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Targeting the Male in Teen Pregnancy Prevention
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2 July 2004

Acknowledgements

I would sincerely like to thank Dr. Elizabeth Turf for her patience and positive attitude.

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ABSTRACT

Study Objectives: To examine demographic characteristics and contraceptive habits of young men.

Methods: A descriptive study was conducted utilizing data analyzed from three waves of the National Survey of the Adolescent Male (NSAM) administered in 1988, 1991, and 1995. The first wave consisted of 1,880, never-married, noninstitutionalized 15-19 year old men living in the United States. The second wave consisted of 1,676 re-interviewed respondents who were 17-22 years old. The third wave consisted of 1,377 re-interviewed respondents who were 22-27 years old. Descriptive statistics were used to compare personal and demographic characteristics across each year group. Odds ratios, and their corresponding 95% confidence intervals were used to determine demographic risk factors; p-values, and chi-square tests were included in the demographic analysis.

Results: The majority of the young men in waves 2 and 3 believed the male equally responsible if their partner became pregnant (92% vs. 96%). These young men also believed the male should ask their female partner about contraception before being intimate (71%, waves 2 and 3). Only 3% (wave 2), to 4% (wave 3), believed they would feel more like a man if his partner became pregnant. Almost 50% of males, ages 17-22 (wave 1), and 21-27 (wave 2), believed there was “a little chance” to a “50-50 chance” that they would feel embarrassed to put on a condom. The majority of young men in wave 2 (61%), and approximately half (48%) of young men in wave 3 felt there was “a little chance” to a “50-50 chance” that condom use reduced their sexual pleasure. Only 12% of waves 2 and 3 respondents, felt there was “no chance” a female would become pregnant, if a condom was used during intercourse. Indicating a lack of knowledge regarding the overall benefits of condom use. In addition, less than 50% of waves 2 and 3 felt they had a “pretty good chance” to avoid a STD/AIDS if a condom was used.

Conclusions: Results indicated that although the cohort was more cognizant of reproductive responsibility as they matured, steps are still needed to address behavioral changes

INTRODUCTION

The aim of this study is to examine the demographic characteristics and contraceptive habits of males 18-25 completing the National Survey of the Adolescent Male (NSAM); to look for trends over time; and to describe a group(s) to target for further teen pregnancy interventions.

The United States has experienced a steady decline in teen pregnancy rates since the early 1990's. According to the Centers for Disease Control, rates have declined for teenagers of all ages. The most significant impact was among teenagers 15-17, and 18-19 years of age. Rates for teenagers 15-17 years old dropped 40%, from 38.6/1000 in 1991 to 23.2/1000 in 2002. Rates for teenagers 18-19 years old dropped 23%, from 94/1000 in 1991 to 72.8/1000 in 2002 (1).

The national reduction in teen pregnancy rates over the past decade should not make us apathetic in our future endeavors. In fact, "the next challenge is to guard against complacency" (2). The United States has teen pregnancy rates two to ten times higher than other comparable industrialized countries, with a current prediction of 820,000 teenagers becoming pregnant this year (2).

Becoming a mother during the adolescent years reduces or virtually eliminates many life chances or life opportunities for mother, child, and potentially the father. Research indicates that teen mothers experience lower educational attainment (3). Less education equals a lack of skill, making it more difficult for a teen mother to find a good job to support self and child. As a result, many adolescent mothers and their children live below the poverty level.

Poverty is associated with a host of negative outcomes, and leaves mother and child vulnerable to adverse economic and social conditions.

Children born of adolescent mothers experience equally pessimistic outcomes. They are more likely to develop cognitive delays (3). They are at greater risk for social

behavior problems, and problems associated with lack of self-control (3). These children tend to face future adverse outcomes identical to their mothers such as, lower educational attainment, limited employment opportunities, single parenthood, adolescent pregnancy, poverty, and incarceration (male adolescents) (3).

Adolescent pregnancy predisposes both mother and child to increased health risks. Teenage mothers experience maternal mortality rates double that of older mothers (4). They have higher rates of birth complications such as anemia, toxemia, hemorrhaging, and infections (4). Infant mortality among adolescent mothers is higher compared with older mothers (4). In addition, the children of adolescent mothers are usually born premature, or of low birth weight, and have a greater risk of having a congenital defect (4).

The costs to provide holistic support to mother and child are passed on to the taxpayer. Welfare benefits paid in Medicaid, and food stamps costs the taxpayer billions of dollars each year (5). Costs associated with future adverse outcomes, e.g., incarceration, delinquency, and the next generation of adolescent pregnancies equates to almost two-billion dollars of governmental support (5).

Efforts to reduce teen pregnancies have resulted in an abundance of research data and intervention programs. The majority of these data and programs target the mother. This is understandable given the female will experience the greater impact. In addition, the female usually has the dominant role in the physical and emotional well being of her offspring.

Targeting the father in teen pregnancy prevention is a growing trend. In the past decade, more than forty states have developed programs that prevent or delay fatherhood among boys and young men (6). Research indicates an average age difference of two to three years between teenage girls and the father of their children (7). The most accurate data for determining paternal age are national birth certificates.

Paternal age is consistently obtained from birth certificates of infants with married parents. However, a high proportion of birth certificates from infants born out of wedlock lack the father's age. "In 2002, the overwhelming majority of teenage births were to unmarried young women (97.0% for teens under age 15 and 80.0% for 15-19 year olds)"(9).

Landry et al. provides one of the earliest analysis pertaining to paternal age that was previously unavailable. "Supplementing birth certificate information with data from the National Maternal and Infant Health Survey they determined that half of the fathers of babies born to females aged 15-17 were 20 years of age or older. Some 60% of 15-17 year old mothers had a partner three or more years older than they as did half of 18-19 year olds; about one in five of all teenage mothers had a partner six or more years older"(10). Studies conducted since Landry et al. achieved similar results (11-14). These studies verified that young men were responsible for 29% to 65.5% of the pregnancies among adolescent mothers in the populations' examined. In addition, these young men were two to nine years older than their adolescent partners (11-14).

