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HAVE SUBSTANTIALLY IMPROVED
LIFE OUTCOMES

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TEENS WHO MAKE VIRGINITY PLEDGES HAVE SUBSTANTIALLY IMPROVED LIFE OUTCOMES

ROBERT RECTOR, KIRK A. JOHNSON, PH.D., AND JENNIFER MARSHALL

Adolescents who take a virginity pledge have substantially lower levels of sexual activity and better life outcomes when compared with similar adolescents who do not make such a pledge, according to recently released data from the National Longitudinal Study of Adolescent Health (Add Health survey). Specifically, adolescents who make a virginity pledge:

- Are less likely to experience teen pregnancy;
- Are less likely to be sexually active while in high school and as young adults;
- Are less likely to give birth as teens or young adults;
- Are less likely to give birth out of wedlock;
- Are less likely to engage in risky unprotected sex; and
- Will have fewer sexual partners.

In addition, making a virginity pledge is not associated with any long-term negative outcomes. For example, teen pledgers who do become sexually active are not less likely to use contraception.

Data from the National Longitudinal Study of Adolescent Health, which is funded by more

than 17 federal agencies,¹ show that the behavior of adolescents who have made a virginity pledge is significantly different from that of peers who have not made a pledge. Teenage girls who have taken a virginity pledge are one-third less likely to experience a pregnancy before age 18. Girls who are strong pledgers (defined as those who are consistent in reporting a virginity pledge in the succeeding waves of the Add Health survey) are more than 50 percent less likely to have a teen pregnancy than are non-pledgers.

Teens who make a virginity pledge are far less likely to be sexually active during high school years. Nearly two-thirds of teens who have never taken a pledge are sexually active before age 18; by contrast, only 30 percent of teens who consistently report having made a pledge become sexually active before age 18.

Teens who have made a virginity pledge have almost half as many lifetime sexual partners as non-pledgers have. By the time they reach their early twenties, non-pledgers have had, on average, six different sex partners; pledgers, by contrast, have had three.

1. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris and funded by grant P01-HD31921 from the National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 West Franklin Street, Chapel Hill, NC 27516-2524 (addhealth@unc.edu).

Girls who have taken a virginity pledge are one-third less likely to have an out-of-wedlock birth when compared with those who have never taken a pledge. Girls who are strong pledgers (those who are consistent in reporting a virginity pledge in the succeeding waves of the Add Health survey) are half as likely to have an out-of-wedlock birth as are non-pledgers.

Girls who make a virginity pledge also have fewer births overall (both marital and nonmarital) as teens and young adults than do girls who do not make pledges. By the time they reach their early twenties, some 27.2 percent of the young women who have never made a virginity pledge have given birth. By contrast, the overall birth rate of peers who have made a pledge is nearly one-third lower, at 19.8 percent.

Because they are less likely to be sexually active, pledging teens are less likely to engage in unprotected sex, especially unprotected nonmarital sex. For example, 28 percent of non-pledging youth reported engaging in unprotected nonmarital sex during the past year, compared with 22 percent of all pledgers and 17 percent of strong pledgers.

One possible explanation for the differences in behavior between pledgers and non-pledgers is that the two groups differ in important social background factors such as socioeconomic status, race, religiosity, and school performance. It is possible that these background factors—rather than the pledge *per se*—account for the differences in sexual behavior and birth rates.

To investigate this possibility, the authors performed multivariate regression analyses that compared individuals who were identical in relevant background factors. These analyses show that, although the magnitude of the differences was reduced somewhat, differences in the behavior of

pledging and non-pledging teens persisted even when background factors such as socioeconomic status, race, religiosity, and other relevant variables were held constant.

Overall, making a virginity pledge is strongly associated with a wide array of positive behaviors and outcomes while having no negative effects.² The findings presented in this paper strongly suggest that virginity pledge and similar abstinence education programs have the potential to substantially reduce teen sexual activity, teen pregnancy, and out-of-wedlock childbearing.

BACKGROUND

For more than a decade, organizations such as True Love Waits³ have encouraged young people to abstain from sexual activity. As part of these programs, young people are encouraged to take a verbal or written pledge to abstain from sex until marriage. In recent years, increased public policy attention has been focused on adolescents who take these “virginity pledges” as policymakers seek to assess the social and behavioral outcomes of such abstinence programs.

One major source of data on teens who have made virginity pledges is the National Longitudinal Study of Adolescent Health, funded by the Department of Health and Human Services and other federal agencies. The Add Health survey started with interviews of junior-high and high-school-aged students in 1994. In that year, and in subsequent interviews, adolescents were asked whether they had ever taken a virginity pledge. The students were tracked through high school and into early adulthood. By 2001, most of the youth in the survey were between the ages of 19 and 25—old enough to evaluate the relationship between pledging as teens and a variety of social outcomes.

2. A recent study using Add Health data concluded that teens who did not make virginity pledges were no more likely to experience infection with a sexually transmitted disease (STD) when compared with teens who did pledge. See Lawrence K. Altman, “Study Finds That Teenage Virginity Pledges Are Rarely Kept,” *The New York Times*, March 10, 2004. This is an unusual finding, given that teens who make pledges are less likely to be sexually active, have fewer sexual partners, have fewer years of sexual experience, and are as likely to use contraception as are non-pledging teens. In fact, the Add Health data show that pledging teens do have lower rates of STD infection than non-pledgers, but the base rates for all groups are so low that the differences are not statistically significant. The difficulty lies in the way the Add Health survey measures STD infection; the survey does not measure whether a teen has ever been infected by an STD, but simply whether the teen is currently infected with three specific diseases. The low rates of infection that were found greatly reduce the usefulness of this variable in analysis.
3. True Love Waits is an international campaign that challenges teenagers and college students to remain sexually abstinent until marriage. See http://www.lifeway.com/tlw/ldr_faq_home.asp.

As noted, the Add Health survey is longitudinal, which means that it surveys the same group of adolescents repeatedly over time. Interviews were conducted in three succeeding years: Wave I in 1994, Wave II in 1995, and Wave III in 2001. In each of these years, individuals were asked the question: “Have you ever signed a pledge to abstain from sex until marriage?” We have grouped the Add Health youth into four categories based on their responses to this repeated question.⁴

- **Non-pledgers.** These individuals answered that they had not taken a virginity pledge in each of the three waves of the survey.⁵
- **Pledgers.** These individuals responded in at least one wave of the survey that they had made a virginity pledge.
- **Strong pledgers.** These individuals form a subset of the general pledger group; they affirmed in at least one wave of the survey that they had made a pledge and did not provide contradictory data in any subsequent wave. For example, they may have reported that they had “ever taken a virginity pledge” in Waves I, II, and III; in Waves II and III; or only in Wave III. The deciding factor for placement in this category was that the respondents’ answers were consistent; once they had reported that they had “ever taken a pledge,” they did not subsequently report that they had not taken a pledge.
- **Weak pledgers.** These individuals form a second subset of the pledger group. These respondents reported in at least one wave of the survey that they had “ever taken a virginity

Teen Pregnancy (Females Only)				
	Non-Pledgers	All Pledgers	Strong Pledgers	Weak Pledgers
Percent with Pregnancy Before 18th Birthday	9.70%	6.50%	4.30%	8.10%

Source: National Longitudinal Study of Adolescent Health.

pledge,” but their responses were inconsistent; on a subsequent wave, they reported that they had not taken a pledge. Either these individuals ignored or forgot their previous response that they had made a pledge, or they interpreted the question differently in later years.

All adolescents were first placed in either the non-pledger or pledger category. All pledgers were subsequently placed in the weak or strong pledge categories. The four pledge categories are used throughout this paper to measure the behavioral correlates of pledging.

