decision-making and development of communication skills, theatre projects and media treatment.

Under the second category are the programs that offer a variety of family planning services such as pregnancy testing and counseling, information and referral, contraceptive services, health education and reproductive health care. The third category, programs that enhance life options, serve to motivate young people and to increase their sense of self worth through increasing their understanding of the value of education and their awareness of work and career options (Hayes, 1987). These types of programs include life/career planning skills, relationships to mentors or role models;

improvement in school performance/retention, youth employment/training and comprehensive community participation in prevention.

The program on which this evaluation study is based combined all three approaches for several reasons. It is generally assumed that the very availability and accessibility of contraceptives, particularly for adolescents who are sexually active is the most effective intervention for the prevention of unplanned pregnancies. However, a national, Louis Harris Poll, commissioned by the Planned Parenthood Federation of America reported that more than half of the country's teenagers say that they had have sexual intercourse by the time they are 17 year olds. At the same time only one-third say that they always use contraceptives and 27% say they never use any form of birth control (Hevesi, 1986). These figures bear out the findings of previous research in this area (Kantner-Zelnick 1980; Haynes, 1987).

The poll by Louis Harris & Associates conducted in the fall of (September-October) 1986, also reported a finding of strong social class effect, that is students from higher socio-economic class who had more to lose took less risks by contracepting more regularly. On the other hand poor-minority youth who could ill afford any additional obstacles to their healthy development, engaged in greater fertility related risk-taking behavior. This may be one explanation for the relentless development of a permanent underclass. Low socio-economic status - low school performance/retention - low information about sexuality - earlier sex - less diligent use of contraceptives. For teenagers in this type of societal context, availability and

accessibility of contraceptives may be insufficient. There may be an equal need for motivation, to make diligent use of contraceptives or to delay sexual initiation.

Emphasis on tangible forms of service therefore can often times minimize the value or need for so-called "soft services" such as casework, groupwork and counseling. "Despite recent trends toward tangible services, the need continues for social emotional supports" (Parham 1985). For example, it was pointed out that teenagers who were more susceptible to external pressures from friends and sexual partners had greater problems using contraceptives successfully than their less susceptible counterparts (Mindick, Oskamp & Berger, 1978). It was also demonstrated that assertiveness and decision-making training, used to improve self esteem and perception of control, could also improve attitudes toward contraceptive use and increase diligent use of contraceptives (Schinke, et al., 1981).

The Teen Incentive Model

Consequently this program went beyond the single approach format of most programs. It provided family planning services, utilized Schinke's interpersonal skills training interventions and then built on it with two other components. The life options enhancement category utilizing "Career Mentors" was built into the program as it is a vital component, particularly for those teens whose societal context did not provide them with the self-perception or more internal locus of control necessary to motivate them to delay sexual initiation or diligently use contraception. The program also provided

social emotional support and education for parents of program participants as the sexual behavior of adolescents is primarily influenced by parents.

The conceptualization of "career mentors" in the life options enhancement phase of this comprehensive program, built on the use of the "community women" as role models by Manpower Demonstration Research Corporation in their four site adolescent pregnancy prevention program known as Project Redirection (MDRC, 1985). Career mentors grew out of the concern to include the social emotional supports necessary to motivate young people to develop alternatives to sexual activity and early childbearing. The concepts used to describe the Teen Incentive Model for Adolescent Pregnancy Prevention have been operationalized in the Glossary (Appendix A).

Description of the Interventions

Geographic area and population to be served

A major premise of this prevention project is that the societal context within which adolescent development takes place provides the basis for not only their self perception but also their perceptions of how much decision-making control they can and must exercise in their lives, especially regarding sexuality and fertility. Given what we know, about the ability of race, ethnicity, income and place of residence to shape how individuals perceive themselves, and are perceived by others, that major premise would appear to hold particularly true in the case of Blacks and Hispanics. That premise is further supported by trend data on adolescent

sexuality and fertility which reveal that despite the 10% decline in Black teenage non-marital childbearing between 1970 to 1984, the number of non-marital births to Black teen mothers continue to be disproportionately higher, (39%), than it is for whites (41.5%) (Hayes, 1987).

The Rockaway Peninsula in Queens, New York City, comprises Health areas No. 37 (Cross Bay Bridge West) and Health Area No. 38 (Cross Bay Bridge East). It contains the communities of (from East to West) Far Rockaway, Edgemere, Arverne, Hammels, Seaside, Rockaway Park, Belle Habor, Neponsit, Roxbury, Rockaway Point & Breezy Point. These communities range from upper class and upper middle class on the Western end of the Peninsula to a middle class/working class population mid peninsula to a poverty class at the eastern end. There are large socio-economic disparities amongst the various neighborhoods on the Peninsula. As one proceeds from West to East, the incidence of acute poverty increases with the population of greatest need to be found in Averno, Edgemere and sections of Far Rockaway.

The high school servicing the eastern end of the Peninsula is Far Rockaway High School (F.R.H.S.) where the student population is approximately 90% black and Hispanic. Data released by the N.Y. City Department of Health in 1984 indicates the following facts re: the Peninsula's level of risk for adolescent pregnancy. (See chart on page 19).

The students at Far Rockaway High School are primarily Black and Hispanic from a lower middle class working population Mid

Peninsula, to a very poor socio-economic group at the eastern end. The Far Rockaway Peninsula, though a part of Queens, is geographically isolated from mainland Queens requiring a two zone fare to get across either one of the two connecting bridges. Based on the insularity of the Peninsula and the fact that the adolescent pregnancy rate in the Rockaways exceeded the figures for the entire borough of Queens, the prevention project was developed. The eastern end of the Peninsula where Far Rockaway High School is located does not have any recreation services i.e., movie theaters, bowling alleys, in door shopping mall. Consequently, this program provided students with an activity therefore 80% of those randomly selected agreed to participate. Additionally program participants were regularly provided with perks such as food at every session, whatever gift donations the program could obtain and free condoms.

The former principal of Far Rockaway High School during the time this study was conducted was a valuable supporter of the program. Not only was the program welcomed but it was viewed as a positive resource that would assist with retention, improve grades, and enhance life options of the students. In addition to the principal, the entire guidance department at Far Rockaway High School and several other teachers gave time to this program. The commitment of these professional people was obtained after they were provided with information from baseline data which indicated that approximately 40% of those pretested were sexually active, and 30% of that group were not using any contraception.

Chart 2

**Adolescent Pregnancy Information
Far Rockaway Queens, 1/2/84**

**Community District #14
New York City Department of Planning**

Indicators of Need

	H.A. 37 (Cross Bay Bridge West)	H.A. 38 (Cross Bay Bridge East)	Peninsula	NYS	Queens
Adol. Preg. Rate (Preg./female 15-19)	90.8 103/1134	129 387/2996	119	63.9	77.3
Percent of Pop. in poverty (# poor/total pop.)	10.2 (3421/33,791)	25.7 (16,585/64,541)	20.3	11.2	11.4
Percent of Single Parent H.H. (Total SP-H.H./ Total H.H.)	7.8 (932/13,233)	18.8 (4080/21688)	14.3	7	8.2
Adolescent Drop- out rate (16-19 not in school/tot. 16-19)	10.9 (205/1872)	15.8 (714/4514)	14.4	9.3	11.5
Percent of babies with low birth weights (low birth weight babies/ total births 10-19 yr. olds	11.1 (4/36)	13.7 (23/167)	13.3	8.7	11.1

It is to be noted that in each category the rate for indicators in health area 38 is in substantial excess of the rate to New York State and/or Queens County.

Linkage between Project Objectives and the Problem

With the increasing evidence that internal control is related to positive self image, has come a growing interest in finding ways to improve the self image and at the same time change the locus of control towards an internal direction. A variety of approaches have been used by investigators to change the locus of control orientation for people at different phases of the life cycle, in recent years. Successful work with adolescents have utilized primarily behavioral approaches such as classroom management (Matheny and Edwards, 1974; McCandless & Rollins, 1975); and structured camp programs (Nowicki and Barnes, 1973). An assessment of these and other efforts to change the locus of control orientation in adolescents indicate that the most successful behavioral interventions are long term and broad based (Nowicki and Duke, 1983).

One of this project's major objectives, designed to address the adolescent pregnancy problem, during Phase I of the program, is an 8 week, Interpersonal skills training course. (See appendix B-1 - list of course workshops). Emphasis was placed on assertiveness training in addition to communication and decision-making skills while continuously providing positive reinforcement. The rationale for this choice of intervention is to be found in the already tested relationship between the locus of control concept and assertiveness and interpersonal skills training interventions. For example, a behavioral study which used an assertiveness training course with seventh and eighth graders found significant change toward internality

after involvement in the program (Scescke, 1979). Similar results were obtained when interpersonal skills training emphasizing communication and decision-making skills was used with teenage girls at risk for adolescent pregnancy (Schinke, 1980).

All of the eight workshops used in this program focused on improving cognitive and behavioral skills because effective decision-making, to either delay sexual activity or initiate contraception, consists of a set of acquired skills. These cognitive skills are those associated with interpersonal problem solving and planning.