Epidemiologic profiles of young men involved with adolescent females have identified some common characteristics (15). These young men are more likely smokers, have a lower grade point average in school, experience educational attainment three years lower than expected for their age, less likely to be in a professional or managerial occupation, and twice as likely to be in a service occupation (16-18).

Scrutiny of the role played by young men could provide the catalyst needed for further reduction of adolescent pregnancies. An integral part of this examination must include an assessment of the reproductive attitudes and behaviors of young men. Forste et al. used attitudinal and background data from the National Survey of Men (ages 20-39) to predict the likelihood of current contraceptive use to prevent pregnancy

(19). Forste et al. determined that men's attitudes and characteristics were important predictors of contraceptive use to prevent pregnancy and recent efforts to protect against sexually transmitted diseases. Grady et al. also used data from the National Survey of Men to determine how gender affects perceptions about contraceptives (20). Their results revealed that men ranked effectiveness in preventing pregnancy, lack of health risks and protection from sexually transmitted diseases as the most important contraceptive characteristics.

METHODS

Data were analyzed from three waves of the NSAM administered in 1988, 1991, and 1995. The first wave consisted of a nationally representative sample of 1,880, never-married, noninstitutionalized 15-19 year old males living in the United States. The original 1988 participants were drawn as a multi-staged stratified probability sample that over-sampled Black and Hispanic males. In 1988, sample weights were estimated based on the probability of selection, with adjustments and post-stratification adjustments to the 1987 Current Population Survey. Sample weights were normalized to average 1.00. The response rate was 73.9%.

The second wave consisted of 1,676 re-interviewed respondents who were 17-22 years old. There was an 89% follow-up rate, not including 11 young men who died between the two waves. Longitudinal weights were included to adjust for attrition. These weights were normalized to average 1.00.

The third wave consisted of 1,377 re-interviewed respondents who were 22-27 years old. A total of 1,290 were interviewed in all three waves, 87 in waves 1 and 3 only. Thirty-eight of the original sample members died between waves 1 and 3. Among those living, there was a 74.8% follow-up rate for wave 3.

The attrition of participants from wave 1 to wave 3 was due to the following: 213 could not be located, 176 refused to participate, 58 were unavailable due to scheduling

conflicts, and 18 were either incarcerated, declared incompetent, or suffered some other misfortune.

The NSAM data collection for each wave occurred in two parts. The first part consisted of a face-to-face interview. Information was obtained on demographics, sexual and contraceptive behavior, knowledge and attitudes, and other related issues. Part two was a self-administered questionnaire that covered more sensitive questions such as homosexuality, intravenous drug use, and criminal activity.

Variables Considered

Selected variables were based on two criteria: theoretical relevance, as reflected in the literature review, and the availability of like data across all three waves. Both criteria resulted in a limited number of variable options. First, the literature review in this particular area is very limited. Second, although the datasets for each wave shared key concepts, question structure and corresponding responses had limited comparability.

As a result, only eight variables were selected to examine the contraceptive habits (outcome variable) of young men. Four of the variables focused on reproductive attitudes, four on reproductive behaviors.

Questions assessing reproductive attitudes included the following:

- 1) If a male gets a female pregnant, is he equally responsible?
- 2) A man should know/ ask about contraception before sex?
- 3) I am not worried about a pregnancy; she can get an abortion?
- 4) If I got a female pregnant, would I feel like a real man?

Responses to these questions were based on a four-point scale. Possible answers were agree a lot, agree a little, disagree a little, and disagree a lot.

Behaviors regarding reproductive habits were assessed by the following questions:

- 1) What is the chance you will experience less pleasure with a condom?

- 2) What is the chance you will avoid getting the acquired immunodeficiency syndrome (AIDS) or a sexually transmitted disease (STD) with condom use?
- 3) What is the chance you will get a female pregnant with condom use?
- 4) What is the chance you will be embarrassed to put on a condom?

Responses related to reproductive behaviors were based on a five-point scale.

Possible answers were no chance, a little chance, 50-50 chance, pretty good chance, and almost certain.

Demographic, and socioeconomic variables which could influence contraceptive habits were included in the analysis and categorized as follows:

- 1) Age: wave 1: 14-19, wave 2: 17-22, and wave 3: 21-27,
- 2) Race: Blacks, Whites, Hispanics, and Others,
- 3) High school diploma: yes or no,
- 4) Number of times legally married: 0,1,2 (waves 2 and 3 only),
- 5) Total household income: <\$10,000, \$10,000-\$20,000, \$20,000-\$30,000, \$30,000-\$40,000, \$40,000-\$50,000, \$50,000-\$60,000, and >\$60,000,
- 6) Anyone in the household received public assistance: yes or no,
- 7) Importance of religion: very important, fairly important, fairly unimportant, and not important at all, and
- 8) Alcohol and tobacco use over the previous year: never, a few times, monthly, weekly, and daily.

Statistical Analysis

Descriptive statistics were used to compare personal and demographic characteristics across each year group. Odds ratios, and their corresponding 95% confidence intervals were used to determine demographic risk factors; p-values, and chi-square tests were included in the demographic analysis. Computations utilizing chi-square and odds ratios were conducted with wave 1 as the reference population. In addition, the chi-

square test was used to determine statistical differences between individual variables across each wave. Frequencies were used to identify data trends between individual variables across each wave. All records with unknown values were excluded from analyses. Computations were conducted using Statistical Program for the Social Sciences (SPSS) or Epi Info software.