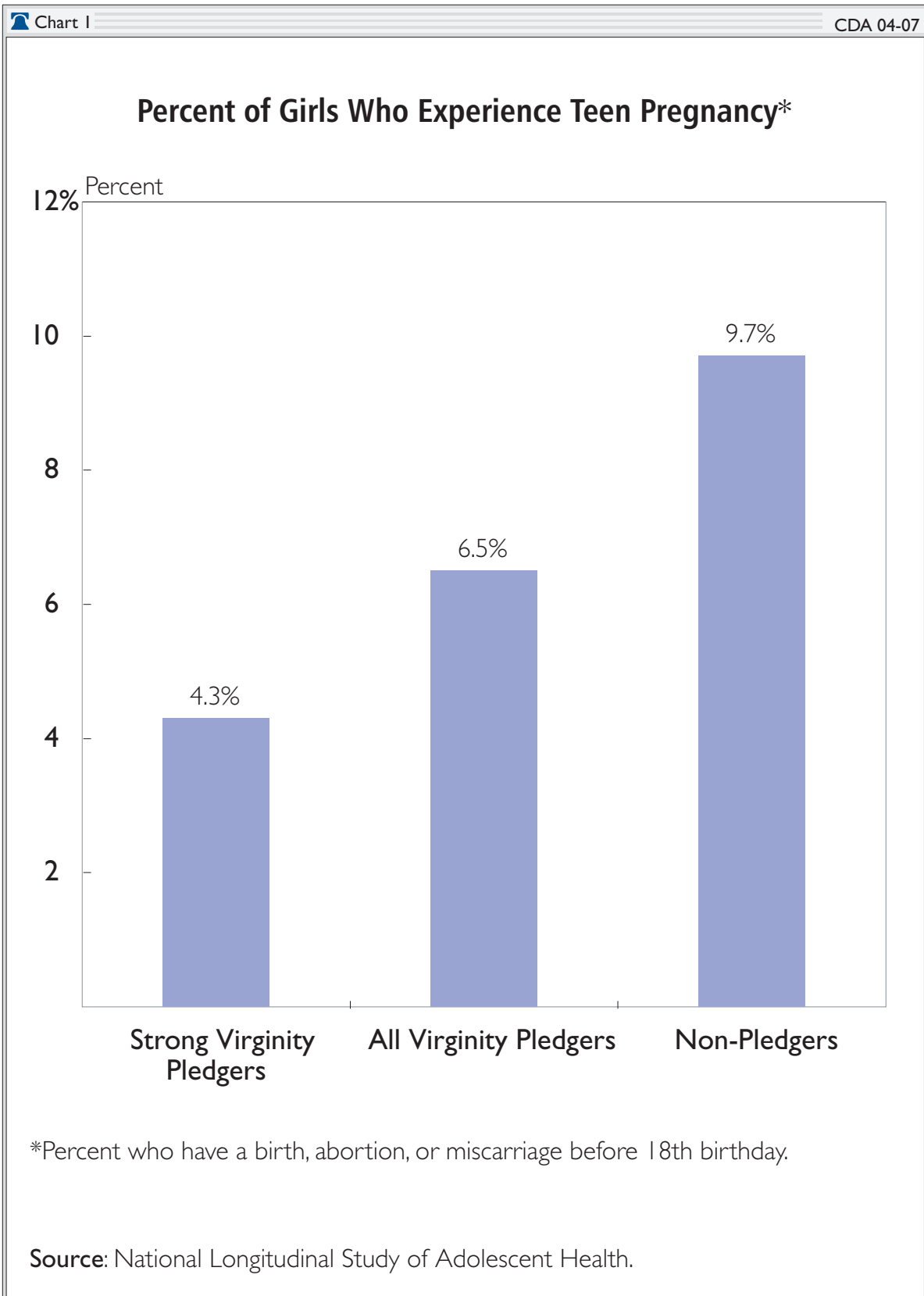
VIRGINITY PLEDGERS ARE LESS LIKELY TO EXPERIENCE TEEN PREGNANCY

The Add Health survey data show that girls who have made a virginity pledge are substantially less likely to experience teen pregnancy (to become pregnant before their 18th birthday) when compared with girls who have not made a pledge.⁶ As Table 1 and Chart 1 show, some 6.5 percent of girls who had made a pledge became pregnant before age 18. The figure for girls who had not made a pledge was about 50 percent higher, at 9.7 percent. Among girls who were strong pledgers, the pregnancy rate was lower still: 4.3 percent became pregnant before their 18th birthday—less than half the number among non-pledgers.

4. This typology of pledgers is based on the work of Peter S. Bearman and Hannah Brückner in “Rules, Behaviors, and Networks That Influence STD Prevention Among Adolescents,” a paper presented at the National STD Prevention Conference, held in Philadelphia, Pennsylvania, on March 8–11, 2004.

5. In some cases, individuals failed to answer the pledge question on one or more waves of the survey. An individual who responded negatively to this question in at least one wave and gave no response in the other waves was categorized as a non-pledger.

6. It is difficult to determine dates of pregnancies from the Add Health data. For purposes of this paper, a “teen pregnancy” or “pregnancy before age 18” is defined as having a birth, abortion, or miscarriage before the 18th birthday.



Sexual Activity By Wave III				
	Non-Pledgers	All Pledgers	Strong Pledgers	Weak Pledgers
Ever Had Intercourse	89.92%	74.91%	65.01%	81.22%
Never Had Intercourse	10.08%	25.09%	34.99%	18.78%
Median Age of First Intercourse	16 years, 11 months	18 years, 8 months	19 years, 9 months	18 years, 3 months
Percent Having Intercourse Before Age 18	63.22%	39.25%	30.76%	44.67%
Average Number of Lifetime Sexual Partners	6.1	3.4	2.8	3.8

Source: National Longitudinal Study of Adolescent Health.

VIRGINITY PLEDGERS SUBSTANTIALLY DELAY SEXUAL ACTIVITY AND HAVE FEWER SEX PARTNERS

The Add Health survey data show that teens who have made a virginity pledge are likely to delay substantially the onset of sexual activity, compared with those who have not made a pledge. As Table 2 shows, among non-pledgers, the median age for beginning sexual intercourse was 16 years and 11 months. By contrast, the median age for the onset of sexual activity among all pledging teens was 21 months later, at 18 years and 8 months. The delay in the onset of sexual activity was even more pronounced in the strong pledger group; the median age of initial sexual activity among these teens was 19 years and 9 months, or nearly three years later than the non-pledgers.

Polls show that over 90 percent of parents want students taught that they should abstain from sexual activity until they have, at least, finished high school.⁷ Thus, sexual abstinence throughout high school appears to be a minimal value embraced by nearly all parents. The Add

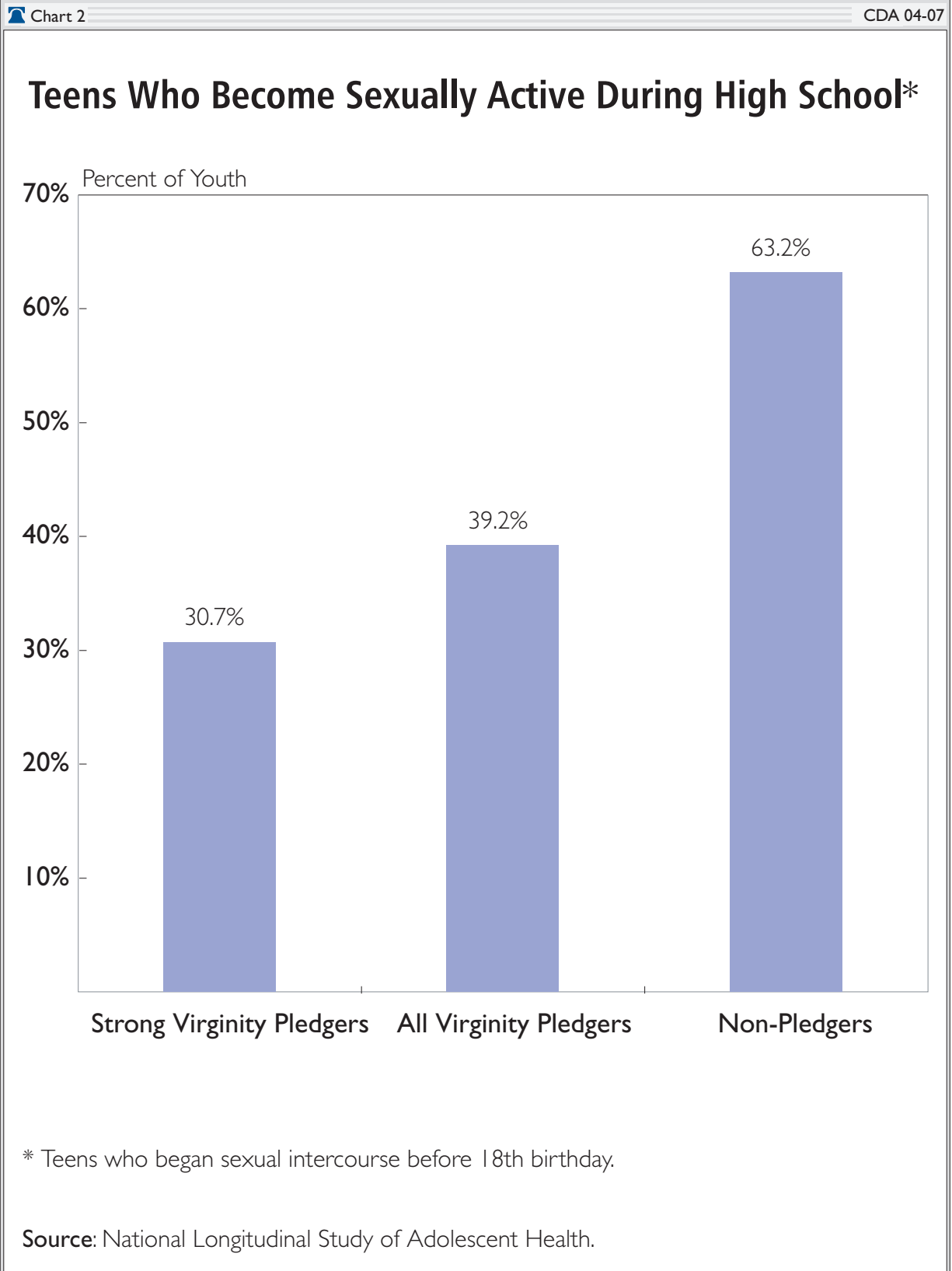
Health data presented in Table 2 show that a strong majority of pledgers do abstain through their high-school years, while an equally large majority of non-pledgers fail to achieve that goal. As Chart 2 shows, more than 60 percent of all teen pledgers and nearly 70 percent of strong pledgers abstain from sexual intercourse until at least their 18th birthday. By contrast, only 37 percent of non-pledgers abstain until that age. Pledging is

clearly linked to reduced sexual activity during the high-school years.