The behavioral skills required for successful contraception use are those associated with effective communication and social interaction because a large part of managing sexuality is connected to managing social relationships. In order for the sexually active adolescent to avoid an unwanted pregnancy he/she must be able to talk assertively about birth control to sexual partners as well as plan ahead to purchase necessary birth control items. These cognitive and behavioral skills were addressed in workshops:

#2 effective communication skills

#3 social interaction skills

#7 male/female sexual responsibilities

#8 confident and efficient decision-making skills

The eight workshops combined to equip the experimental group with the ability to anticipate interpersonal and personal behavior and their consequences, plan an alternate course of action and to evaluate

these alternatives in order to make the best choice about their sexuality and fertility. Additionally, through donations from Thompson Medical, a pharmaceutical company, program youth were provided free of charge with a steadily available supply of condoms that they were repeatedly, weekly, exhorted to use, if they indeed made a conscious decision to engage in sexual intercourse.

Another project objective, was (5) five parenting and family life skills training seminars provided to parents of the teens in the experimental group. This was designed to address the most important component of their societal context; their parent/family relationships. This objective was vital in addressing the problem of adolescent pregnancy because of the amount of influence that the social context: family/culture and environmental conditions, exert on the development and/or the level of one's self-perception. By involving parents, the project impacted on the environment that project participants returned to after their weekly 2-3 hours of project participation. The goal of this objective was to improve the quality of the teenagers day to day environment by reaching into it. Through this mechanism of five monthly parents workshops (see list in appendix B-2) the project made a positive impact on the context that partially defines the adolescents' locus of control and self-perception and which primarily shaped their sexual and fertility related risk taking behavior.

Erik Erikson maintains that the most significant task of adolescence is to come out of it with a sense of purpose/direction.

The objective to provide a volunteer "work" experience in which the experimentals were individually matched to a "career mentor" at St. John's Episcopal Hospital (S.J.E.H.), during Phase II of the project, addressed the problem of adolescent pregnancy by providing an opportunity for the experimental group to interact with and observe, one on one, how a professional does his/her job. The adolescent's exposure to a dispenser of positive reinforcement addressed the problem in two ways. It gave the experimentals an opportunity to utilize their newly acquired social and communication skills learned in Phase I. It also introduced them to a possible life goal that he/she could then begin to pursue.

Lastly, the most innovative and distinguishable objective of this project was the bringing together of two major institutions on the Rockaway Peninsula (F.R.H.S. and S.J.E.H.). These agencies which are part of the societal context of these adolescents created an effective linkage in order to serve the needs of the youth of their community. That effort must be replicated not only in other parts of New York State, but nationally as well.

Implementation

This research study is built into an Adolescent Pregnancy Prevention Demonstration Project that had been funded by the New York State Department of Social Services under Governor Cuomo's Initiative on Adolescent Pregnancy. Project funds were devoted primarily to hiring staff. The program coordinator, a masters level social worker,

was hired to run individual and group sessions with parents and teens. The coordinator also served as liaison between S.J.E.H. and F.R.H.S., recruited and trained carefully selected staff at S.J.E.H. to serve as "career mentors", and helped to prepare interim reports (monthly-quarterly) to New York State. A part-time clerical person was hired to manage the typing, filing and record-keeping on the program which is vital to the data collection and analysis process.

The project director who is also Director of the Social Work Department at S.J.E.H. has administrative responsibility and accountability for the project which includes year end reports and delivery of a "How To" Manual to be used in replicating this model.

Several months of planning and negotiation with F.R.H.S. religious and ethnic groups preceded the actual writing of the grant to seek funding. After the project was funded and the project coordinator hired, negotiations continued between F.R.H.S. and S.J.E.H. to solidify issues such as space, equipment and release time for students to be tested and attend group sessions. The Project Director then obtained and prepared all necessary testing instruments and with assistance from teachers at F.R.H.S. administered tests to consenting students. After pretesting, several weeks of screening and orientation interviews followed, to select a sample of program participants, obtain parental consents and randomly assign them to either the control or experimental group. The program coordinator then planned a "kick off" reception to launch the three Phase Teen

Incentive Program for the experimental group. The services to teens were conducted over a six (6) month period during which monthly parenting skills meetings were offered to their parents.

Phase I - Skills Training Workshops - 8 WKS

Phase II - Career Mentors experience - 6 WKS

Phase III - Life Skills Application Sessions - 6 WKS

In between Phases I and II, the coordinator ran a two week period of training, provided to the S.J.E.H. staff, who agreed to serve as mentors. Throughout the life of the project the Project Director and coordinator met monthly with F.R.H.S. staff for case management, this forum provided an opportunity to look more closely at students with special needs and to look at project impact on school retention and academic performance.

Through joint efforts of S.J.E.H. and F.R.H.S. staff, at the end of Phase III, both experimental and control groups were posttested. The coordinator then planned and held awards/certificates ceremony for the experimental group and their parents. End of program evaluations from parents and teens were collected for analysis.

Several mini projects which were not a part of the original proposal but which grew out of the creativity and energy of the experimental group were also implemented. These activities which raised on an average \$200.00 were: (1) Spring Fashion and Talent Show, (2) the "Give a Dime" and (3) "Cans for Kids" fund raising

campaigns. Monies generated by these activities have been used to introduce program teens to what for 90% of them was their first exposure to Broadway, to see "Sarafina." Small stipends of not more than \$25.00/month have also been paid to program youngsters who agreed to come in and do filing and other clerical duties in the Social Work Department. In addition to these incentives participants were provided with refreshments during every session.

Theoretical Basis for the Interventions

The goal of most therapeutic interventions, particularly in the Social Work profession is change in behavior. As a result, the purpose of this evaluation project is to investigate the effectiveness of program interventions in achieving changes in adolescent sexual behavior. This line of investigation is supported by Contingency Analysis, a theory that spans both Social Work Interventions and Behavioral Psychology. This theory, widely accepted and cited in the social work literature, has been utilized by the profession in Social Work Interventions with individuals, families, groups and in community settings. Drawn from the empirical foundations of operant psychology this theory is based on four simple propositions:

1. Individuals, families, groups, communities and entire societies engage in behavior;
2. All behavior is followed by consequences;
3. The consequences of a given behavior, to a very large extent, influence the future occurrence of that behavior;
4. Empirical analysis of the contingencies of which behavior is a function, provides an effective

intervention tool across all practice strata (Thyer, 1987).

Operant theory provides the theoretical basis for this research study because of its connections to cognitive behavior theory whose orientation is an effort to establish linkages of desired behavior patterns to positive reinforcements in the person's current life situation (Thyer, 1987). This evaluation is of a program that seeks to make connections between actions and the consequences of actions which would influence future occurrence of that behavior. When Operant theory is applied to the social problem of adolescent pregnancy it provides a framework for helping adolescents to reduce their risk of pregnancy and it has been employed by Social Work in this regard with much success.

In a study reported by Schinke, et. al, interventions reflected learning theory and thus focused on overt performance to improve adolescent subjects' low esteem and lack of control over life decisions. The basis of their success is to be found in the contention of Operant theory which holds that group behavior, like individual behavior, is a function of its consequences and the purposeful alteration of the consequences of group behavior can positively influence activities of that group. The capacity of cognitive behaviorism to influence healthy adolescent decision-making and to empower them to take responsible control of their sexual behavior is inherent to adolescent pregnancy prevention because of the

personal and intrapsychic nature of this social problem, on the one hand.

On the other hand, decision-making, self-perception, the way one is perceived, are all influenced by external social forces: poverty, racism, economic status, culture and religion. Adolescent development is shaped by the societal context which for some poor and minority youth can be a negative environment. This fact is buttressed by the research literature which shows disproportionately higher rates of non-marital births to Black teen mothers than whites, making adolescent pregnancy a greater social problem for, naturally all young women at risk, but more so, for disadvantaged Black teenage girls.

Ecological Systems Theory, as interpreted by Carel Germain & Alex Gitterman, provides the underpinnings of the humanitarian philosophy of social work. It speaks to the profession's basic values such as: the need for social integration and constructive conflict, for individuation and interdependence, for complementary goodness of fit and reciprocal mutual aid (Germain & Gitterman, 1980).

The "goodness of fit" concept addresses the interdependence and adaptation between people and their environments and points to the helping process which is a basic tenet of social work. This helping process on the one hand involves the use of psychological theory in order to help the individual through some adaptive process. On the other hand it also calls for changes in the environment in order that individual needs might be better met. Environmental changes however are not easily accomplished because the environment, as an external

entity is difficult to grasp as a unit of assessment, intervention and to operationalize for the purpose of carrying out practice procedures (Siporin, 1983).

The "constructive conflict" aspect of ecological systems theory when applied to adolescent pregnancy prevention also offers some possible utility. Ketayun Gould's conflict model of Ecological Theory is developed from a feminist perspective and emphasizes the objective of social change. In this model social problems reflect the failure of society to meet changing individual needs, therefore the healthy individual must question the legitimacy of the existing order and institutional practices. Social workers are encouraged to see factionalism as functional because the model conceptualizes conflict as a regenerative social force and social workers as advocates. The model's focus is on alienation and the thwarted realization of personal and group goals. When the model is applied to the societal context of the adolescent pregnancy problem it holds implications for the assessment of treatment strategies, the planning and delivery of services to adolescents at risk for unwanted pregnancy at the policy level. The National Research Council recommends that what the United States need is a national policy on adolescent pregnancy (Hayes, 1987). Many European countries have already done this (AGI, 1983). The conflict model provides an alternative explanation for the person-environment interaction because it calls for changes not so much in the individual as in the social system. Providing at risk

adolescents with assertiveness and decision-making training; communication and other interpersonal skills training, empowers them to exercise control over their sexual behavior. This personal empowerment is a first step in the long term process of social change. Gould's theoretical model is equally useful particularly when extensive policy changes in the status quo such as a National Adolescent Pregnancy Prevention Policy, and allocation of resources to do so, are the desired objective.