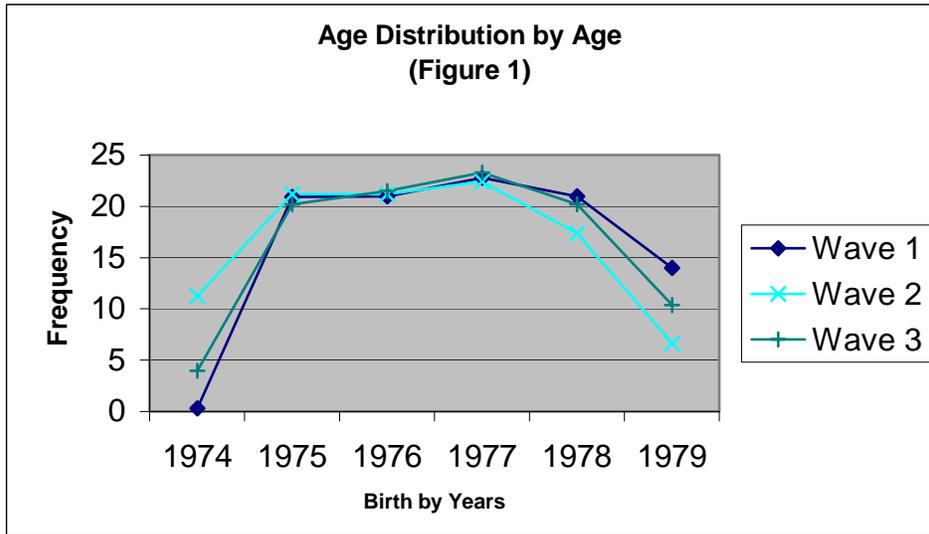
RESULTS

Table 1 lists the personal and demographic characteristics of males in the study population. Analysis included a total of 1,880 males in wave 1, 1,676 re-interviewed males in wave 2, and 1,377 re-interviewed males in wave 3. To ensure that the loss to follow-up did not bias waves 2 and 3, distribution of demographic variables were compared between the three waves.

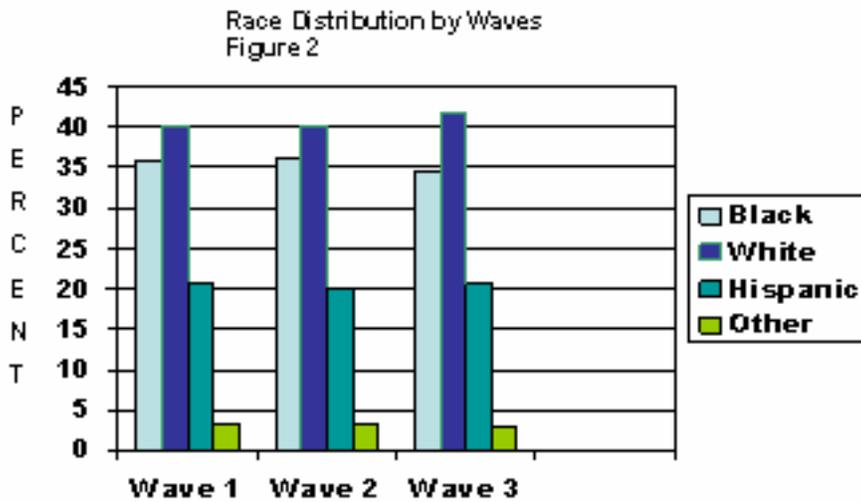
Table 1. Distribution of Personal and Demographic Characteristics by Wave				
	Wave1 (1988)		Wave2 (1990)	Wave 3 (1995)
	N (%)		N (%)	N (%)
Characteristics				
Total Respondents	1879 (100)		1676 (100)	1377 (100)
Mean Age	16.87		19.35	23.68
Age Range	14-19		17-22	21-27
Race				
Black	677 (36)		608 (36.2)	477 (34.6)
White	755 (40.1)		675 (40.2)	573 (41.6)
Hispanic	386 (20.5)		339 (20.2)	286 (20.7)
Other	62 (3.2)		54 (3.2)	41 (2.9)
# of Times Married				
0	NA		103 (93.9)	1016 (73.8)
1	NA		1573 (6.1)	343 (24.9)
2	NA		0	17 (1.2)
High School Diploma/GED				
Yes	345 (20.8)		1054 (63)	1066 (78.6)

No	1163 (77.1)		620 (37)		291 (21.4)
Total Household Income					
<\$10,000	223 (12.7)		195 (11.9)		65 (7)
\$10,000-\$20,000	432 (24.6)		340 (20.8)		199 (21.3)
\$20,000-\$30,000	352 (18.7)		299 (18.3)		181 (19.4)
\$30,000-\$40,000	312 (17.8)		249 (15.3)		150 (16.1)
\$40,000-\$50,000	177 (10.1)		199 (12.2)		104 (11.1)
\$50,000-\$60,000	93 (5.3)		119 (7.3)		71 (7.6)
>\$60,000	165 (8.8)		231 (14.2)		164 (17.6)
Chi-Square/p-value	Reference		35.6/<0.001		61.9/<0.001
Public Assistance					
Yes	436 (23.9)		378 (22.9)		280 (20.4)
No	1391 (76.1)		1275 (77.1)		1085 (79.1)
How Important Religion					
Very Important	811 (43.2)		748 (44.7)		636 (46.3)
Fairly Important	777 (41.4)		649 (38.3)		482 (35.1)
Fairly Unimportant	173 (9.2)		164 (9.8)		146 (7.8)
Not Important At All	116 (6.2)		112 (6.7)		109 (7.9)
Chi-Square/p-value	Reference		2.6/0.45		15/<0.005
Alcohol in the Past Year					
Never	168 (11.6)		101(7.5)		211 (15.9)
A Few Times	801 (55.2)		535 (39.7)		376 (28.3)
Monthly	190 (13.1)		235 (17.4)		193 (10.3)
Weekly	259 (17.9)		427 (31.7)		470 (35.4)
Daily	32 (2.2)		50 (3.7)		78 (5.9)
Chi-Square/p-value	Reference		115.9/<0.001		233.8/<0.001
Smoked Past Year					
Never	301(30.3)		170 (20.8)		703 (52.8)
A Few Times	354 (35.6)		204 (24.9)		214 (16.1)
Monthly	33 (3.3)		29 (3.5)		37 (2.8)
Weekly	45 (2.4)		59 (7.2)		56 (4.2)
Daily	260 (26.2)		356 (43.5)		322 (24.2)
Chi-Square/p-value	Reference		77.7/<0.001		157.4/<0.001

As seen in Figure 1, distribution of age by year of birth was similar in all three waves.