Delay in initial sexual activity is linked to a number of other positive outcomes, particularly to a reduction in the number of sex partners during one's lifetime. Table 2 and Chart 3 show that teens who have made a virginity pledge report significantly fewer sex partners. Non-pledgers reported having, on average, 6.1 sex partners by the time they reached Wave III of the survey. Among pledgers, the average number of sexual partners was cut roughly in half: 3.4 for all pledgers and 2.8 for strong pledgers.⁸

Other surveys confirm the long-term linkage between early onset of sexual activity and high numbers of sex partners over a lifetime. This linkage persists into adulthood; for example, women who become sexually active in their early teen years are less likely to have stable marriages in their thirties when compared with women who wait.⁹ Thus, the relative differences in numbers of sexual partners between pledgers and non-pledgers at the present time are likely to continue through the individuals' adult lives.

7. Robert E. Rector, Melissa G. Pardue, and Shannan Martin, "What Do Parents Want Taught in Sex Education Programs?" Heritage Foundation *Background* No. 1722, January 28, 2004.
8. Pledgers who become sexually active also have somewhat lower sex partner turnover rates; that is, they have fewer sex partners per year of sexual activity.
9. See, for example, Robert E. Rector, Kirk A. Johnson, Ph.D., Lauren R. Noyes, and Shannan Martin, *The Harmful Effects of Early Sexual Activity and Multiple Sexual Partners Among Women: A Book of Charts*, The Heritage Foundation, June 26, 2003, at new.heritage.org/Research/Family/abstinence_Charts.cfm.



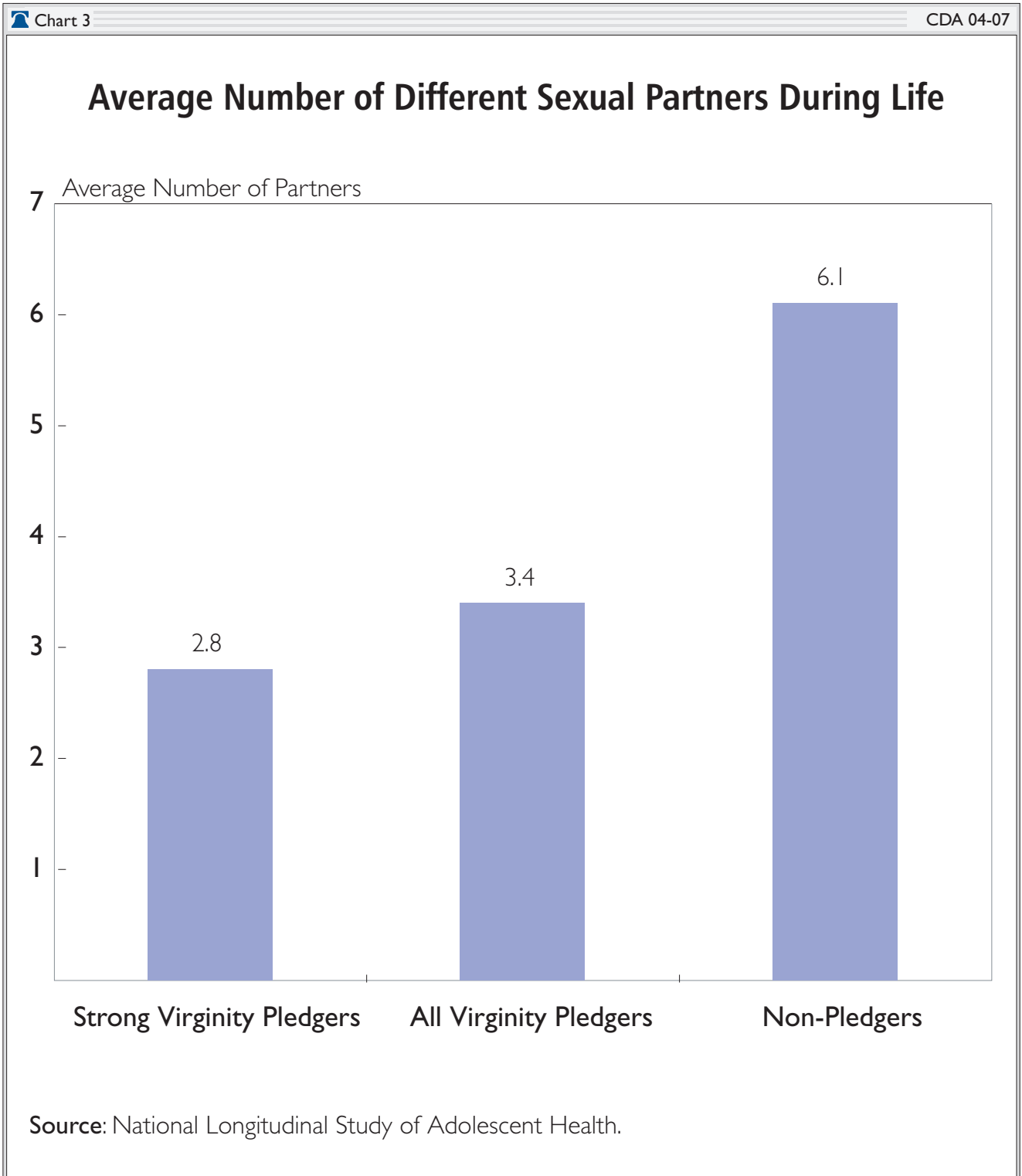


Table 3 CDA 04-07

**Births, Out-of-Wedlock Births, and Abortions
(Females Only)**

	Non-Pledgers	All Pledgers	Strong Pledgers	Weak Pledgers
Births				
Women Who Have Ever Given Birth	27.25%	19.84%	18.60%	20.71%
Births per 1,000 Women	389.6	271.5	246.5	289.2
Girls Who Gave Birth Under Age 18	3.80%	2.40%	1.80%	2.80%
Out-of-Wedlock Births				
Women Who Have Ever Given Birth Out of Wedlock	20.62%	13.09%	10.82%	14.69%
Out-of-Wedlock Births per 1,000 Women	275.1	174.2	136.1	201.2
Percent of Births Which Were Out-of-Wedlock	70.61%	64.17%	55.21%	69.58%
Abortions				
Women Who Have Ever Had an Abortion	7.82%	5.68%	4.21%	6.73%

Source: National Longitudinal Study of Adolescent Health, WAVE III data.

As Table 3 shows, girls who make a virginity pledge are less likely to give birth before their 18th birthday. Some 1.8 percent of the strong pledgers surveyed had given birth before 18; the rate for non-pledging girls was twice as high, at 3.8 percent.

By the time they reach their early twenties, non-pledging young women remain far more likely to have become pregnant and to have given birth than are peers who have made a pledge. Table 3 shows that, by the time of the Wave III survey, some 27.2 percent of non-pledging girls had given birth to at least one child. By contrast, about one-third fewer (19.8 percent) of the girls who “had ever made a pledge” had given birth.

The contrast in out-of-wedlock childbearing is even stronger. As Chart 4 shows, by Wave III of the survey in 2001, 20.6 percent of non-pledging girls had given birth out of wedlock. The rate of out-of-wedlock births among strong pledgers was nearly 50 percent lower, at 10.8 percent.

Out-of-wedlock childbearing has major long-term negative effects on mothers and children. Although some pledgers did experience this problem, as a whole, teens who made pledges were much more likely to avoid this pitfall. Moreover, the lower rate of out-of-wedlock childbirth among pledgers was not the result of “shotgun marriages” (marriages that occur after an accidental pregnancy). Teen pledgers were no more likely to have shotgun marriages than were non-pledgers.

Finally, pledgers had fewer abortions than did non-pledgers. The abortion rates were 7.8 percent for non-pledgers, 5.7 percent for all pledgers, and 4.2 percent for strong pledgers. However, given the low rates reported, these differences are not statistically significant.