Social Learning Theory provides the basis for choosing not only the two main concepts of locus of control and self-perception in this study but of the interventions as well. With regard to the main concepts, the Nowicki Strickland locus of control scales which would be used in this study were designed to assess the construct of locus of control of reinforcement. Rotter (1966), defined locus of control of reinforcement as the connection between one's actions and its consequences. The results of several studies done with the locus of control construct has been consistent with social learning theory especially in the areas of race (Lefcourt, 1976); Johnson & Nowicki, 1972); Socio-economic status (Mink, 1977); Academic achievement (Lefcourt, 1976; Brown, 1980) and of course self-esteem (Chandler, 1976; Hjelle, 1975).

Assumptions

Consequently, the hypothetical assumptions of this research project are reflective of social learning theory. It is expected therefore that study subjects who are all Black and Hispanic, from

lower socio-economic backgrounds, and exhibiting in many cases poor academic performance, would respond at pretest time in an external manner as a result of years of living under conditions where reinforcements are in the hands of powerful others.

The concept of self-perception would be examined in relation to the locus of control construct in this study. It is expected that there would be a significant and positive correlation between scores on the self-perception measure and scores on the locus of control measure. Previous investigations of personality correlates with internal-external orientation have found that internals are higher in self concept and have greater self-acceptance (Chandler, 1976) and self-esteem (Friedberg, 1982). Here again social learning theory provides the rationale of these findings. A significant source of higher self-perception amongst internals appears to be the greater amount of positive social reinforcement usually received by these individuals (Nowicki & Duke, 1983). For example, in a previously mentioned study conducted among college females it was reported that their internality was related to significantly higher levels of social interests and higher self-actualization scores (Hjelle, 1975). In another study, better social skills were found among internal females (Deysach, Keller, Ross & Hiers, 1975).

The concept of sexual activity refers to the adolescents' decision-making regarding sexual initiation, frequency of sexual contact and contraceptive use. A confidential questionnaire, designed to elicit information on levels of sexual activity, i.e.: sexual

initiation or delay of initiation and/or contraceptive use, would be administered at baseline, at various point in program and at program completion. (See copy in Appendix C-3). This data would be used to measure impact of overall program participation as well as different program interventions, on level of sexual activity and/or contraceptive use.

Sexual activity/contraception use are the dependent variables. Based on adolescent pregnancy rates on the Rockaway Peninsula (Chart #2), it is expected that there would be enough variation in sexual activity/contraception use between the experimental and control conditions as a result of program participation, to measure outcomes over the length of the six month study.

CHAPTER III

Design and Methodology

Evaluation Design

The infrastructure used for this evaluation study was an experimental design. The 1988 class of consenting freshmen were tested at baseline. After testing, face to face interviews, for screening and orientation purposes, were conducted to reinforce program commitment in an effort to curtail participant attrition. These interviews were also used to collect additional baseline demographic data. Subjects were randomly divided into a control group (60 subjects) and an experimental group (60 subjects). Post-testing occurred after interventions and, at end of program, using the same instruments used at baseline. This design is justified based on state of the art technology and knowledge, which show that a randomized pre- and posttest with experimental and control group design is the most powerful method for determining the effectiveness of an intervention (Richard Windsor, et al., 1984).

Methodology

Randomized Sample Selection

The population from which the sample was selected, was last year's freshman class at Far Rockaway High School. Each consenting member of that cohort had an equal chance of being included in the sample.

A two part screening process was conducted at the high school after pretesting, in order to recruit participants. The first

screening visit was used to determine interest in the program, to hand out authorization forms for parental signatures and to explain what the program is about. During the second screening visit, information and explanation were provided in greater detail regarding the purposes and requirements for program participation, the signed consent forms were collected if available, and explanations given as to why we wanted to collect them, information disseminated re: the Kick-Off Ceremony, orientation, weekly sessions, etc. After pretesting, during that second screening session, students who chose to participate were randomly assigned to either the experimental or control group. While the experimental design controls for factors such as historical effects, maturation and statistical regression, it cannot exert any controls over the effects of self-selection as some people would always choose as with any program, not to participate.

Power Calculations

The subjects in both the control and experimental group numbered 60 for each. This sample size was determined by defining certain parameters. First, the literature on evaluation of health promotion and education programs consider 30% to be a moderate level of program impact (Windsor, et al., 1984). The literature did not offer any current median levels of expected program effectiveness. Results of earlier pilot work would suggest that the effectiveness level for this program be set at 40%. The literature also specifies that with a conventional level of statistical significance of alpha -

0.05, beta should be equal to one (1) minus approximately four times alpha. Therefore if $\alpha = 0.05$ then $\beta = 1 - 4(0.05) = 0.80$ (Cohen & Cohen, 1975). With these parameters: $\alpha = 0.05$, $\beta = 0.80$ and an estimated program effect of 40%; the number of participants needed in both the control and experimental groups, in order to test the significance of a difference, was determined from a standard sample size chart to be 38 (Fleiss, 1981). Sample size for this program, (60) exceeds what is required, even at posttest where 11 people dropped out. The groups at posttest numbered 56 for controls and 53 for experimentals.

Instrumentation

The pretest, posttest instruments included combination of three different tools and they are:

The Children's Nowicki-Strickland Internal-External Control Scale (CNSIE-Nowicki and Strickland, 1973) is a 40 item instrument appropriate for children from ages 9 through 18. This scale measured the respondents perception of whether they as opposed to chance, fate or the whims of others, control their lives (Nowicki & Strickland, 1973). In an attempt to ensure that the scales measure what they wish them to measure and that they do so with acceptable consistency the various authors of the NS scales reviewed nearly 400 students that used the scales. With regard to the prerequisites of construct validity, internal consistency and test-retest reliability they found the following: In a sample of reports from 20 researchers all of them estimated the internal consistency at above the .60 which is

acceptable for a construct (Nunnally, 1967). Through test-retest reliabilities were found to be higher over shorter periods the CNSIE has shown an acceptable test-retest reliability for periods as long as one year. In order to obtain a greater variation in responses to items the answers were adapted where applicable, from two choices yes - no, to a three point to six point spread. (See Appendix C-2).

The Rosenberg Scales were used to measure self-perception in this study. These measurements were taken using the six (6) Guttman Scales and five (5) scores in the Rosenberg instrument (Rosenberg, 1965). The reproducibility of the scales is .92, which meet criteria established by Louis Guttman. The scale is also internally reliable because scale theory considers that items with high reproducibility also have high test-retest reliability which for these scales is .86. The instrument can also claim face validity as the operational definitions of the concept being measured - self-image - appears to correctly specify and measure that concept. It is useful in this study because of the similarity of the concept of self-image as defined by Rosenberg and the concept of self-perception when operationalized for use in this research project. Here as well responses were adapted to a three to six point spread, whenever possible, to increase the variability of the responses. (Appendix C-1).

Confidential Form

Data on level of sexual activity and contraceptive use by program participants, was gathered at baseline and again at

posttest. The sexual activity instrument measured the following variables: opportunities for sexual risk taking, instances of actual sexual activity, instances of delayed sexual initiation, instances of actual contraception use, and types of contraception used. (See copy of sexual activity measure in Appendix C-3). This questionnaire on sexual activity and contraception use was administered during Pilot work as well as with 1987 and 1988 freshmen and each time there was a normal curve. Data was also collected from the academic records at the high school prior to and after program participation.

Statistical Strategies

The data generated at pretest and posttraining and through end of session evaluations was analyzed and compared statistically using the Statistical Package for the Social Sciences (SPSS). The major hypotheses were tested as well as answers sought to the other research questions that arose from the findings. Pretest data was analyzed to determine the locus of control of subjects at baseline and the point, along a continuum, of their self-perceptions. Levels of sexual activity and contraceptive use were established. The same set of analyses were then conducted at posttest. However, comparisons using analysis of covariance, were made between control and experimental group in order to determine impact and effectiveness of program exposure by investigating differences at posttest in locus of control and self-perception. The significance of difference was based on the chi-square test.

Multiple regression techniques analyzed the residuals by group, of a regression of after treatment results, on before treatment levels, to demonstrate the degree of impact of program participation on increased self-perception; movement of the locus of control in a more internal direction, as well as on contraceptive use, and on frequency of sexual activity.

Hypotheses

- H₁ Among adolescent subjects involved in this proposed study, scores on the self-perception measure would correlate positively and significantly with scores on the locus of control measure. Subjects with better self-perception scores would have more internal locus of control scores.
- H₂ Among study subjects, poor self-perception is positively and significantly associated with early sexual activity.
- H₃ Poor self-perception is positively and significantly associated with lack of contraception use among adolescent subjects in this proposed study.
- H₄ Program participation would result in improved scores for experimentals, on the self-perception and locus of control measures.

CHAPTER IV

Results

Sample

Data was collected from 120 subjects, N = 60 in the control group and N = 60 in the experimental group, all of whom are high school students. Table 1 summarizes their demographic characteristics, i.e. gender, race/ethnicity and age.