As seen in Figure 2, distribution of race also remained very constant through the three waves.



Blacks comprised between 35-36% of the study population across all three waves, Whites, 40-42%, Hispanics, 20-21%, and Others, 3%. A total of 5.5% of wave 2 respondents had been married once, 93.9% had never been married. One-fourth of

wave 3 respondents had been married once, 1.2% twice, and 73.8 % had never been married. Although the number of men acquiring a high school diploma increased with each wave, (21% wave 1, 63% wave 2, and 79% wave 3), almost 1/4th of wave 3 participants lacked a diploma (ages 21-27). The majority of household incomes were between \$10,000-20,000 (21-25%), across each wave followed by \$20,000-\$30,000 (18-19%). One-fourth of wave 1 study participants had at least one household member who had received public assistance in the past year, 23% of wave 2, and 20% of wave 3.

The role of religion among wave 2 respondents (chi-square: 2.6, p-value 0.45) was not significantly different from baseline (wave 1). Wave 3 respondents demonstrated a very significant difference (chi-square: 15, p-value <0.05) when compared with wave 1. This indicates that as the young men became more mature religion played a more important role in their lives. There were significant differences found among waves 2 (chi-square: 115.9, p-value <0.001), and 3 (chi-square: 233.8, p-value <0.001) when compared to wave 1 in terms of alcohol use. This was also demonstrated with tobacco use (wave 2: chi-square, 77.7, p-value <0.001, and wave 3: chi-square, 157.4, p-value <0.001).

Table 2 shows the attitude of the young men (wave 2, 17-22, and wave 3, 21-27) regarding the likelihood of abortion as a pregnancy resolution by selected demographic characteristics.

Table 2.				
Odds Ratio of Abortion Attitude and Demographic Characteristics				
	Wave2 (1990)		OR (95%CI)	
Not Worried, She Can Get Abortion				
High School Diploma				
Yes	70 (49)	972 (64)	0.6 (0.4-0.8)	
No	73 (51)	546 (36)	1.1 (1.02-1.09)	
Married				
Yes	11 (91.7)	77 (85.6)	1.75 (0.25-12.52)	

No	1 (8.3)	13 (14.4)	0.94 (0.8-1.11)	
Anyone Received Public Assistance				
Yes	46 (32.6)	330 (22)	1.63 (1.17-2.27)	
No	95 (67.4)	1169 (78)	0.95 (0.91-1.00)	
	Wave3 (1995)		OR (95%CI)	
Not Worried, She Can Get Abortion				
High School Diploma				
Yes	68 (63.3)	994 (80.2)	0.5 (0.3-0.6)	
No	39 (36.4)	245 (19.8)	1.1 (1.03-1.14)	
Married				
Yes	15 (14)	275 (21.9)	0.6 (0.36-1.03)	
No	92 (86)	981 (78.1)	1.04 (1.00-1.07)	
Anyone Received Public Assistance				
Yes	20 (18.9)	255 (20.4)	0.91 (0.57-1.46)	
No	86 (81.1)	994 (92.0)	1.01 (.97-1.05)	

Young men ages 17-22, who had earned a high school diploma, were less likely to consider abortion as a viable solution to pregnancy (OR, 0.6., 95% CI, 0.4-0.8) than those who had not earned a high school diploma. This was also demonstrated in wave 3. Young men ages 21-27 were less likely to consider abortion as an option to pregnancy (OR, 0.5, 95% CI, 0.3-0.6) than those who had not yet earned a high school diploma. Respondents in wave 2 with household member(s) on public assistance were 60% more likely to consider abortion as a solution to pregnancy (OR, 1.63, 95% CI, 1.17-2.27) compared to those who did not receive public assistance (OR, 0.95, 95% CI, 0.91-1.00). As respondents became older (wave 3, ages 21-27), there was no association between public assistance and use of abortion as an alternative to pregnancy.

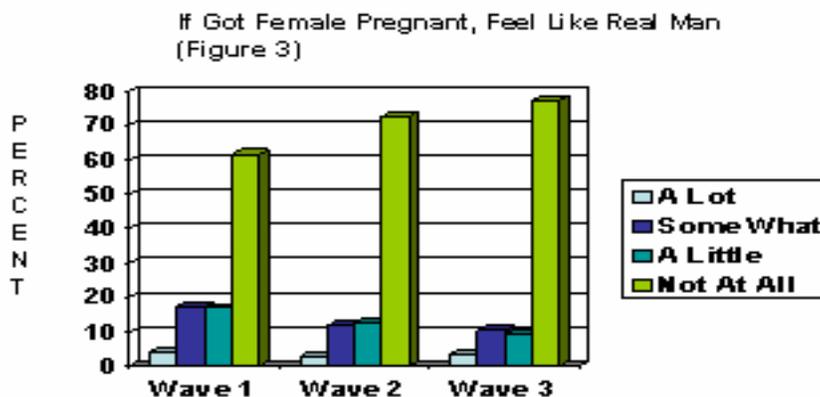
Tables 3-10 compare the contraceptive habits across all three waves. Each table reveals the reproductive attitudes and behaviors of the study population as they

became older. Table 3 shows responses of young men's attitudes regarding pregnancy and their sense of masculinity.

Table 3. Question: "If Got Female Pregnant, Feel Like A Real Man"			
	Wave1 (1988)	Wave2 (1990)	Wave3 (1995)
	N (%)	N (%)	N (%)
Agree a Lot	54 (4)	36 (3)	45 (3)
Agree a Little	224 (17)	152 (12)	133 (10)
Disagree a Little	217 (17)	162 (13)	116 (9)
Disagree a Lot	794 (62)	928 (73)	988 (77)
Total	1289 (100)	1278 (100)	1282 (99)
Chi Square	Reference	35.8/<0.001	75.8/<0.001

The majority of males in each wave felt impregnating a female did not add at all to their sense of masculinity (62% of wave 1 males, 73% of wave 2, and 77% of wave 3)

(Figure 3).