PLEDGERS ARE LESS LIKELY TO HAVE BIRTHS OUT OF WEDLOCK OR TO GIVE BIRTH AT AN EARLY AGE

Out-of-wedlock childbearing is one of the most important social problems facing our nation. Children born and raised outside marriage are seven times more likely to live in poverty than are children born and raised in intact married families. Children born out of wedlock are five times more likely to be dependent on welfare when compared with those born and raised within wedlock. In addition, children born out of wedlock are more likely to become involved in crime, to have emotional and behavioral problems, to be physically abused, to fail in school, to abuse drugs, and to end up on welfare as adults.¹⁰

The Add Health survey offers the good news that teenage girls who take a virginity pledge are:

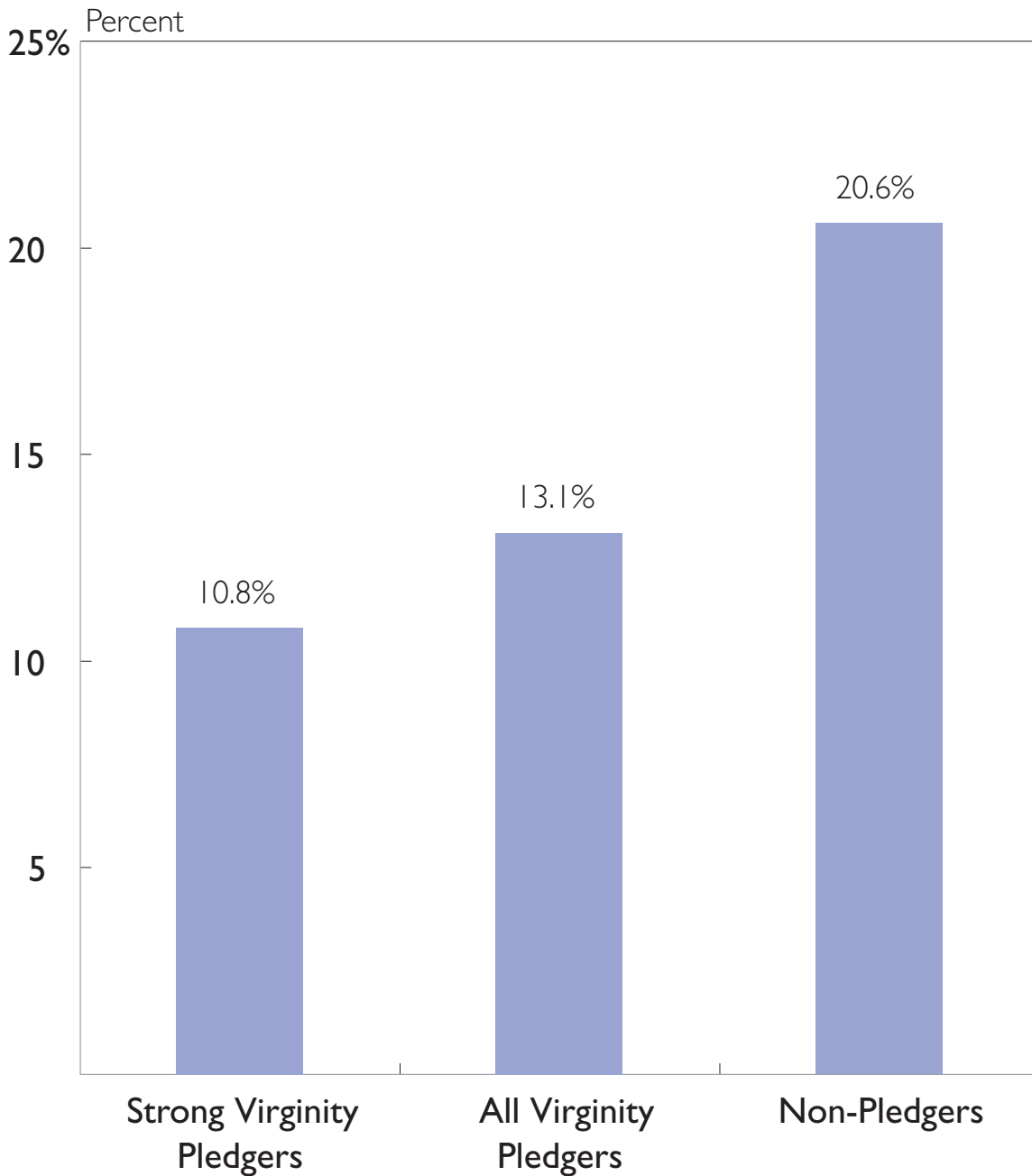
- Substantially less likely to give birth in their teens or early twenties, and
- Less likely to give birth out of wedlock.

10. Patrick F Fagan, Robert E. Rector, Kirk A. Johnson, Ph.D., and America Peterson, *The Positive Effects of Marriage: A Book of Charts*, The Heritage Foundation, April 2002, at www.heritage.org/research/features/marriage/index.cfm.

Chart 4

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Percent of Women Who Have Out-of-Wedlock Births



Source: National Longitudinal Study of Adolescent Health.

Marriage and Sexual Activity				
	Non-Pledgers	All Pledgers	Strong Pledgers	Weak Pledgers
Currently Married	17.40%	18.85%	21.61%	17.02%
Non-Married: No Sex Activity in Last Year	10.85%	27.14%	37.17%	20.48%
Non-Married and Have Had Intercourse in Last year	71.75%	54.01%	41.23%	62.50%
Total	100%	100%	100%	100%
Non-Married Individuals: Percent Sexually Active in Last Year	86.86%	66.56%	52.59%	75.32%

Source: National Longitudinal Study of Adolescent Health.

Unprotected Sexual Activity				
	Non-Pledgers	All Pledgers	Strong Pledgers	Weak Pledgers
Percent of All Individuals Whose Last Sex was Unprotected	28.18%	22.26%	17.18%	25.18%
Percent of Non-Married Individuals Whose Last Sex was Unprotected	24.38%	18.16%	13.20%	21.28%
Percent of Sexually Active Non-Married Individuals Whose Last Sex was Unprotected	28.10%	27.36%	25.17%	28.32%

Source: National Longitudinal Study of Adolescent Health.

PLEDGERS HAVE LOWER LEVELS OF SEXUAL ACTIVITY AS YOUNG ADULTS

Table 4 shows the marital and sexual activity status of the respondents at the time of Wave III of the survey in year 2001. By that time, most of the respondents were young adults, with ages ranging between 19 and 25 and a median age of 22. As the table shows, marriage rates differed little between the pledge categories. Although most pledgers had become sexually active by the time they reached this age, substantial differences in the sexual activity of pledgers and non-pledgers remained. As Chart 5 shows, some 59 percent of strong pledgers were either married or abstaining from sexual activity by

Wave III of the survey. By contrast, only 28 percent of non-pledgers were married or abstaining.

Looking specifically at non-married individuals, as shown in Table 4, some 53 percent of strong pledgers who were not married engaged in sexual activity during the prior year. This rate, while high, is far lower than the 87 percent sexual activity rate among non-married non-pledgers.

PLEDGERS HAVE LOWER RATES OF UNPROTECTED SEXUAL ACTIVITY

Pledgers are significantly less likely than non-pledgers to engage in unprotected sexual activity (i.e., to have intercourse without contraception). While previous reports have suggested that sexually active pledgers are less likely to use contraception than non-pledgers are, examination of the Wave III data of the Add Health survey does not confirm this. In fact, as Table 5 shows, pledgers who are sexually active are slightly more likely to use contraception than are their counterparts among the non-pledging group. However, the difference between the groups is not statistically significant.