Table 1
Demographic Characteristics by Treatment Group

Demographic Characteristic		Group		Total	Test Statistic
		Con.	Exp.		
Gender					
Male	n	17	14	31	$\chi^2(1) = 0.17$
	%	28.3	23.3	25.8	
Female	n	43	46	89	
	%	71.7	76.7	74.2	
Total	n	60	60	120	
	%	50.0	50.0	100.0	
Race/Ethnicity					
American Black	n	23	29	52	$\chi^2(3) = 6.42$
	%	38.3	48.3	43.3	
West Indian	n	17	20	37	
	%	28.3	33.3	30.8	
Hispanic	n	19	8	27	
	%	31.7	13.3	22.5	
Other	n	1	3	4	
	%	1.7	5.0	3.3	
Total	n	60	60	120	
	%	50.0	50.0	100.0	
Age (pretest)					
	n	58	58	116	$t(114) = 1.51$
	M	15.0	15.3	15.1	
	SD	1.02	1.07	1.05	

There appears to be no differences in the sample with respect to gender between the control and experimental groups. Indeed the chi square test of independence confirms this observation, $\chi^2(1) = .17$, $p = .68$. The same can be said with regard to race/ethnicity. There are more hispanics in the control group (31.7%) as opposed to the experimental group (13.3%). There were more American blacks in the experimental group (48.3%) than in the control group (38.3%). There were no whites. Again, the chi square test of independence shows that these differences are not significant, $\chi^2(3) = 6.42$, $p = .09$. To determine if there was a significant difference in the ages of those subjects in the control, from those in the experimental group, an independent t test was conducted. The results were insignificant, $t(114) = 1.51$, $p = .13$. Although the control and experimental groups appear to be slightly different with respect to race in that hispanics are over-represented in the control group and American blacks are over represented in the experimental group it can be concluded that the two groups in fact, do not differ in these relevant demographic characteristics at this initial test.

Calculation of Scoring of Self-Perception and Locus of Control Measures

In describing the methodology in Chapter III, it was mentioned that in order to obtain greater variability in responses to the items on these two instruments, where applicable the responses were adapted from yes or no to a three to six point spread. Therefore on both the self-perception and the locus of control scales the scoring of individual items necessarily differed. Some items were

scored dichotomously, others were scored on a three, four, five or six point scale.

In order to be certain that no item was weighted more than any other item, the items in the self-perception measure were first standardized. In other words the scores on each item were converted to Z scores in which each item has a mean of zero, a standard deviation of one and a variance of one. To calculate a single self-perception score for each individual at T_1 and later again at T_2 , the mean was taken of the 60 self-perception items which were converted into Z scores. The mean of these 60 Z scores was then converted into a T score. The same procedure was done for the locus of control measures. This allowed for all the differently scored items to be placed on the same score scale for the calculation of one total self-perception score and one total locus of control score.

The goal of standardization was to test for pre-treatment differences in locus of control and self-perception between the control and experimental groups. Table 2 (following page) shows the means (5.0), the standard deviations (2.0) of the self-perception scores and the locus of control scores broken down by treatment group as well as the sample as a whole. Table 2 also shows the results of two independent T tests that were conducted to determine if the control or experimental conditions differed on either of these two variables at pretest. Inspection of Table 2 shows that at pretest, the control or experimental groups neither differed on self-perception, $t(118) = 0.52$, $p = .60$; or locus of control, $t(118) =$

Table 2

Self-Perception and Locus of Control by Treatment Group

Variable	Group			Test statistic
	Con.	Exp.	Total	
Self-Image	n	60	60	t (118) = 0.52
	M	5.1	4.9	
	SD	2.07	1.94	
Locus of control	n	60	60	t (118) = 0.34
	M	5.1	4.9	
	SD	1.97	2.04	

Correlation between Self-Perception and Locus of Control is $r(120) = .37$, $p < .0005$. Note that this is your test of Hypothesis 1.

0.34, p. 73. In conclusion not only did the two groups not differ in demographics they also did not differ at pretest in locus of control or self-perception.

Test of Hypothesis

H₁

The test of H₁ is based on Pearson Product Moment Correlation. This hypothesis is concerned with the correlation between self-perception and locus of control. For the group as a whole, self-perception was found to be positively and significantly correlated with locus of control, $r(120) = .37, p < .0005$. Such that, the more internal the locus of control of the subject the better their self-perception.

H₂

This hypothesis deals with a correlation between self-perception and sexual activity. The confidential form actually takes two measures of sexual activity. One is the absolute frequency of sexual activity. That is, the actual number of times the individual did indeed decide to have sex in the past month, i.e., absolute sex freq. = # of yes in past month. The other measure of sexual activity is the relative frequency which is the number of times the individual did say yes to sex in the past month divided by the sum of times they said yes plus times they said no,

$$\text{relative sex freq.} = \frac{\text{\# of yes in past month}}{(\text{\# of yes} + \text{\# of no's})}$$

Table 3 has t tests for both of these sexual activity measures at pretest. For absolute sexual frequency, $t(116) = 0.37, p = .71$. For

Table 3
Absolute and Relative Frequency of
Sexual Activity by Treatment Group

Sexual Activity		Group			Test statistic
		Con.	Exp.	Total	
Absolute Freq.	n	59	59	118	t (116) = 0.37
	M	3.7	4.2	3.9	
	SD	5.36	7.00	6.21	
Relative Freq.	n	59	59	118	t (116) = 0.84
	P	0.460	0.369	0.414	
	Arcsin	1.492	1.306	1.399	
	SD	1.177	1.233	1.204	

relative sexual frequency, $t(116) = 0.84$, $p = .40$. Neither of these two t tests are significant. There is a large standard deviation but that is because there were people with no sexual activity and some who claimed to have had sex 30 times or more in one month.

It is important to note in Table 3 that what we are interested in is the proportion. Unfortunately we cannot compare proportions directly because their variance is very unstable. The variance of a proportion = NPQ , where

N = # of cases, subjects

P = proportion (actual)

$Q = 1 - \text{proportion}$

So that the variance is going to be at a maximum when $P = .5$ and the variance is at minimum when $P = 0$ or when $P = 1.00$. Therefore the variance of a proportion is very much dependent on the actual value of the proportion. The problem here is that when statistical tests are used to try to gauge differences between groups in relation to the variance within groups as well as between groups, the assumption that is made in those tests is that the variances are approximately equal. The problem is that if the variances are approximately equal it places restraints on what the proportions have to be.

Instead of using proportions directly it is necessary to use one of the variance stabilizing transformations, in this case, the arcsin transformation. In other words the individual proportions for each subject are converted non linearly, using the arcsin function, arcsin transform = $2 \times \arcsin(\sqrt{p})$. Then the mean arcsin is

calculated as well as the standard deviation. The statistical test (t test) is not based therefore on the comparison of proportions but rather on the comparison of the arcsin transforms of those proportions. After the mean of arcsin transforms are calculated they are converted back to proportions. So that the proportions in Table 3 are not just the average of the proportions for 59 people. They are actually the equivalent of, the average of the arcsin transforms of the proportions for those 59 people. In any event the two arcsins in Table 3 are not different, neither are the means. It can be concluded then that these two groups were not different at pretest in terms of level of sexual activity.

In returning to focus on H_2 it is important to remember that H_2 is seeking a correlation between poor self-perception and early sexual activity. Table 4 expands this to include correlations between absolute and relative frequency of sexual activity and locus of control and self-perception. Inspection of Table 4 shows that the correlation between the sexual activity measures and self-perception are significant at the .05 level, but the correlations between sexual activity and locus of control are not. Poor self-perception is indeed positively and significantly correlated with early sexual activity, regardless of whether we look at sexual activity in terms of its relative $r(118) = .2$ or absolute, $r(118) = .17$; $p < .05$, frequency, as had been hypothesized.

Another strategy for testing H_2 is through multiple regression techniques. In other words, can we now at the pretreatment

Table 4

Correlations between Absolute and Relative Frequency of Sexual Activity and Self-Perception and Locus of Control.

Sexual Activity	Self-Perception	Locus of Control
Absolute frequency	.1693 *	-.0044
Relative frequency	.2047 *	.1369

Note. Correlations are based on a sample size of 118.

* $p < .05$.

phase, predict the absolute frequency of sexual activity based on the information we now have: demographic data as well as the locus of control and self-perception.