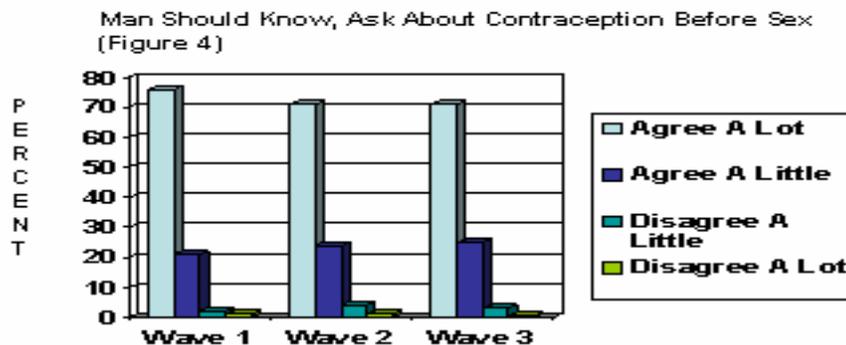


The proportion of males in waves 2 and 3 were less likely to associate a female pregnancy with a sense of increased masculinity. Significant differences were found

among waves 2 (chi-square: 35.8, p-value <0.001) and 3 (chi-square: 75.8, p-value <0.001) when compared with baseline (wave 1).

When asked whether males should ask about contraception before sex, the frequency distribution was similar across all three waves: wave 1, 76%, wave 2, 71%, and wave 3, 71% (Table 4 and Figure 4).

Table 4. Question: "Man Should Know/Ask About Contraception Before Sex"			
	Wave1 (1988)	Wave2 (1990)	Wave 3 (1995)
	N (%)	N (%)	N (%)
Agree A Lot	979 (76)	915 (71)	912 (71)
Agree A Little	270 (21)	307 (24)	321 (25)
Disagree A Little	22 (2)	55 (4)	45 (3)
Disagree A Lot	17 (1)	13 (1)	8 (0.6)
Total	1272 (100)	1290 (100)	1286 (99.6)
Chi Square/p-value	Reference	19.2/<0.001	17.8/<0.001

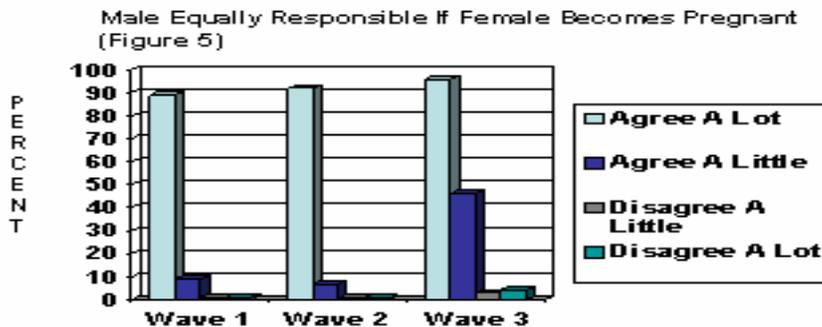


Chi-square computations indicated significant differences between waves 2 and 3 (wave 2, chi-square: 19.2, p-value <0.001, and wave 3, chi-square: 17.8, p-value <0.001) were significantly different. The proportion of males in waves 2 and 3 appeared to have a greater sense of accountability regarding contraceptive knowledge before sex when compared to wave 1.

The majority of respondents across each wave felt a man was equally responsible if his partner became pregnant; wave 1, 89%, wave 2, 92%, and wave 3, 96% (Table 5).

Table 5. Question: "Male Equally Responsible If Female Becomes Pregnant"			
	Wave1 (1988)	Wave2 (1990)	Wave 3 (1995)
	N (%)	N (%)	N (%)
Agree A Lot	1146 (89)	1185 (92)	1233 (96)
Agree A Little	111 (9)	86 (7)	46 (4)
Disagree A Little	19 (1)	10 (0.8)	3 (0.2)
Disagree A Lot	13 (1)	8 (0.6)	4 (0.3)
Total	1289 (100)	1289 (100)	1286 (100)
Chi Square/p-value	Reference	7.77/0.05	46.4/<0.001

Frequency distribution indicated that as the young men became older their sense of responsibility increased (Figure 5).

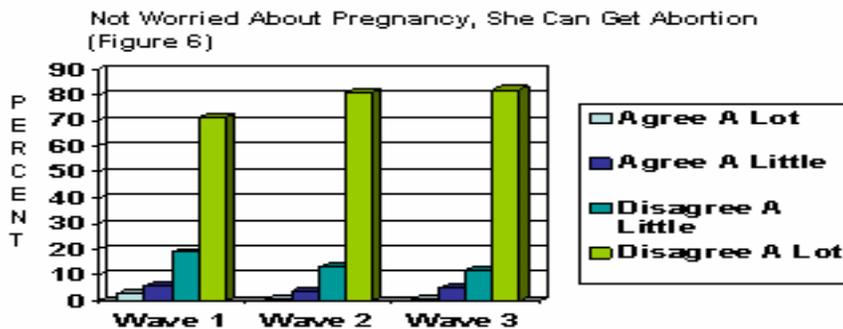


Chi-square computations comparing waves 1 and 2 showed no significant differences, but significant differences were noted between waves 1 and 3 (chi-square: 46.4, p-value <0.001).

Table 6 shows that the majority of the study population did not view abortion as an alternative to pregnancy resolution (wave 1, 71%, wave 2, 81% and wave 3, 82%).