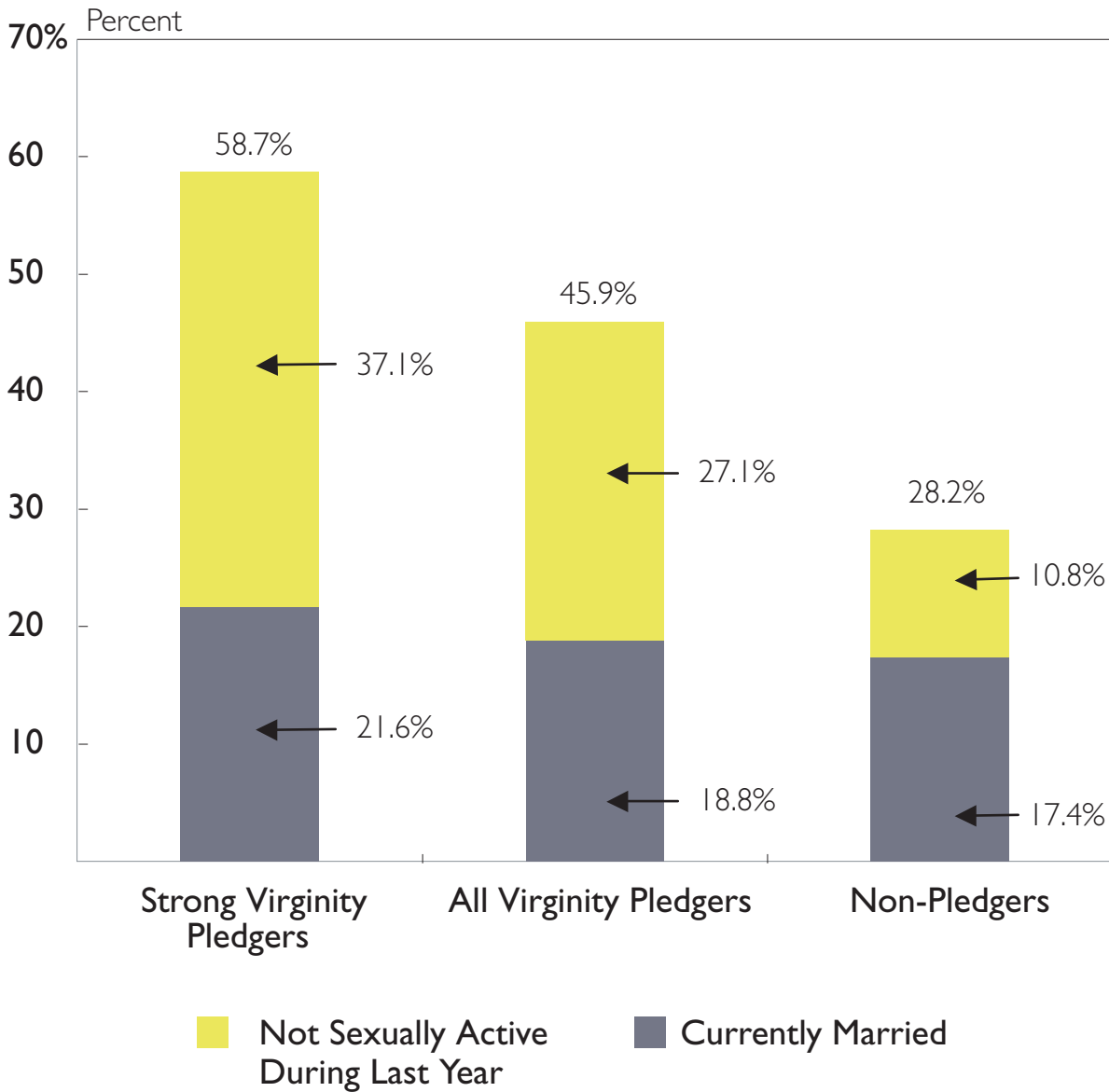
Moreover, examination of sexually active youths presents only part of the picture. As noted previously, pledgers are far more likely to abstain from sexual activity entirely. Thus, when all youths (both those who are sexually active and those who are inactive) are examined, the data show that pledgers are substantially less likely to endanger themselves or others through unprotected sexual activity. As Chart 6 shows, 17.1 percent of strong pledgers reported having engaged in unprotected sex in the last survey year, compared to 28.2 percent of non-pledgers.¹¹ Pledging is linked to a significant reduction in risky behavior.

11. Having unprotected sex is defined as having intercourse and not using contraception at last intercourse.

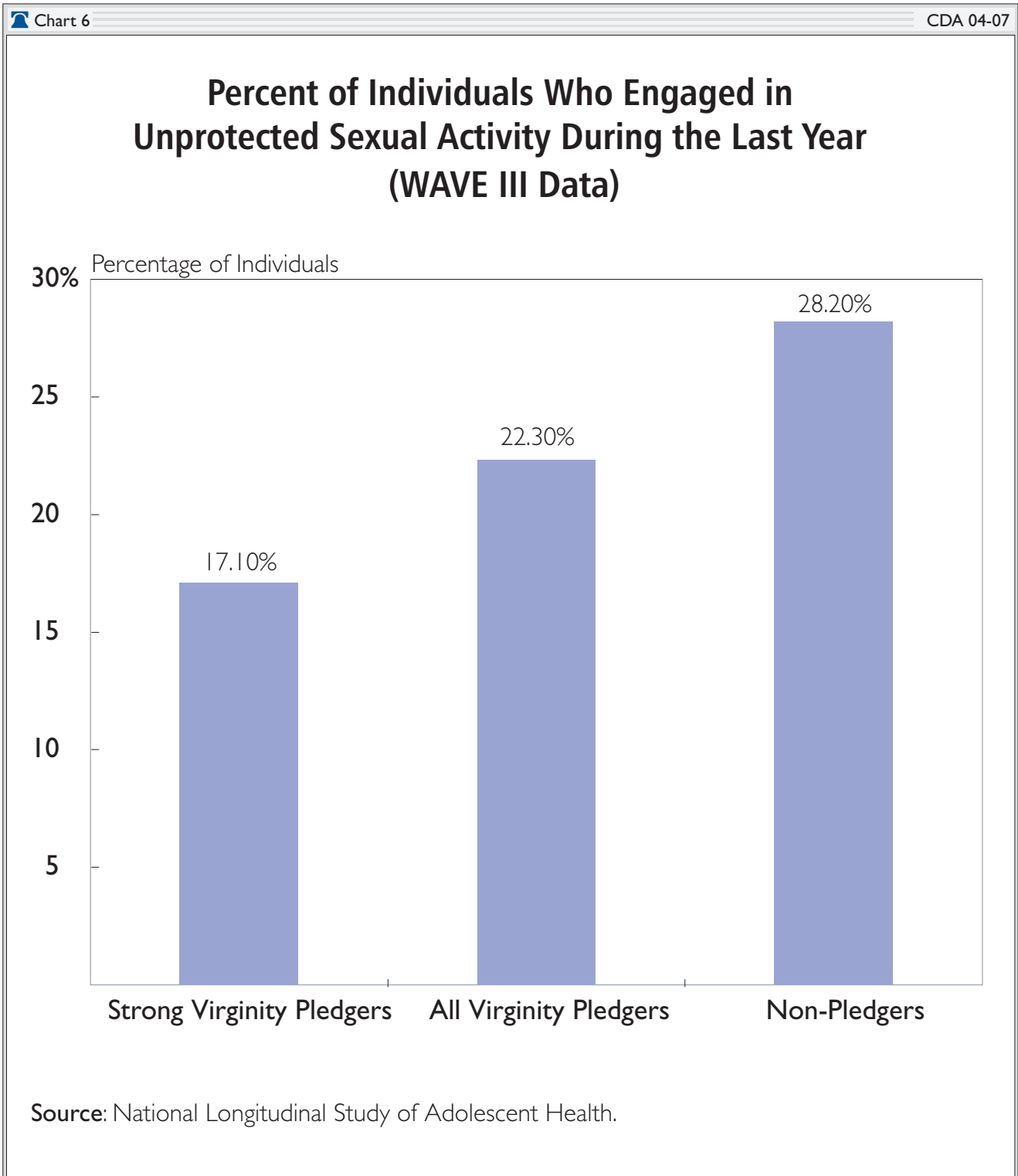
Chart 5

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Marriage and Abstinence Rates: Young Adults at WAVE III



Source: National Longitudinal Study of Adolescent Health.



THE ROLE OF SOCIAL BACKGROUND VARIABLES

Clearly, with regard to a wide range of important behaviors, teens who make virginity pledges differ substantially from those who do not. Pledgers have significantly better life outcomes than do non-pledgers. However, it is possible that the behavior differences between pledgers and non-pledgers are the result of social background factors rather than pledge activity *per se*. For example, on average, teens who make pledges come from more affluent families, do better in school, and are more religious. It could be these social characteristics, rather than pledging *per se*, that lead to improved life outcomes.

To investigate this possibility, we performed a set of multivariate regression analyses that tested the role of pledge activity after holding relevant social background factors constant. In this statistical procedure, teens who made virginity pledges were compared with non-pledging teens who were otherwise identical in social background characteristics.

Independent Variables. The background variables that were included as independent variables in the regression analyses were the following:

- Gender;
- Race;
- Family status (whether or not the teen lived in a single-parent or married family at the time of the initial Add Health survey);
- Family income at the time of the initial survey;
- Religiosity (how important religion is to them, how often they attended religious services, etc.);
- Self-worth and self-esteem, as measured by an index of 11 items;
- School performance, as measured by a student's grade point average in English and math; and
- Age at the time of the Wave III survey.

Dependent or Outcome Variables. Using multivariate regression analysis, we examined the linkages between virginity pledging, social background characteristics, and 10 separate dependent behavioral variables. The dependent variables analyzed were the following:

- Teen pregnancy under age 18;
- Out-of-wedlock childbearing;

- Any child birth;
- Any birth under age 18;
- Sexual intercourse prior to 18th birthday;
- Number of sex partners during lifetime;
- Sexual activity during the last 12 months;
- Non-marital sexual activity during the last 12 months;
- Unprotected sexual activity; and
- Unprotected sexual activity by non-married persons.

For each of the 10 dependent variables, two regression models were tested:

Model One included all the social background variables listed above as independent variables. It also included, as an independent variable, a binary dummy variable measuring pledge status: non-pledgers and all pledgers.

Model Two also included all the social background variables listed above as independent variables. It used, as an independent variable measuring pledge status, a three-part dummy variable: non-pledgers, weak pledgers, and strong pledgers.

Overall, 20 different regression analyses were performed (two models for each dependent variable). The full results of these regressions are presented in the Appendix.

STATISTICAL SIGNIFICANCE OF PLEDGE VARIABLES

The results of the 20 regression analyses are summarized in Table 6. In each case, the default variable is “non-pledgers” (those who never reported making a virginity pledge). A pledge category (i.e., all pledgers, weak pledgers, or strong pledgers) is shown to have a statistically significant effect if it predicts a significant reduction in a dependent variable, compared to the default group of non-pledgers, after holding all other independent variables constant.