Table 5 is a summary of a step wise multiple regression analysis of the dependent variable absolute sexual frequency, on the predictor variables of age, race, gender, self-perception and locus of control. In step wise multiple regression, the dependent variable cannot be a categorical variable. It must be interval level or dichotomous. There are no constraints on the type of variables used, as predictors. However if a categorical variable such as race is used then dummy variables have to be created. In the case of the variable race where there are 4 (four) categories, we have to create as many dummies as there are categories, minus one. Three dummy variables were created thereby converting the categorical variable of race into three dichotomous variables. Gender is already dichotomous and age is interval level. The way multiple regression works, in terms of making predictions is that, you weight the predictor variables so that you find the best single predictor which would always be that variable with the highest Pearson r . Age is the first variable that goes into the step wise regression but it does not result in a significant F test. Self-perception is the next variable to go into the equation, and in combination with age produces a significant F (R^2). This means that the proportion of variance now being explained, is significantly greater than zero. These two variables maximize the variance accounted for in the dependent variable, $R^2 = 5.8$. Nevertheless,

Table 5

Summary of Regression of Pretreatment Absolute Sexual Frequency
on Self-Perception, Locus of Control, Age, Gender, and Race

Step	Predictor	R	Rsq.	F(Rsq)	Rsq. Change	F(Chng)	Beta	r
1	Age	.1625	.0264	3.04	.0264	3.04	.16	.16
2	Self-Perception	.2410	.0581	3.42 *	.0317	3.73	.23	.16
3	Locus of Control	.2463	.0607	2.37	.0026	.30	-.07	.01
4	Black	.2511	.0630	1.83	.0024	.28	.28	-.03
5	West Indian	.2574	.0663	1.53	.0032	.37	.25	.07
6	Hispanic	.2674	.0715	1.37	.0052	.60	.18	-.01
7	Gender	.2710	.0735	1.20	.0020	.23	-.05	-.01

* $p < .05$.

absolute sexual frequency, as well as relative sexual frequency, Table 6, remain relatively unpredictable at the pretest stage.

H₃

To test this hypothesis it was first necessary to calculate the measurement of contraception use, which was done as follows. Lack of contraception use is equal to times used contraceptives in past month, divided by times engaged in sex,

$$\text{Lack of contraception use} = \frac{\text{times used contraception in past month}}{\text{times engaged in sex}}$$

Table 7 examines the frequency of contraception use by both the control and experimental groups. This t test is again based on the arcsin, $t(90) = .98$, $p = .33$. There is no significant difference, at pretest, between the experimental and control conditions regarding lack of contraception use. Closer inspection of this Table shows that the experimental group appears to use contraception more (.82%), than the control group (.72%), but this is not a significant difference.

The test of H₃ was conducted by applying Pearson r to look for the relationship between poor self-perception and lack of contraception use at the pre-treatment stage. A negative relationship was discovered, $r(92) = -.2045$, $p < .05$. This means that high values on the variable self-perception, are associated with low values on the other variable, frequency of contraception use. It is important to mention here, the direction of the scores of the items in the self-perception measure. Items were scored in the direction of lower scores being better self-perception. The higher the scores on the self-perception measure, therefore the poorer one's self-perception.

Table 6

Summary of Regression of Pretreatment Relative Sexual Frequency
on Self-Perception, Locus of Control, Age, Gender, and Race

Step	Predictor	R	Rsq.	F(Rsq)	Rsq. Change	F(Chng)	Beta	r
1	Self-Perception	.2006	.0403	4.70 *	.0403	4.70 *	.22	.20
2	Black	.2566	.0659	3.91 *	.0256	3.04	.05	.12
3	Gender	.2687	.0722	2.85 *	.0064	.75	-.07	-.05
4	West Indian	.2752	.0757	2.23	.0035	.42	-.13	-.13
5	Locus of Control	.2788	.0777	1.82	.0020	.23	.05	.15
6	Hispanic	.2794	.0781	1.51	.0004	.04	-.05	.00
7	Age	.2801	.0785	1.29	.0004	.05	.02	-.04

* $p < .05$.

Table 7
 Relative Frequency of Contraception Use
 by Treatment Group

Contraception Use	Group			Test statistic	
	Con.	Exp.	Total		
Relative Freq.	n	45	47	92	t (90) = 0.98
	P	0.725	0.828	0.780	
	Arcsin	2.038	2.286	2.165	
	SD	1.262	1.165	1.213	

Correlation between pretreatment contraception use and pretreatment self-image is $-.2045$, $p < .05$. That between pretreatment contraception use and pretreatment locus of control is $-.1416$, $p < .10$.

When correlated with frequency of contraception, where low frequency indicated lack of contraception use, the result was a negative correlation. In other words, at T_1 , those sample subjects with high scores on the self-perception measure, which is equal to poor self-perception also scored low on the measurement of frequency of contraception use, indicating a tendency towards a lack of contraception use. These results, despite the negative correlation support the hypothesis which mainly holds that people with poor self-perception use contraception less. The negative correlation is a function of the direction of the scoring on the self-perception measure and not a lack of confirmation of H_3 . The same holds true for locus of control and frequency of contraceptive use.

A regression analysis was then done in Table 8, of pre-treatment contraception use on self-perception, locus of control, age, gender and race. Despite the fact that self-perception accounted for 4.2% of the total of 9.4% of the variance that all these combined variables accounted for, this was not statistically significant.

H_4

The concern here is whether treatment made a difference in self-perception and locus of control. The statistical strategies employed here was the Analysis of Covariance. It is already known that the differences in self-perception at pre-treatment stages were insignificant. After scores are adjusted to control for those initial differences (Table 9), an analysis of covariance (ANCOVA) (Table 10)

Table 8

Summary of Regression of Pretreatment Contraception Use
on Self-Perception, Locus of Control, Age, Gender, and Race

Step	Predictor	R	Rsq.	F(Rsq)	Rsq. Change	F(Chng)	Beta	r
1	Self-Perception	.2063	.0425	3.82	.0425	3.82	-.16	-.21
2	Hispanic	.2449	.0600	2.71	.0175	1.58	-.37	-.17
3	Black	.2700	.0729	2.20	.0129	1.17	-.34	.01
4	West Indian	.2849	.0811	1.83	.0082	.75	-.21	.11
5	Age	.2946	.0868	1.56	.0057	.51	-.08	-.07
6	Locus of Control	.3018	.0911	1.35	.0043	.38	-.08	-.16
7	Gender	.3068	.0941	1.19	.0030	.27	-.06	-.08

Table 9
Pre-and Posttest Self-Perception by Group

Variable		Treatment Group		Total
		Con.	Exp.	
Pretest	n	56	53	109
	M	5.07	5.12	5.10
	SD	2.12	1.84	1.98
Posttest	n	56	53	109
	M	5.13	4.86	5.00
	Adj M	5.13	4.86	5.00
	SD	1.96	2.05	2.00

Table 10
Summary ANCOVA of Posttest Self-Perception by Group

Source	df	MS	F
Covariate	1	31.776	8.464 *
Treatment	1	2.281	0.608 0.437
Error	106	3.754	

* $p < .005$.

was done to determine whether or not there is a treatment effect after scores have been adjusted. The significant F test for the covariate, (Table 10), says, that in fact, the pre and posttest scores on self-perception are correlated with each other. However, treatment does not seem to have a significant effect on self-perception. The movement from $m = 5.12$ at pretest to $m = 4.86$ at posttest for the experimental group is only a matter of .26 or 1/10th of a standard deviation which is not a large difference. Despite the fact that this difference is not significant, it must be noted that this slight movement was in the desired direction for the experimental group in which self-perception went from $M = 5.12$ at pretest to $M = 4.86$. On the contrary self-perception worsened ever so slightly during the same timeframe for the control group going from $M = 5.07$ at T_1 to $M = 5.13$ at T_2 .

The same situation prevails with regard to locus of control, see Tables 11 and 12. Treatment did not seem to make a significant difference. However what small movement there was, occurred in the right direction, of internality, for the experimental group, going from $M = 4.91$ at T_1 to $M = 4.67$ at T_2 . The control group on the other hand experienced a slight shift in locus of control, towards externality, between T_1 and T_2 going from $M = 5.04$ to $M = 5.31$.

Treatment Effect

On the basis of these results in Tables 9 - 12, it might be possible to conclude that there is no confirmation for H_4 . However, the object of raising self-perception and moving the locus of control

Table 11
Pre-and Posttest Locus of Control by Group

Variable	Treatment Group			Total
	Con.	Exp.		
Pretest	n	56	53	109
	M	5.04	4.91	4.98
	SD	2.01	2.06	2.02
Posttest	n	56	53	109
	M	5.31	4.67	5.00
	Adj M	5.31	4.67	5.00
	SD	2.25	1.66	2.00

Table 12
Summary ANCOVA of Posttest Locus of Control by Group

Source	df	MS	F
Covariate	1	16.084	4.202 *
Treatment	1	10.180	2.660 0.106
Error	106	3.828	

* $p < .05$.

Table 13

Pre-and Posttest Absolute Sexual Frequency by Group

Variable	Treatment Group			Total
	Con.	Exp.		
Pretest	n	53	42	95
	M	3.94	3.50	3.75
	SD	5.51	6.69	6.03
Posttest	n	53	42	95
	M	2.74	1.19	2.05
	Adj M	2.73	1.19	2.05
	SD	3.51	2.29	3.11

Table 14

Summary ANCOVA of Posttest Absolute Sexual Frequency by Group

Source	df	MS	F
Covariate	1	64.389	7.455 **
Treatment	1	51.709	5.987 *
Error	92	8.637	

* $p < .05$. ** $p < .005$.

in a more internal direction was all towards the specific end of decreasing sexual activity while at the same time increasing the use of contraception in order to prevent unplanned and unwanted teen pregnancies. To this end, the question then became: what effect, if any, did treatment have on sexual activity and contraception use? To find out, tests of the pre and post sexual behavior of both the control and experimental conditions were done. The Ancova summary in Table 14 of posttest absolute sexual frequency, by group, even after adjustments were made for the initial differences in sexual frequency, shows that treatment has a significant effect on sexual frequency at the .05 level, $f = 5.987$, $P < .05$. Upon inspection of Table 13, it is evident that the difference between the experimental and control group, and between the pre and post, gets larger. Everyone in the sample has reduced their sexual activity but there is a much bigger reduction for the experimental group which goes from pretest $M = 3.5$ times per month to posttest $M = 1.19$ times per month. For the control group the reductions in sexual activity are smaller, going from a pretest $M = 3.94$ to a posttest $M = 2.74$, times per month. The post-treatment difference between the two groups, on the adjusted scores, is roughly 1.5 which is half of a standard deviation difference which is significant and meaningful.