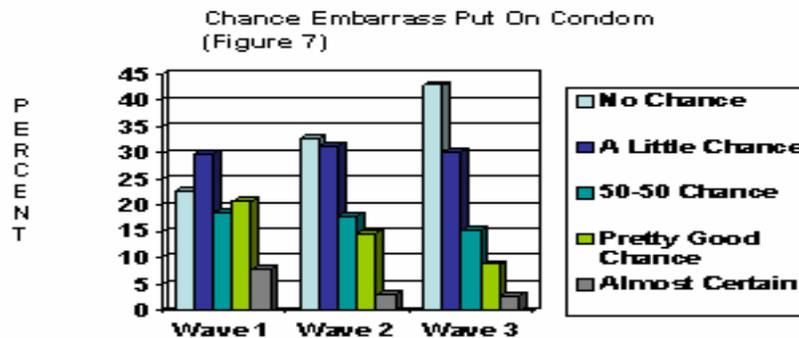
Table 6. Question: "Not Worried About Pregnancy, She Can Get Abortion"			
	Wave1 (1988)	Wave2 (1990)	Wave3 (1995)
	N (%)	N (%)	N (%)
Agree A Lot	35 (3)	13 (1.0)	18 (1)
Agree A Little	83 (6)	56 (4)	60 (5)
Disagree A Little	250 (19)	173 (13)	149 (12)
Disagree A Lot	921 (71)	1038 (81)	1056 (82)
Total	1289 (99)	1280 (99)	1283 (100)
Chi Square/p-value	Reference	36.3/<0.001	43.9/<0.001

The proportion of young men within each wave considered abortion less of an option with each passing year (wave 2 chi-square: 36.3, p-value <0.001, and wave 3 chi-square: 43.9, p-value <0.001) (Figure 6) when compared with wave 1.



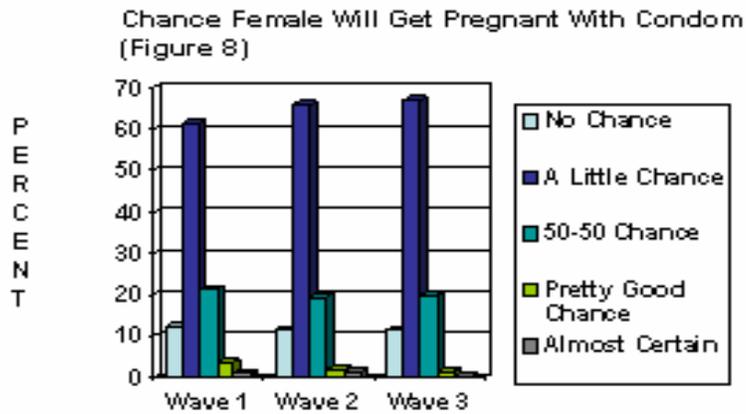
Almost 50% of waves 1-3 respondents indicated there was “a little chance” to a “50-50 chance” they would be embarrassed putting on a condom (Table 7 and Figure 7). Differences among waves 2 and 3 regarding condom use when compared to baseline were significant (wave 2, chi-square: 63, p-value <0.001, and wave 3, chi-square: 176.7, p-value <0.001).

Table 7. Question: "Chance Embarrass Put On Condom"				
		Wave1 (1988)	Wave2 (1990)	Wave3 (1995)
		N (%)	N (%)	N (%)
No Chance		293 (23)	420 (33)	552 (43)
A Little Chance		384 (30)	404 (31)	389 (30)
50-50 Chance		239 (19)	231 (18)	197 (15)
Pretty Good Chance		167 (21)	189 (15)	113 (9)
Almost Certain Chance		101 (8)	40 (3)	36 (3)
Total		1284 (100)	1284 (100)	1287 (100)
Chi Square/p-value		Reference	63/<0.001	176.7/<0.001



A large segment of males felt that there was “a little chance” that a female would get pregnant when a condom was used during sex (wave 1, 61%, wave 2, 66%, and wave 3, 67%) (Table 8). Over 20%, among each wave, felt there was a “50-50 chance” (Figure 8). Differences among waves 2 and 3 compared to baseline were significant (wave 2, chi-square: 10.2, p-value <0.05, and wave 3, chi-square: 21.4, p-value <0.001).

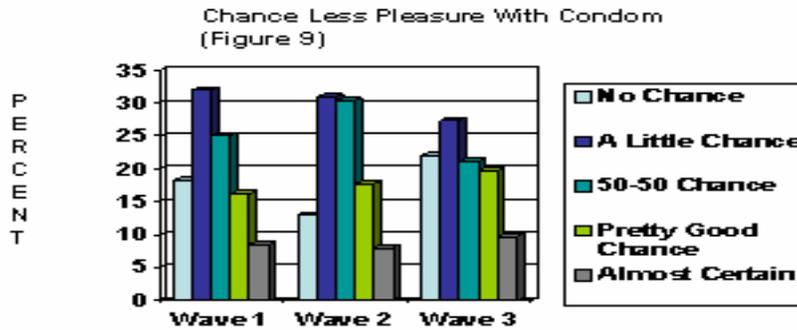
Table 8. Question: "Chance Female Will Get Pregnant With Condom"			
	Wave1 (1988)	Wave2 (1990)	Wave3 (1995)
	N (%)	N (%)	N (%)
No Chance	159 (12)	149 (12)	149 (12)
A Little Chance	792 (61)	845 (66)	863 (67)
50-50 Chance	275 (21)	250 (19)	252 (20)
Pretty Good Chance	47 (4)	25 (2)	21 (2)
Almost Certain Chance	14 (1)	17 (1)	3 (0.2)
Total	1287 (99)	1286 (100)	1288 (100)
Chi Square/p-value	Reference	10.2/<0.05	21.4/<0.001



Almost one-third of wave 1 (32%), 31% of wave 2, and 27% of wave 3 respondents believed there was “a little chance” condom use would reduce pleasure during intercourse (Table 9 and Figure 9).