For each of the 10 dependent variables, taking a virginity pledge was found to have a statistically significant effect in predicting improved behavioral outcomes. For all dependent variables, the behavior of teens who made virginity pledges was found to be significantly different from that of teens who did not pledge, even after controlling for differences in background factors. In practical terms, this means

that teens who took pledges had significantly better behavioral outcomes when compared with very similar teens who did not pledge.

For example, teens who made virginity pledges were significantly less likely to experience teen pregnancy when compared with non-pledging teens who were otherwise identical with regard to race, family income, religiosity, school performance, and other background factors. Similarly, the regression analyses showed that pledging teens were less likely to begin sexual activity before age 18, less likely to have children out of wedlock, and less likely to have unprotected nonmarital sex than were otherwise identical teens who did not pledge.

PREDICTED BEHAVIORAL OUTCOMES

As Table 6 shows, after holding background variables constant, there are multiple statistically significant linkages between virginity pledging and improved behavior. Although the magnitude of behavioral differences between teens who pledge and those who do not was diminished somewhat when control variables were introduced in the regressions, pledging teens still experienced substantially better outcomes than did non-pledgers. This is shown in Table 7, which uses a representative example to illustrate the impact that taking a virginity pledge has on behavior after controlling for differences in social background characteristics.

Table 7 shows the estimated probability of different behaviors for a representative youth in the Add Health study.¹² (The representative individual is a white woman, age 22, who comes from an intact married family and has median levels of family income, grade point average, self-esteem, and religious observance.) The table shows that:

- Holding all other factors constant, if the woman was a strong pledger, she was two-thirds less likely to become pregnant before age 18 when compared with a similar woman who was a non-pledger. (The rates are 2.6 percent for strong pledgers and 5.9 percent for non-pledgers.)
- With background factors held constant, women who were strong pledgers were found to be 40 percent less likely to have a birth out of wedlock when compared with non-pledgers. (The rates were 9.9 percent for strong pledgers and 14.4 percent for non-pledgers.)

- Similarly, strong pledgers were about 40 percent less likely to have intercourse before age 18 when compared with otherwise identical non-pledging teens.
- Finally, women who were strong pledgers were found to have about one-third fewer sexual partners than were non-pledgers after holding background variables constant.

Although the expected rates of behaviors would differ in comparisons with individuals who had different background characteristics, the proportionate impact of taking a virginity pledge compared with not pledging would remain roughly the same in all cases.

DISCUSSION

The Add Health survey provides a wealth of important data about the sexual behavior of teens and young adults. These data reveal two clear facts about teens and virginity pledges.

- **Fact #1:** Teens who make virginity pledges have far better life outcomes and are far less likely to engage in risky sexual behavior when compared with teens who do not pledge. In general, teens who make virginity pledges are much less likely to become sexually active while in high school, to experience a teen pregnancy, and to have children out of wedlock. Compared with non-pledgers, teens who pledge have substantially fewer sex partners and are less likely to engage in unprotected sexual activity.
- **Fact #2:** The behavioral differences between pledging and non-pledging teens cannot be explained by differences in social background characteristics such as race, family income, and religiosity. Holding social factors constant, taking a virginity pledge is independently correlated with a broad array of positive behaviors and life outcomes.

Overall, the evidence concerning the positive effects of virginity pledges is extremely strong. Nevertheless, skeptics might argue that the simple fact that teens who make virginity pledges have substantially improved behaviors does not prove that virginity pledge programs themselves have a positive impact on behavior. It is conceivable that participating in a virginity pledge program and taking a pledge merely reinforce pro-abstinence

12. A similar table showing the expected outcomes with binary pledge categories is included in the Appendix.

Table 6				CDA 04-07		
Statistical Significance of Pledge Variables						
Dependent Variables	Independent Variables					
	Binary: All Pledgers	Tripartite: Weak Pledgers	Tripartite: Strong Pledgers			
Reduction in Teen Pregnancy Under Age 18	Yes ✓ ✓ ✓	Yes ✓ ✓	Yes ✓ ✓			
Reduction in Percentage with Out-of-Wedlock Birth	Yes ✓ ✓	Yes ✓ ✓	Yes ✓			
Reduction in All Births	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓	No			
Reduction in Births Under Age 18	Yes ✓ ✓	Yes ✓ ✓	No			
Reduction in Sexual Activity Under Age 18	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓			
Reduction in Number of Lifetime Sexual Partners	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓			
Reduction in Percent Sexually Active in Last 12 Months	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓			
Reduction in Non-Married Persons Who Had Sex in Last 12 Months	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓	Yes ✓ ✓ ✓			
Reduction in Unmarried Persons Who Engaged in Unprotected Sexual Activity	Yes ✓ ✓	No	Yes ✓ ✓ ✓			
Reduction in Persons Who Engaged in Unprotected Sexual Activity	Yes ✓ ✓	No	Yes ✓ ✓			
<p> ✓ = Statistically Significant at the 90% Confidence Level ✓ ✓ = Statistically Significant at the 95% Confidence Level ✓ ✓ ✓ = Statistically Significant at the 99% Confidence Level </p>						
<p> Note: The three pledge categories (all pledgers, weak pledgers, strong pledgers) were compared to the default condition of "non-pledger." A pledge variable was found to be statistically significant if it successfully predicted different outcomes when compared to the default group of "non-pledgers" after holding all other independent variables constant. </p>						
<p> Source: National Longitudinal Study of Adolescent Health. </p>						

Table 7		CDA 04-07		
Probable Life Outcomes After Controlling for Background Variables: Three Pledge Categories*				
Dependent Variables	Predicted Probability by Pledge Categories			
	Non-Pledgers	Weak Pledgers	Strong Pledgers	
Probability of Pregnancy Under Age 18	5.9%	3.8%	2.6%	
Probability of Out-of-Wedlock Birth	14.4%	11.0%	9.9%	
Probability of Any Birth	23.7%	16.8%	20.3%	
Probability of Any Birth Under Age 18	3.2%	1.8%	1.7%	
Probability of Having Sex Under Age 18	64.2%	48.8%	38.2%	
Probable Number of Sexual Partners	5.1	3.8	3.3	
Probability: Had Sex in Last 12 Months	91.5%	85.2%	74.1%	
Probability: Had Sex in Last 12 Months (Unmarried Persons Only)	88.3%	79.6%	62.6%	
Probability of Unprotected Sex Activity, Unmarried Persons	13.2%	11.2%	8.4%	
Probability of Unprotected Sex Activity, All Persons	24.9%	22.5%	18.7%	
<p>* The model shows the expected probabilities for a white female from an intact family, with average scores on grade point average, self-esteem, age, religiosity, and family income.</p>				
<p>Source: National Longitudinal Study of Adolescent Health.</p>				

decisions that the teen would have made without the program or pledge. From this perspective, virginity pledge programs may be a redundant “fifth wheel” that has no effect, rather than an operative factor leading to less risk-related behavior.

Given the limitations of the Add Health data, it is impossible to fully disprove this type of skepticism. Nonetheless, such an argument goes against common sense. Teens do not make decisions about sexual values in a vacuum. A decision to abstain and delay sexual activity does not emerge in a teen’s mind *ex nihilo*, but rather will reflect the sexual values and messages that society communicates to the adolescent.

Regrettably, teens today live in a sex-saturated popular culture that celebrates casual sex at an early age. To practice abstinence, teens must resist pressure from peers and the media, in addition to controlling physical desire. It seems implausible to expect teens to abstain from sexual activity in the absence of social institutions (such as virginity pledge programs) that teach strong abstinence values. Similarly, it seems implausible that programs that teach clear abstinence values will have no influence on behavior, even among teens who embrace those values.

Since decisions to practice abstinence do not emerge in a vacuum, it seems very likely that the messages in virginity pledge programs contribute to positive behavior among youth. Participation in virginity pledge programs encourages youth to make pro-abstinence choices, and publicly taking an abstinence pledge reinforces teens’ commitment to this decision and helps them to stick with the abstinence lifestyle.

The bottom line is simple: Teens who participate in virginity pledge programs and respond affirmatively to the messages in the program are far less likely to engage in risky behaviors and will have far better life outcomes than those who do not. Consequently, it would be best to expose teens to more, rather than fewer, pro-abstinence messages.

CONCLUSION

Teens who make virginity pledges promise to remain virgins until marriage. While many pledg-

ers fail to meet that goal, as a group, teens who make virginity pledges have substantially improved behaviors compared with non-pledgers. Teens who make pledges have better life outcomes and are far less likely to engage in risky behaviors. As a whole, teen pledgers will have fewer sexual partners and are less likely to become sexually active in high school. Pledgers are less likely to experience teen pregnancy, less likely to give birth out of wedlock, and less likely to engage in unprotected sexual activity. These positive outcomes are linked to the act of making the pledge itself and are not the result of social background factors.

In addition, there are no negative risky behaviors associated with taking a virginity pledge. For example, pledgers who become sexually active are not less likely to use contraception. Thus, teens have everything to gain and nothing to lose from virginity pledge programs. Such programs appear to have a strong and significant effect in encouraging positive and constructive behavior among youth.