The Ancova was repeated, this time of the relative sexual frequency, which is how often one did "go all the way" as a function of how often one could have. Here again we find in, Table 16, treatment had a significant effect on relative frequency, $F = 5.707$, p

Table 15
Pre-and Posttest Relative Sexual Frequency by Group

Variable	Treatment Group		Total	
	Con.	Exp.		
Pretest	n	52	42	94
	P	0.465	0.277	0.379
	Arcsin	1.502	1.110	1.327
	SD	1.155	1.237	1.202
Posttest	n	52	42	94
	P	0.462	0.154	0.313
	Arcsin	1.495	0.806	1.187
	Adj P	0.463	0.154	0.313
	Adj Arcsin	1.497	0.807	1.187
	SD	1.247	1.208	1.271

Table 16
Summary ANCOVA of Posttest Relative Sexual Frequency
by Group

Source	df	MS	F
Covariate	1	8.126	5.531 *
Treatment	1	8.385	5.707 *
Error	91	1.469	

* $p < .05$.

< .05. The adjusted proportions in Table 15, when carefully examined show that the control group decided to "go all the way," 46.5% of the time at pretest. They remained constant at posttest, opting to engage in sex 46.2% of the time. The experimental group which started out deciding to have sex 27.7% of the time at pretest, was able after treatment, to decrease their level of relative sexual frequency to 15.4% of the time that they had an opportunity to do so. This large difference is significant because it is due to the effects of treatment. Program participation did not result in significantly improved scores for experimentals on self-perception and locus of control, as had been hypothesized. Nevertheless H_4 stands confirmed because program participation did result in a marked decrease for the experimentals in sexual activity, and greater contraception use.

Table 17 looks at the pre and posttest contraception use by group. While there is evidence of increased contraception use for both the control and experimental conditions, the difference between the experimental and control groups is not large enough. Consequently, the Ancova of posttest contraceptive use by group (Table 18) does not yield results that are of any statistical significance.

Finally, the remaining question that arises from this research is: can we predict sexual behavior and contraception use, based not only on the seven initial predictor variables but based as well on the new variable of "treatment"? The treatment variable refers to whether or not subjects participated in the incentive program, that is to say whether or not they were in the experimental or control group.

Table 17
Pre-and Posttest Contraception Use by Group

Variable	Treatment Group		Total	
	Con.	Exp.		
Pretest	n	28	34	62
	P	0.721	0.913	0.837
	Arcsin	2.028	2.543	2.311
	SD	1.314	0.978	1.161
Posttest	n	28	34	62
	P	0.943	0.997	0.981
	Arcsin	2.661	3.036	2.867
	Adj P	0.942	0.997	0.981
	Adj Arcsin	2.657	3.037	2.867
	SD	0.905	0.377	0.689

Table 18

Summary ANCOVA of Posttest Contraception Use by Group

Source	df	MS	F
Covariate	1	1.385	3.142
Treatment	1	1.528	3.466
Error	59	0.441	

When the new variable treatment is included in a regression analysis of post treatment absolute sexual frequency, bringing the total of predictor variables to 8, the amount of variance being accounted for goes from 7.35%, (Table 5) insignificant, to 25.82%, (Table 19) which is significant.

For the regression of relative sexual frequency on the predictor variables, the amount of variance being accounted for went from 7.85% when the initial seven variables were used (Table 6) to the significant level of 21.24% when the treatment variable is introduced into the equation (Table 20).

For contraception use, the seven initial variables only account for 9.41%, insignificant, of the variance (Table 8). When the eighth variable, treatment, is included in the regression, the amount of variance accounted for jumps to 23.11% which is significant (Table 21). The most interesting aspect of this last regression analysis is that post-treatment, program participation, stands out as the most important single predictor of contraception use accounting single handedly for 13.21% of the total variance of 23.11%. In the previous regression of post-treatment absolute sexual frequency on the eight predictor variables it is the second most important variable to come into the equation based on its beta weight.

A few final statements need to be made about these results starting with the gender. In the regressions of post-treatment sexual frequency, both absolute and relative, gender was the first variable to enter the equation and accounted for 12.9% and 12.3%, respectively,

Table 19

Summary of Regression of Posttreatment Absolute Sexual Frequency
on Age, Gender, Race, Treatment and Posttreatment
Self-Perception, Locus of Control,

Step	Predictor	R	Rsq.	F(Rsq)	Rsq. Change	F(Chng)	Beta	r
1	Gender	.3598	.1294	11.45 **	.1294	11.45 **	-.38	-.36
2	Treatment	.4230	.1789	8.28 **	.0495	4.58 *	-.34	-.20
3	Age	.4563	.2082	6.57 **	.0292	2.77	.16	.18
4	Hispanic	.4806	.2309	5.56 **	.0228	2.19	-.03	-.02
5	Locus of Control	.4942	.2442	4.72 **	.0133	1.28	-.17	-.06
6	Self-Image	.5022	.2522	4.05 **	.0080	.77	.10	.02
7	Black	.5035	.2535	3.45 **	.0013	.13	.21	.08
8	West Indian	.5082	.2582	3.05 **	.0047	.45	.18	-.03

* p < .05. ** p < .005.

Table 20

Summary of Regression of Posttreatment Relative Sexual Frequency
on Age, Gender, Race, Treatment and Posttreatment
Self-Perception, Locus of Control,

Step	Predictor	R	Rsq.	F(Rsq)	Rsq. Change	F(Chng)	Beta	r
1	Gender	.3513	.1234	10.84 **	.1234	10.84 **	-.41	-.35
2	West Indian	.3816	.1456	6.48 **	.0222	1.97	.39	.10
3	Treatment	.4064	.1652	4.95 **	.0196	1.76	-.21	-.10
4	Black	.4498	.2023	4.69 **	.0371	3.45	.29	.05
5	Age	.4534	.2056	3.78 **	.0032	.30	-.07	-.02
6	Locus of Control	.4574	.2093	3.18 *	.0037	.34	-.09	.02
7	Self-Image	.4606	.2122	2.73 *	.0029	.26	.06	.01
8	Hispanic	.4609	.2124	2.36 *	.0002	.02	.03	-.13

* p < .05. ** p < .005.

Table 21

Summary of Regression of Posttreatment Contraception Use
on Age, Gender, Race, Treatment and Posttreatment
Self-Perception, Locus of Control,

Step	Predictor	R	Rsq.	F(Rsq)	Rsq. Change	F(Chng)	Beta	r		
1	Treatment	.3635	.1321	11.72	**	.1321	11.72	**	.50	.36
2	Hispanic	.4403	.1939	9.14	**	.0617	5.82	*	.38	.10
3	Locus of Control	.4588	.2105	6.67	**	.0167	1.58		.18	.02
4	Self-Image	.4727	.2235	5.33	**	.0130	1.24		-.13	-.06
5	West Indian	.4793	.2298	4.36	**	.0063	.59		.14	.05
6	Gender	.4800	.2304	3.59	**	.0006	.06		.02	-.02
7	Black	.4804	.2308	3.04	*	.0004	.04		.06	-.11
8	Age	.4807	.2311	2.63	*	.0003	.03		-.02	.04

* p < .05. ** p < .005.

of the variance. The interaction between gender and treatment can possibly be attributed to the proportion of males 23.3%, n = 14, in the experimental group as compared to the females 76.7, n = 46. In spite of recruitment efforts aimed equally at males and females, males opted more frequently not to participate in program.

With regard to the universe for this study there were 60 subjects in the control group and 60 subjects in the experimental group for a pretest total N = 120. The n's tended to vary at times however, because of missing data.

CHAPTER V

Conclusions

Discussion

Post-test experimental subjects have clearly benefited from treatment as evidenced by their marked decrease in sexual activity accompanied by their increased contraception use. One explanation for the success of this program in changing the sexual and fertility related risk taking behavior of the experimental condition subjects is to be found in the structure of the program's different components. The program clearly changed some variables but not others. This program was in fact effective for those experimental subjects who remained involved. Seven subjects dropped out before completing the program. These seven teenagers had all obtained after-school jobs that did not allow them time to participate. In spite of their interest in remaining in the program, a paying job for these adolescents took precedence.

Participant Evaluation of Program

Program participants in the experimental group were asked to complete weekly evaluations of the program as well as end of program evaluation. Because seven, of the program's initial 60 subjects, dropped out along the way, this discussion of participant evaluations of the program is based on the weekly evaluations of those 53 subjects who successfully completed the program. Using a six point scale on the weekly evaluation forms (see Appendix D-1) the program obtained a consistent weekly rating of 5 - "very helpful" from a majority, 80%

(43) of the participants. This weekly evaluation form in conjunction with the end of program evaluation form (see Appendix D-2), was used to evaluate the three different program components separately. In the Phase One component 74% (39) of the experimental group said that the Teen Sexuality/Family Planning Workshop influenced their sexual behavior the most. The second most influential workshop in terms of its impact on sexual behavior was the one on Parent-Adolescent Relationships according to 68% (36) of post-treatment subjects.