Table 9. Question: "Chance Less Pleasure With Condom"			
	Wave1 (1988)	Wave2 (1990)	Wave3 (1995)
	N (%)	N (%)	N (%)
No Chance	234 (18)	166 (13)	283 (22)
A Little Chance	411 (32)	397 (31)	352 (27)

50-50 Chance	323 (25)	390 (30)	272 (21)
Pretty Good Chance	209 (16)	228 (18)	254 (20)
Almost Certain Chance	109 (9)	102 (8)	125 (10)
Total	1286 (100)	1283 (100)	1286 (100)
Chi Square/p-value	Reference	19.2/<0.001	19.1/<0.001

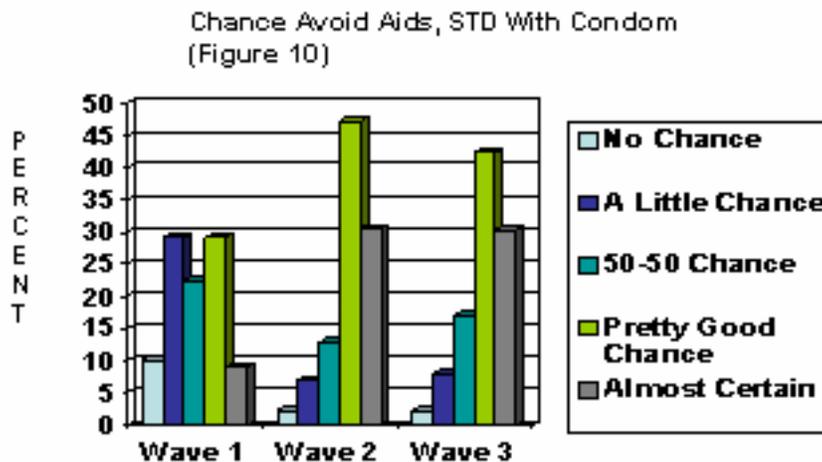


Followed by 25% of wave 1, 30% of wave 2, and 21% of wave 3 participants who believed there was a “50-50 chance” of condom use reducing pleasure during intercourse. Chi-square comparisons of waves 2, and 3 to baseline revealed a significant difference among waves regarding decrease pleasure with condom use (wave 2, chi-square: 19.2, p-value <0.001, wave 3, chi-square: 19.1, p-value 0.001).

Table 10 shows the lack of confidence the study population placed in condoms to assist them in avoiding AIDS and a STD.

Table 10. Question: "Chance Avoid Aids, STD W/Condom"	Wave1 (1988)	Wave2 (1990)	Wave3 (1995)
	N (%)	N (%)	N (%)
No Chance	132 (10)	31 (2)	31 (2)
A Little Chance	375 (29)	90 (7)	102 (8)
50-50 Chance	289 (22)	166 (13)	217 (17)
Pretty Good Chance	375 (29)	608 (47)	546 (42)
Almost Certain Chance	116 (9)	393 (31)	391 (30)
Total	1287 (99)	1288 (100)	1287 (99)
Chi Square/p-value	Reference	476.5/<0.001	410.0/<0.001

Among wave 1 subjects, only 29% felt they had a “pretty good chance” to avoid AIDS/STD if a condom was worn (Figure 10).



This proportion increased significantly, but still remained less than half of the respondents in waves 2 and 3 who felt they had a “pretty good” chance to avoid AIDS/STD with condom use. Chi-square comparisons of waves 2 and 3 to baseline revealed a significant difference among waves regarding condom use and the avoidance of AIDS/STD (wave 2, chi-square: 476.5, p-value <0.001, wave 3, chi-square: 409.98, p-value <0.001).

DISCUSSION AND CONCLUSION

The findings in this study may have important implications for developing strategies that target young men in teen pregnancy prevention. Analysis of reproductive attitudes of young men revealed that the majority of respondents in waves 2 and 3 believed the male equally responsible if their partner became pregnant (92% vs. 96%). These young

men also believed the male should ask about contraception before being intimate (71%, waves 2 and 3), but less so when compared with baseline (76%). In addition, only 3% (wave 2) to 4% (wave 3) felt they would feel more like a man if their partners became pregnant. These data were significantly different from wave 1 (baseline) indicating an increased sense of responsibility and accountability among these young men as they aged.

However, contraceptive habits of the young men in waves 2 and 3 indicated otherwise. Almost 50% of males ages 17-22 (wave 1) and 21-27 (wave 2) believed there was “a little chance” to a “50-50 chance” that they would feel embarrassed to put on a condom. The majority of young men in wave 2 (61%), and approximately half (48%) of young men in wave 3 felt there was “a little chance” to a “50-50 chance” that condom use would reduce their sexual pleasure. Certainty of the benefits of condoms to prevent pregnancy was ambiguous. Only 12% of waves 2 and 3 respondents, felt condoms would prevent a pregnancy. In addition, less than 50% of waves 2 and 3 felt they had a “pretty good chance” to avoid a STD/AIDS if a condom was used. Wilson et al. found a similar disconnection between the discussion of sex prior to sex and actual condom use. They determined that communication with partners about sex prior to intercourse does not increase the likelihood of condom use. However, if contraceptives are specifically discussed prior to sex, it could increase the likelihood of condom use.

Educational attainment and receipt of public assistance were identified as demographic variables that were relevant in predicting abortion as a resolution to pregnancy. Marital status had little impact on abortion attitude. A higher proportion of young men in waves 2, and 3, with a high school education felt abortion was not an appropriate resolution to pregnancy. Young men who had not obtained a high school diploma were more likely to feel abortion was an alternative. Young men (wave 2 only) living in homes that received governmental support, also showed a higher tendency to

feel abortion was an acceptable resolution to pregnancy. Holmberg et al. demonstrated similar results among young men ages 15-26, finding that psychosocial reasons, such as lack of economic means, incomplete educational attainment, and ambivalence toward fatherhood, influenced attitudes about abortion (21).

Targeted Education

This study demonstrates the importance of considering young men's reproductive attitudes and behaviors in intervention efforts to reduce teen pregnancy rates. These results indicate that although the cohort was more cognizant of reproductive responsibility as they matured, steps are still needed to address behavioral changes. Feelings of embarrassment, lack of pleasure associated with condom use, and decreased confidence in the ability of a condom to prevent a pregnancy or STD/AIDS could possibly be related to inconsistent contraceptive use.

Ideally, education should begin early. Early educational implementation provides the health educator with a readily available target audience. School programs should target at risk young men in high school. Two at risk variables to consider are educational attainment and socioeconomic status. In addition, curriculum must be culturally sensitive. Each of these factors could have an impact on the perceptions of reproductive attitudes and behaviors. Mentors should be incorporated as part of the curriculum to provide guidance and instruction regarding the male role in preventing teen pregnancy. Young men must have equal access to knowledge and services regarding contraceptives, their efficacy, and how they are utilized.