Today’s teens, however, live in sex-saturated culture, and positive influences that counteract the tide of permissiveness are scattered and weak. Relatively few youth are exposed to the affirmative messages coming from virginity pledge programs and similar abstinence education programs. Sadly, despite polls showing that nearly all parents want youth to be taught a strong abstinence message, abstinence education is rare in American schools. While it is true that, bowing to popular pressure, most current sex education curricula claim that they promote abstinence, in reality, these programs pay little more than lip service to the topic. Most, in fact, are permeated by anti-abstinence themes.¹³

Still, parents continue to support abstinence values and to realize that good abstinence education programs can positively affect youth behavior.¹⁴ It is regrettable that most schools fail to meet either parents’ expectations or students’ needs.

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13. See Shannan Martin, Robert Rector, and Melissa G. Pardue, *Comprehensive Sex Education vs. Authentic Abstinence: A Study in Competing Curricula*, The Heritage Foundation, 2004.

14. Rector *et al.*, “What Do Parents Want Taught?”

TECHNICAL APPENDIX

As noted previously, Add Health is a longitudinal survey that has been fielded three times over the past decade: Wave I in 1994, Wave II in 1995, and Wave III in 2001. Such a survey design allows for the outcomes of groups of interest to be evaluated.

In this paper, we seek to gain insight on the outcomes of those who took a virginity pledge as compared with those who did not. In each of the three successive waves of the surveys, those selected into the “in-home” portion of the survey¹⁵ were asked the following question: “Have you ever signed a pledge to abstain from sex until marriage?” We have grouped the Add Health youth into four categories based on their responses to this repeated question.

- **Non-pledgers.** These individuals answered that they had not taken a virginity pledge in each of the three waves of the survey.¹⁶
- **Pledgers.** These individuals responded that they had made a virginity pledge in at least one wave of the survey. They are then subdivided into the following groups:
 - **Strong pledgers.** These individuals affirmed that they had made a virginity pledge in at least one wave of the survey and did not provide contradictory data in any subsequent wave. For example, they may have reported that they had “ever taken a virginity pledge” in Waves I, II, and III; in Waves II and III; or just in Wave III. The deciding factor was that their answers were consistent; once they had reported that they had “ever taken a pledge,” they did not subsequently report that they had not taken a pledge.
 - **Weak pledgers.** These individuals reported that they had taken a virginity pledge in at least one wave of the survey, but their responses were inconsistent; on a subsequent wave, they reported that they had not taken a pledge. We might speculate as to why the responses were inconsistent; either these individuals ignored or forgot their earlier response that they had made a pledge, or they interpreted the question differently in later years. It is certainly also possible that they may have reneged on their pledge altogether.

All adolescents were first placed in either the non-pledger or pledger category. All pledgers were, in turn, placed in the weak or strong pledge categories. The four categories were used throughout this paper to measure the behavioral effects of pledging.

These pledge categories form the variables of interest in the various logistic regression models presented above. A number of other factors are held constant in these models as well:

- Gender, with females being compared to males.
- Race, with white (non-Hispanic), Hispanic, and other individuals compared to black (non-Hispanic) individuals.
- Family status at Wave I of the Add Health survey. The following categories are constructed for this analysis: intact family (default category, either natural or adoptive); step or cohabitating family; single-parent family; or in some other living arrangement (e.g., foster family, living with grandparents or other relatives).
- Family income at the time of the initial survey, in thousands of dollars.
- Religiosity, measured as an index of three factors: the frequency of religious attendance (without regard to the creed or religious preference therein); the importance of religion (generally); and the frequency of prayer. These factors are averaged together to form a four-point scale, from “not important at all” to “very important” (or “never” to “always”). Atheists, agnostics, and those who report no religion (either organized or otherwise) are assigned the lowest value in the index.

15. Add Health is a school-based “cluster” survey that first sampled some 90,000 adolescents in grades 7–12 in 1994. About 20,000 of those individuals were selected for the in-home survey, although because of attrition over time and refusal, somewhat fewer individuals participated in the three waves of the in-home survey. This analysis deals squarely with the individuals who were administered these in-home questionnaires.

16. In some cases, individuals failed to answer the pledge question on one or more waves of the survey; an individual who responded negatively to this question on at least one wave and gave no response on the other waves was categorized as a non-pledger.

- Self-worth and self-esteem, measured as an index based on the responses given to 11 items. The score on the index may vary between 1 and 5, with 1 corresponding to “strongly disagree” and 5 corresponding to “strongly agree.” The value of 3 represents “neither agree nor disagree.” The index is constructed by averaging the 11 responses, which are asked as follows: “Please tell me if you agree or disagree with each of the following statements.”
 1. “You have a lot of energy.”
 2. “You seldom get sick.”
 3. “When you do get sick, you get better quickly.”
 4. “You are well coordinated.”
 5. “You have a lot of good qualities.”
 6. “You are physically fit.”
 7. “You have a lot to be proud of.”
 8. “You like yourself just the way you are.”
 9. “You feel like you are doing everything just about right.”
 10. “You feel socially accepted.”
 11. “You feel loved and wanted.”
- School performance, as measured by a student’s grade point average in English and math in Wave I.
- Age at the time of the Wave III survey, as calculated by Add Health.
- Out-of-wedlock childbearing (irrespective of age);
- Any childbirth;
- Any birth under age 18;
- Sexual intercourse prior to 18th birthday;
- Number of sexual partners during lifetime (run as an OLS regression model specification);
- Sexual activity during the last 12 months;
- Non-marital sex activity during the last 12 months;
- Unprotected sexual activity among all individuals; and
- Unprotected sexual activity by non-married persons.

The logistic regressions followed the standard format that is described by many statistical texts.¹⁷ Since Add Health employs a complex sample design in the collection of the information, the regression must be properly weighted to account for the design effects of the sample. Failure to do so may lead to biased model parameters and incorrect variance estimates. To correct for this problem, these regressions incorporate the recommendations for conducting a design-based analysis of Add Health.¹⁸

For each dependent variable, two regression models were tested. The first included, as independent variables, all the social background variables listed above plus an independent binary variable measuring pledge status: all pledgers compared to non-pledgers. The second regression model included all the independent background variables plus a three-part independent variable measuring pledge status: non-pledgers (default category); weak pledgers; and strong pledgers. The “non-pledgers” group served as the default condition in each regression. Overall, 20 different regression analyses were performed (two for each dependent variable). The full results of the regressions are presented in the Appendix A tables.

DEPENDENT OR OUTCOME VARIABLES

Using multivariate logistic regression analysis, we examined the linkages between virginity pledging, the social background characteristics described above, and 10 separate dependent behavioral variables. The dependent variables analyzed were:

- Teen pregnancy under age 18, defined as having a birth, abortion, or miscarriage before the 18th birthday;

17. See, for example, Scott Menard, *Applied Logistic Regression Analysis Second Edition*, Sage University Papers on Quantitative Applications in the Social Sciences, No. 07–106 (Thousand Oaks, Cal.: Sage, 2001). A basic description of ordinary least squares (OLS) regression methodology may be found in any standard statistical textbook.

18. Kim Chantala and Joyce Tabor, “Strategies to Perform a Design-Based Analysis Using the Add Health Data,” Carolina Population Center, University of North Carolina at Chapel Hill, June 1999, at www.cpc.unc.edu/projects/addhealth/files/weight1.pdf.

The regressions showed that taking a virginity pledge, in each case, had a statistically significant effect in predicting improved behavioral outcomes. For all 10 dependent variables, the behavior of those who made virginity pledges was found to be significantly different from the behavior of

those who did not pledge even after controlling for differences in background factors. In practical terms, this means that teens who took pledges had significantly better behavioral outcomes when compared to very similar teens who did not.

Regression 1

Dependent Variable: Any Out-of-Wedlock Birth
 Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.1378849	0.0435369	3.17	0.002	***	1.147843426
Strong Pledge	-0.426332	0.2353404	-1.81	0.072	*	0.652899543
Weak Pledge	-0.3104309	0.1527553	-2.03	0.044	**	0.733130982
Race = Black	0.6971592	0.1747623	3.99	0	***	2.008040157
Race = American Indian	1.040032	0.458661	2.27	0.025	**	2.829307551
Race = Asian	-1.319575	0.3700227	-3.57	0.001	***	0.267248859
Race = Hispanic	0.4339923	0.2091504	2.08	0.04	**	1.543406984
Female	1.006392	0.1189951	8.46	0	***	2.735712736
Self-Esteem Index Score	-0.0841354	0.0777119	-1.08	0.281		0.919306774
Income in Thousands of Dollars	-0.012937	0.0027378	-4.73	0	***	0.987146323
Religiosity Index Score	-0.1129046	0.0543566	-2.08	0.04	**	0.893235871
Raised in Step/Cohabiting Family	0.3333548	0.1505551	2.21	0.029	**	1.395642385
Raised in Single Parent Family	0.266806	0.1302647	2.05	0.043	**	1.305787099
Raised in Other Family Type	0.7424402	0.2161748	3.43	0.001	***	2.101056262
Grade Point Average in High School	-0.3561386	0.063902	-5.57	0	***	0.700375541
(constant)	-3.65174	1.040495	-3.51	0.001	***	0.025945944