In terms of the separate program components, 70% (37) of the post-treatment subjects said that the family planning services, which included the distribution of condoms, was the most effective program component because it had the greatest influence on their decision-making, regarding their sexual behavior.

In sum, the evaluations were largely positive. Students enjoyed the structure of the different program components. They also received positive feedback of their efforts at new behavior from video taped role plays, as well as from the several other sources such as group leader and career mentors and the Drop Out Prevention program staff at Far Rockaway High School.

School Retention

Sixty percent (32) of the subjects in the experimental group were known to the Drop Out Prevention Program at FRHS. Hard evidence of the effect of treatment is to be found in the fact that, of this 60% (32) of the experimental group, 75% (24) improved their grades during the first two months of program participation. Some of these

students who had failing grades (below 65) improved their academic performance to do "B" calibre work earning on exams and finals, grades of 80 and 85.

The findings of this research project, build on an already existing, large body of social science research (Gilchrist, 1979); Schinke, 1982; Hayes, 1987, etc.), to provide further empirical evidence that skills training and family planning services can be and should be available to all youth especially minority youth, as effective procedures for improving adolescent pregnancy prevention. The positive results of this program provide sound basis for the replication of this model with its built-in research capabilities.

Limitations

The greatest limitation of this study was parental non-support of their teenaged young men and women. There was poor attendance at parent's monthly meetings, poor response to letters sent home to parents and to requests for parents to sign consent forms. In a few instances, some parents did not want their son/daughter to participate in the program because they feared that the program's workshops, especially the ones on sexuality and family planning would encourage their children to begin to sexually act out if they were not already active, or if already active, to increase their level of sexual activity. Lines of communication between 90% of program parents and the program was one directional from us to them.

Another limitation was the demand placed on the time of program staff because of the lack of motivation of some of the

students. This required weekly telephone calls on the evening before to remind them to attend workshops, meetings with mentors, or group counseling the following day.

A very serious limitation of any sex-related program for adolescents is the initial school and community resistance to this area of social work. Although the then principal of Far Rockaway High School was receptive to the program from the outset, networks in the Far Rockaway Community, other than just the school, i.e. civic, religious, had to be utilized to gain wider community sanction of the program.

The most difficult limitation to handle in research studies of this kind is that of contagion between the control and experimental group. While this is a serious limitation any increase in contraception or decrease in sexual activity that occurred in the control group as a result of contagion is a benefit for the community.

Finally, programs such as this are limited by the extent to which they can address the myriad of social problems that plague the lives of many inner city, poor, minority youngsters and their families.

Implications

Adolescent pregnancy, drug abuse, dropping out of high schools, though problems in their own right are primarily symptoms in that they attend the transitional periods of life: from childhood to adolescence; adolescence to adulthood (Jessor & Jessor, 1980; Jessor, 1979). Freud & Erikson, among other psychoanalytic theorists, have clearly made the case that the establishment of a sexual identity

during adolescence is an integral function of that phase of development through the life cycle. However, when the adolescent engages in high risk sexual and fertility related behavior, or drug use, etc. this type of behavior says not only that there are other problems involved, but according to the Jessors this behavior is designed to elicit some form of social control response (Jessor, 1979).

It was previously mentioned in this study that the societal context in which adolescent development takes place provides the basis for their sexual and fertility related risk taking behavior. A 1987 report on Black Health Issues in New York State further claimed that the social context for inner city Black and Hispanic Youth can be overwhelmingly stressful (Governors Committee on Black Affairs, 1987). That report recommended that health and mental health services to adolescents in New York State should be delivered through appropriate linkages to schools, hospitals and other community agencies.

Schools are the next best loci for the application of social controls, after the family. Future curriculum development from elementary classes throughout high school might do well to teach skills related to stress management, interpersonal skills and family planning. In this way, schools could contribute in a very real way to preparing "at risk" youth for making the necessary transitions through their childhood - adolescent - adult life changes. The importance of schools in this process of handling not only general life problems but adolescent pregnancy prevention in particular cannot be overstated.

The descriptions of the population and the community serviced by this program can be applied to other areas by this New York City, i.e.: Fort Green in Brooklyn, Washington Heights in Manhattan, as well as to pockets of poverty from Albany to Ithaca. In terms of this study, one of its most innovative and distinguishable features lie in its integrated use of a major hospital facility establishing effective linkages with a school, to provide consistent support for the healthy, social and emotional development of youth.

Recommendations

Social Work

The social work literature includes research studies that empirically document the appropriateness of social work interventions in bringing about change in adolescent sexual and fertility related risk taking behavior. This study adds to that body of knowledge. The replication of this model is therefore recommended as it would yield much needed scientific research findings that would inform the development of a national policy on Adolescent Pregnancy Prevention. Future research based on this model should include components analysis.

Public Policy

In reviewing public attention to the problem of adolescent pregnancy there is evidence of distinct shifts in policy development over the last 25 years. These shifts have resulted more often from changes in intellectual, political and social values than from national planning or the results of social research.

Consequently, adolescent pregnancy, which was viewed as a moral problem (prior to the 1960's) was later redefined as an economic problem. That redefinition, together with the political climate of the Great Society, yielded federally financed medical and family planning programs for adolescents. Through the Office of Economic Opportunity, inner-city teenagers received free pre-natal care, sex education and contraceptives (Dickens, 1973).

With the influence of the Civil Rights and Feminist Movements the Supreme Court ruled in 1973 that women could decide to have an abortion. As a reaction to that policy the 1977 Hyde Amendment set up federal funding restrictions which placed some limits on access to abortions for teenagers. Nevertheless, teenagers now constitute one third of all U.S. abortions. As an alternative to abortion policy, the first legislation to explicitly address the teen pregnancy problem was passed on October, 1978 during the Carter Administration. This legislation created the Office of Adolescent Pregnancy Programs (OAPP) under Titles VI-VIII of the Health Services and Centers Amendments. The mandate was to develop comprehensive services primarily for pregnant teens and school age parents with a small focus on "at risk" teens (Ooms and Maciocha, 1979). Until 1981, OAPP did not emphasize a commitment to primary prevention.

In fairness to this uneven policy record teen birthrates have declined overall since 1955 (USPHS, 1975). However, births to 10 to 15 year old girls have increased in the last decade (Vinovskis, 1981). With regard to Black youth who are considered to be more at

risk, trend data reveal that despite the 10% decline in Black teenage non marital childbearing between 1970-1984, 89% of births to black teen mothers are non-marital, compared to only 41.5% for white teens (Hayes, 1987).

In the current conservative political climate the heretofore uneven policy record could shift again. Policies from the last quarter century, particularly abortion policy are now in jeopardy as we once again see efforts to return to a moral position in relation to sex related policies. In these less liberal times, hospital and physicians are asking more frequently for parental consent for abortions to women under eighteen. As a result of negative community flak, clinics keep a low profile, do not do outreach and lack of access is now of serious concern.

Information of and access to contraception however, are by themselves insufficient to prevent teen pregnancies. Good information and contraception, when available, is not helpful if the teenager lacks the skills to make it personally real and to use it in their daily lives (Gilchrist, 1983). As a result, policies that offer more information and greater access would only fail.

Future teen pregnancy prevention policy decisions must include the skills and behavioral training that teenagers need to motivate them to use contraception or delay sexual initiation. All teens are "at risk" for an unwanted pregnancy. However, this training in the case of Black and Hispanic youth from disadvantaged neighborhoods is clearly vital, as this research has demonstrated.

Most young men and women lack the skills, behaviors and the maturity necessary to anticipate future events, plan ahead for them, communicate with partners about contraceptive devices, choose a device or method and purchase them. Moreover, the average immature teenager, unable to discuss their sexual activity with parents are unwilling and afraid to admit and therefore need help to confront that they are sexually active; as this is a necessary first step before one can make the decision to contracept or delay sexual initiation.

In spite of the generosity of private philanthropy which has provided funding for dealing with many social problems, government needs to be in the forefront of the adolescent pregnancy prevention problem. As many European and industrialized nations have already done, the recommendation then is for a United States national policy on Adolescent Pregnancy Prevention, based on contraception.

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- 83
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APPENDICES

APPENDIX A: GLOSSARY

Concepts used in this study where operationalized as follows:

1. Self-perception

Self-perception is the sense, not necessarily the reality, of what and who one is, can be or wants to be. Self-perception is hypothesized as central to adolescent sexual decision-making and applies to teenage boys and girls (Hayes, 1987). There is evidence which demonstrates that self-perception is influenced by a combination of family and cultural characteristics, psychological factors and environmental conditions. It must be noted, however, that many teenagers who are poor, black or Hispanic, from inner city backgrounds, single parent households and large families are not at risk for early pregnancy or childbearing (McAnarney & Schneider, 1984).

2. Locus of control

Locus of control refers to the orientation (internal/external) of one's perception of a connection between one's actions and its consequences (Lefcourt, 1984). Internality has been found to be related to improved self-esteem, involvement in career decision-making and orientation toward decision-making (Henfield, 1980). Other positive results in the development of an internal locus of control or in changing the orientation of one's locus of control in the direction of being more internal, have been demonstrated by behavioral intervention programs (Barry 1981; Nowicki & Barnes 1973; Schinke, et al, 1980 and 1984).