Research that targets the male in teen pregnancy prevention is negligible. Descriptive studies that examine young men's attitudes and perceptions concerning pregnancy prevention, contraceptive habits and sexual behavior must be updated. From these data, indicators must be developed for utilization in analytical studies. Results of analytical studies can arm the health educator with the necessary tools to

build effective intervention programs. Actions to be taken while research ensues must revolve around a collaborative community effort. Strong community partnerships can serve as a strong catalyst in affecting change.

According to the results of this study, educational efforts must focus on behavioral attitudes about contraceptive use. Young men felt embarrassed about condom use. Young men felt less pleasure with condom use, and young men lacked confidence in the ability of a condom to prevent the transmission of AIDS/STDs. Consistent skill training regarding condom use may be an effective intervention in reducing embarrassment. Instruction on new condom designs that do not detract from sexual pleasure may increase condom use and in turn prevent a pregnancy. Education on the efficacy of condoms in preventing an STD may serve as a motivator for consistent use.

Study Limitations

The NSAM data provides a wealth of information about reproductive attitudes and behaviors of young men 15-27. However, the NSAM is over 10 years old and may not be a true representation of male reproductive characteristics of today. In fact, data similar to the NSAM are non-existent or were conducted in the late eighties or early nineties. Another limitation of the NSAM data is the potential for recall bias.

Participants were asked to recall events from 2-5 years ago. Finally, this study only scratches the surface regarding male reproductive attitudes and behaviors. More research is needed to better understand the male role in teen pregnancy prevention.

REFERENCES

1. Martin JA, Hamilton BE, Sutton PD, Ventura SJ, Menacker F, Munson ML. Births: Final data for 2002. National Vital Statistics Reports; vol52, no 10. Hyattsville, Maryland: National Center for Health Statistics. 2003.
2. The National Campaign to Prevent Teen Pregnancy. Fact Sheet: The Next Challenge: Guarding Against Complacency. Washington, DC. 2004. Available at: www.teenpregnancy.org
3. Coley RL, Chase-Lansdale PL. Adolescent Pregnancy and Parenthood: Recent Evidence and Future Directions. *American Psychologist*. 1998;53:152-166.
4. Meschke LL, Bartholomae S. Examining Adolescent Pregnancy. *Human Development and Family Life Bulletin: A Review of Research and Practice*. 1998;3:1-3. Available at: <http://web.aces.uiuc.edu/familylife/teenparent/>
5. Miller, FC. Impact of Adolescent Pregnancy as We Approach the New Millennium. *Journal of Pediatric and Adolescent Gynecology*. 2000;13:5-8.
6. The National Campaign to Prevent Teen Pregnancy. Fact Sheet: The Next Challenge: Guarding Against Complacency. Washington, DC. 2004. Available at: www.teenpregnancy.org
6. The National Campaign to Prevent Teen Pregnancy. Not
7. Just Another Single Issue: Teen Pregnancy Prevention's Link to Other Critical Social Issues. Washington, DC. 2002. Available at: <http://www.teenpregnancy.org/resources/data/pdf/notjust.pdf>
8. Sonenstein FL, Stewart K, Lindberg LD, Pernas M, Williams S. Involving Males in Preventing Teen Pregnancy. Washington, DC: Urban Institute, 1997
<<http://www.urban.org/Template.cfm?NavMenuID=24&template=/TaggedContent/ViewPublication.cfm&PublicationID=5921>.>
9. Landry DJ, Forrest JD. How Old Are U.S. Fathers? *Family Planning Perspectives*. 1995;27:159-161&165.
10. Just Another Single Issue: Teen Pregnancy Prevention's Link to Other Critical Social Issues. Washington, DC. 2002. Available at: <http://www.teenpregnancy.org/resources/data/pdf/notjust.pdf>
11. Child Trends Data Bank. Percentage of Births to Unmarried Women. Washington, DC. 2004. Available at: <http://www.childtrendsdatbank.org/indicators/75UnmarriedBirths.cfm>
12. Millar WJ, Wadhera S. A Perspective on Canadian Teenage Births, 1992-1994: Older men and Younger Women. *Canadian Journal of Public Health*. 1997;88:333-336.
13. Males M, Chew KSY. The Ages of Fathers in California Adolescent Births, 1993. *American Journal of Public Health*. 1996;86:565-568.

14. Darroch JE, Landry DJ, Oslak S. Age Differences Between Sexual Partners in the United States. *Family Planning Perspectives*. 1999;31:160-167.
15. Madison AB, Feldman-Winter L, Finkel M, McAbee GN. Commentary: Consensual Adolescent Sexual Activity With Adult Partners—Conflict Between Confidentiality and Physician Reporting Requirements Under Child Abuse Laws. *Pediatrics*. 2001;107:392-398.
16. Taylor D, Chavez G, Chabra A, Boggess J. Risk Factors for Adult Paternity in Births to Adolescents. *The American College of Obstetricians and Gynecologists*. 1997;89:199-205.
17. Lindberg LD, Sonenstein FL, Ku L, Martinez G. Age Differences Between Minors Who Give Birth and Their Adult Partners. *Family Planning Perspectives*. 1997;29:61-70.
18. Agurcia CA, Rickert VI, Berenson AB, Volk RJ, Wiemann CM. The Behavioral Risks and Life Circumstances of Adolescent Mothers Involved With Older Adult Partners. *Arch Pediatr Adolesc Med*. 2001;155:822-830.
19. Forste R, Morgan J. How relationships of U.S. Men Affect Contraceptive Use and Efforts to Prevent Sexually Transmitted Diseases. *Family Planning Perspectives*. 1998;30:56-62.
20. Grady WR, Klepinger DH, Nelson-Wally A. Contraceptive Characteristics: The Perceptions and Priorities of Men and Women. *Family Planning Perspectives*. 1999;31:168-188.
21. Holmberg LI, Wahlberg V. The Process of Decision-Making on Abortion: A Grounded Theoru Study of Young Men in Sweden. *Journal of Adolescent Health*. 2000;26:230-234.