3. Family Planning Services

Subjects assigned to the experimental condition participated in two family planning workshops. One was run by a nurse and social worker presenting information and advice about the body, sex education, sexual responsibilities and the use of contraceptives. Students were encouraged to examine different types of contraceptives on display and ask questions. The other workshop used films in which two teenage males talk about their reasons for not wanting to become parents until they are physically, financially and emotionally ready to do so. Individual sessions were scheduled for each student with the family planning clinic social worker. At the student's request an appointment was made in family planning clinic to obtain physical examinations and prescriptions for contraceptives (Smith 1986). The Program Coordinator regularly distributed condoms free of charge.

4. Interpersonal Skills Training

Group sessions were provided in addition to the two family planning workshops. These groups of 10-12 teens were led by social workers and met once weekly. Group members were encouraged to share personal experiences regarding interactions with dates/peers, parents, teachers, health professionals, etc. They were helped to acquire decision-making skills in order to handle these experiences more assertively by providing positive feedback. Much emphasis was placed on carrying out decisions to delay sexual initiation or to insist on contraceptive use in order to avoid unwanted pregnancy (Schnike, 1980).

5. Life enhancement options

Life enhancement options is phase II of the program and in this phase each group member was provided with a "career mentor". This is an opportunity, not usually available to inner city poor, minority youth, to interact one on one with a professional in the health care industry (Smith, 1986).

6. Career Mentors

Professionals at the hospital who expressed an interest in working with adolescents in this program, and participated in a workshop as preparation, were carefully selected to become mentors. They met with program teens for two hours weekly for six weeks. During those sessions the professional helped the teen to explore future career options by sharing the specifics of his/her profession. They discussed with, and guided the teen towards, the required academic courses and other steps that would lead to achieving that particular career goal. Most importantly, they allowed the teen to observe them working at their profession. The focus was on providing the teen with alternative options to sexual initiation or early parenthood. At the end of six weeks both the teen and the professional made decisions about the time and format of a continued relationship, where desired (Smith, 1986).

7. Askable Parents

This a a concept developed by Maternity Infant Care (MIC), a state and federally funded program. It is a series of five workshops, primarily for parents, as they are the first and most important sex educators their children have. The workshops were conducted by

parents who have received over 100 hours of training that prepared them to train other parents to become "askable parents". The workshops were conducted with small groups of parents of the experimental subjects, to train them to become more receptive to questions from, and to initiate dialogue with them, their teenagers, about sexual behavior.

8. Sexual Activity

This concept for purposes of this study is defined as early sexual activity, ie: absolute or relative frequency of sexual contacts and frequency of contraceptive use.

APPENDIX B-1**IMPLEMENTATION OF PHASE ONE
SCHEDULE OF WORKSHOPS
EIGHT WEEKS**

The following workshops met once weekly for 2 1/2 hours, either at FRHS or at SJEH

1. - Untapped talents for building self-esteem and assertiveness
2. - Effective communication skills
3. - Social interaction skills
4. - Academic performance/career planning
5. - Parent-Adolescent relationships
6. - Teen sexuality, Pregnancy and male/female sexual responsibility. This workshop will be divided into two groups for same-sex participants only.
7. - Group and individual family planning sessions. The group sessions will be divided into two separate groups of same-sex participants only.
8. - Confident and efficient decision-making skills.

Appendix B-2**Parenting - Family Life Skills****Schedule of Workshops**

The following workshops were held once monthly for 2 1/2 hours at S.J.E.H. in the Board Room. Workshops were scheduled either during evening hours or on weekends to accommodate working parents.

1. Substance Abuse
2. Empowering Parents
3. Father-Son Relationships
4. Mother-Daughter Relationships
5. Child Abuse/Neglect

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These consist of pages:

95-100, Appendix C-1 - Rosenberg Scales

101-104, Appendix C-2 - Children's Nowicki-Strickland Internal-External Control Scale (CNSIE)

U·M·I

Appendix C-3

Circle: Age: 14, 15, 16
 Ethnicity:
 West Indian, Afro American
 White, Other _____

CONFIDENTIAL FORM

1. Females only: Do you have a boyfriend? Yes _____
 No _____
- Males only: Do you have a girl friend? Yes _____
 No _____
2. How do you feel about teenagers having sex?
 It's good _____ Its wrong _____
 It's OK sometimes _____ It's bad _____
3. Do you have many teenage friends who are sexually active?
 Yes _____ No _____
4. Have you ever had sex? (gone all the way)
 Yes _____ No _____
5. At what age did you first have sex? (gone all the way)
 Give age: _____

NOW FILL IN ALL THE BLANKS WITH NUMBERS THAT ARE RIGHT FOR YOU. IF YOUR ANSWER IS NONE, PUT A ZERO (0) IN THE BLANK. FILL IN ALL THE BLANKS.

6. How many chances have you had to have sex (go all the way) during:
 The last 2 weeks? _____ The last month? _____
 (write number (write number
 in the blank) in the blank)
7. How many times did you decide not to have sex when you had a
 chance to have sex during:
 The last 2 weeks? _____ The last month? _____
 (write number (write number
 in the blank) in the blank)
8. How many times did you have sex (go all the way) during:
 The last 2 weeks? _____ The last month? _____
 (write number (write number
 in the blank) in the blank)

Turn the Page

1. What do you know about birth control methods?

2. Do you use birth control?

Often _____ Never _____
Sometimes _____ Rarely _____

3. Who informed you about birth control?

Mother Sister Friends
 Mother Sister Friends

4. How do you feel about teenagers using birth control?

It's good _____ It's harmful _____
It's wrong _____ It's okay sometimes _____

5. What types of birth control methods have you used in the past?

_____ condoms _____ diaphragm
_____ the pill _____ withdrawal
_____ the sponge _____ "HOPE"
_____ the foam _____ I.U.D.
_____ none _____ abortion

6. Whether or not you had sex, how many times did you use birth control (contraception) in:

The last 2 weeks? _____ The last month? _____
(write number (write number
in blank) in blank)

7. Is it okay to be a teenage (male) virgin? Yes _____
No _____

8. It is okay to be a teenage (female) virgin? Yes _____
No _____

St. John's Episcopal Hospital - South Shore

TEEN INCENTIVE PROGRAM

Formative Evaluation Form

AGE:
SEX:
ETHNICITY:

PLEASE BE HONEST WHEN ANSWERING ALL QUESTIONS

1. Circle the workshop/session you are evaluating
 - a. Untapped
 - b. Communication
 - c. Decision Making
 - d. Parent-Adolescent Relations
 - e. Substance Abuse
 - f. Career Planning/Academic Performance
 - g. Teen Pregnancy
 - h. Teen Sexuality
 - i. Individual Counseling
 - j. Family Counseling
 - k. Career Mentor
 - l. Role Play Group Discussion
2. Did the workshop leader/mentor speak clearly?
 1. Yes
 2. No
3. Did you understand the ideas that were presented in the workshop/session?
4. Was this workshop/session interesting to you?
 1. Yes
 2. No
5. Was it informational?
 1. Yes
 2. No
6. Did you ask the workshop leader/mentor any questions?
 1. Yes
 2. No
 3. No, but there were times when I wanted to.
7. Was this workshop/counseling session helpful to you.
 1. No
 2. A little
 3. I don't know
 4. Yes
 5. Very helpful
 6. Extremely helpful

8. Name one thing that you learned in this workshop. _____

9. How will you put it (what you learned) into practice. _____

10. List one thing that you feel would make this workshop more helpful and more interesting.

1. _____

11. Circle the techniques that you learned most from in this workshop.

- a. Discussion
- b. Audio/Visual
- c. Hand outs/Pictures
- d. Lecture
- e. Role Playing
- f. Brainstorming

12. Rate this workshop/program in terms of its value to you

- | | |
|--------------------|---------------------|
| 1. Useless | 4. Somewhat useful |
| 2. Not very useful | 5. Very useful |
| 3. Almost useless | 6. Extremely useful |

End of Program Evaluation Form
(Summative)

1. What workshop(s) were most helpful to you.

- **Untapped Talents**
- **Decision Making**
- **Communication Skills**
- **Career Planning/Academic Performance of family planning**
- **Parent-Adolescent Relations**
- **Teen Pregnancy/male responsibility**
- **Teen sexuality/The Psychology**

2. Check the techniques you've learned most from in the workshops.

- **Discussion**
- **Audio/Visual Aids**
- **Hand outs, booklets**
- **Lecture**
- **Role Playing**
- **Brainstorming**

3. Which workshop(s) most influenced your decision about your sexual behavior?

- **Untapped Talents**
- **Decision Making**
- **Communication Skills**
- **Career Planning/Academic Performance of family planning**
- **Parent-Adolescent Relations**
- **Teen Pregnancy/male responsibility**
- **Teen sexuality/The Psychology**

4. What phase of the Teen Incentive Program most influenced the decisions you have made or will make about your sexual behavior?

- Workshop
- Career Mentor
- Role Playing, Video taping
- Family Planning Services
- Individual Counseling
- Family Counseling

5. What other social factors affected the decisions you have made about your sexual behavior?

6. Rate this workshop/program in terms of its value to you.

- | | |
|--------------------|---------------------|
| 1. Useless | 4. Somewhat useful |
| 2. Not very useful | 5. Very useful |
| 3. Almost useless | 6. Extremely useful |