Regression 2

Dependent Variable: Any Out-of-Wedlock Birth
 Independent Pledge Variables: Any Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.1380062	0.0435382	3.17	0.002	***	1.147982668
Any Pledge	-0.3453202	0.1366957	-2.53	0.013	**	0.707993618
Race = Black	0.7006149	0.1736626	4.03	0	***	2.014991345
Race = American Indian	1.042372	0.4589595	2.27	0.025	**	2.835935883
Race = Asian	-1.316662	0.3705663	-3.55	0.001	***	0.26802849
Race = Hispanic	0.4381653	0.2084223	2.1	0.038	**	1.549861078
Female	1.006817	0.1190921	8.45	0	***	2.736875661
Self-Esteem Index Score	-0.0838814	0.0777468	-1.08	0.283		0.919540307
Income in Thousands of Dollars	-0.0129651	0.0027301	-4.75	0	***	0.987118585
Religiosity Index Score	-0.1147669	0.0539757	-2.13	0.035	**	0.891573946
Raised in Step/Cohabiting Family	0.3339121	0.1506458	2.22	0.028	**	1.396420393
Raised in Single Parent Family	0.2675407	0.1305536	2.05	0.042	**	1.306746813
Raised in Other Family Type	0.7462414	0.2176255	3.43	0.001	***	2.109057995
Grade Point Average in High School	-0.3568624	0.0639073	-5.58	0	***	0.699868793
(constant)	-3.649854	1.039965	-3.51	0.001	***	0.025994924

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Regression 3

Dependent Variable: Any Birth

Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.2205285	0.0302291	7.3	0	***	1.246735456
Strong Pledge	-0.1961347	0.1613509	-1.22	0.226		0.821901517
Weak Pledge	-0.4343457	0.1355382	-3.2	0.002	***	0.647688311
Race = Black	0.2612271	0.1457845	1.79	0.076	*	1.298522526
Race = American Indian	0.7599515	0.3970757	1.91	0.058	*	2.138172517
Race = Asian	-0.9099105	0.3042312	-2.99	0.003	***	0.402560252
Race = Hispanic	0.2669741	0.173743	1.54	0.127		1.30600662
Female	0.9387552	0.0792579	11.84	0	***	2.556796736
Self-Esteem Index Score	-0.1000943	0.0573034	-1.75	0.083	*	0.904752096
Income in Thousands of Dollars	-0.01342	0.0022033	-6.09	0	***	0.986669647
Religiosity Index Score	-0.0455319	0.0445132	-1.02	0.308		0.955489122
Raised in Step/Cohabiting Family	0.2421455	0.1132014	2.14	0.034	**	1.273979543
Raised in Single Parent Family	0.086355	0.0945208	0.91	0.363		1.090193278
Raised in Other Family Type	0.8012579	0.1668917	4.8	0	***	2.228342198
Grade Point Average in High School	-0.3565734	0.0499151	-7.14	0	***	0.700071084
(constant)	-4.895848	0.7492105	-6.53	0	***	0.007477566

Regression 4

Dependent Variable: Any Birth

Independent Pledge Variables: Any Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.2207256	0.0302175	7.3	0	***	1.246981212
Any Pledge	-0.3461933	0.1094978	-3.16	0.002	***	0.707375738
Race = Black	0.2549942	0.1443589	1.77	0.08	*	1.290454136
Race = American Indian	0.7541433	0.3958592	1.91	0.059	*	2.125789579
Race = Asian	-0.9165034	0.3038572	-3.02	0.003	***	0.399914942
Race = Hispanic	0.2581226	0.1733254	1.49	0.139		1.294497514
Female	0.9381267	0.0790872	11.86	0	***	2.555190294
Self-Esteem Index Score	-0.1007926	0.0576731	-1.75	0.083	*	0.904120528
Income in Thousands of Dollars	-0.0133596	0.0021875	-6.11	0	***	0.986729243
Religiosity Index Score	-0.041999	0.0444453	-0.94	0.346		0.958870739
Raised in Step/Cohabiting Family	0.2413466	0.1133608	2.13	0.035	**	1.272962168
Raised in Single Parent Family	0.0856482	0.0945684	0.91	0.367		1.089423002
Raised in Other Family Type	0.7926435	0.1683084	4.71	0	***	2.20922881
Grade Point Average in High School	-0.3550314	0.0499142	-7.11	0	***	0.701151427
(constant)	-4.909614	0.7480619	-6.56	0	***	0.007375335

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

* Statistically significant at the 90 percent level.

** Statistically significant at the 95 percent level.

*** Statistically significant at the 99 percent level.

Regression 5

Dependent Variable: Any Birth Under 18

Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.1693009	0.0739938	-2.29	0.024	**	1.246735456
Strong Pledge	-0.6324609	0.4431261	-1.43	0.156		0.821901517
Weak Pledge	-0.5805042	0.2838126	-2.05	0.043	**	0.647688311
Race = Black	0.8330334	0.2749512	3.03	0.003	***	1.298522526
Race = American Indian	1.612707	0.7908243	2.04	0.043	**	2.138172517
Race = Asian	-2.040656	0.6917227	-2.95	0.004	***	0.402560252
Race = Hispanic	0.59356	0.2733533	2.17	0.032	**	1.30600662
Female	1.378172	0.1743759	7.9	0	***	2.556796736
Self-Esteem Index Score	-0.2439061	0.1393859	-1.75	0.083	*	0.904752096
Income in Thousands of Dollars	-0.0155887	0.0042305	-3.68	0	***	0.986669647
Religiosity Index Score	-0.0380386	0.1235049	-0.31	0.759		0.955489122
Raised in Step/Cohabiting Family	0.2272164	0.2424759	0.94	0.351		1.273979543
Raised in Single Parent Family	0.4989293	0.1805175	2.76	0.007	***	1.090193278
Raised in Other Family Type	1.001747	0.3316061	3.02	0.003	***	2.228342198
Grade Point Average in High School	-0.1756169	0.0817167	-2.15	0.034	**	0.700071084
(constant)	1.12063	2.107233	0.53	0.596		0.007477566

Regression 6

Dependent Variable: Any Birth Under 18

Independent Pledge Variables: Any Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.1692698	0.074033	-2.29	0.024	**	1.246981212
Any Pledge	-0.5964031	0.2489709	-2.4	0.018	**	0.707375738
Race = Black	0.8340781	0.2731622	3.05	0.003	***	1.290454136
Race = American Indian	1.613937	0.7892176	2.04	0.043	**	2.125789579
Race = Asian	-2.039611	0.6920072	-2.95	0.004	***	0.399914942
Race = Hispanic	0.5949691	0.2731578	2.18	0.031	**	1.294497514
Female	1.378452	0.1748017	7.89	0	***	2.555190294
Self-Esteem Index Score	-0.2437557	0.1392424	-1.75	0.082	*	0.904120528
Income in Thousands of Dollars	-0.0156054	0.0042155	-3.7	0	***	0.986729243
Religiosity Index Score	-0.0386661	0.1218575	-0.32	0.752		0.958870739
Raised in Step/Cohabiting Family	0.2273807	0.2423514	0.94	0.35		1.272962168
Raised in Single Parent Family	0.4990091	0.180535	2.76	0.007	***	1.089423002
Raised in Other Family Type	1.003438	0.3334485	3.01	0.003	***	2.20922881
Grade Point Average in High School	-0.1759647	0.0821674	-2.14	0.034	**	0.701151427
(constant)	1.121546	2.106132	0.53	0.595		0.007375335

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Regression 7

Dependent Variable: Any Pregnancy Under 18
 Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.1553486	0.0510116	-3.05	0.003	***	0.856116683
Strong Pledge	-0.8325887	0.3434644	-2.42	0.017	**	0.434921945
Weak Pledge	-0.4492856	0.1910769	-2.35	0.02	**	0.638083836
Race = Black	0.738995	0.2201129	3.36	0.001	***	2.093830157
Race = American Indian	1.185173	0.6910865	1.71	0.089	*	3.271252699
Race = Asian	-0.1876681	0.4974748	-0.38	0.707		0.82888977
Race = Hispanic	0.5675054	0.1904861	2.98	0.003	***	1.76386143
Female	1.190371	0.1266201	9.4	0	***	3.288300941
Self-Esteem Index Score	-0.1857874	0.1162127	-1.6	0.112		0.83045013
Income in Thousands of Dollars	-0.0038809	0.0029279	-1.33	0.187		0.996126621
Religiosity Index Score	-0.0750368	0.0893204	-0.84	0.402		0.927709346
Raised in Step/Cohabiting Family	0.2467177	0.1842893	1.34	0.183		1.279817769
Raised in Single Parent Family	0.4820465	0.1376253	3.5	0.001	***	1.619385085
Raised in Other Family Type	0.7595335	0.2529223	3	0.003	***	2.137278947
Grade Point Average in High School	-0.2809843	0.0717795	-3.91	0	***	0.75504019
(constant)	1.351281	1.453158	0.93	0.354		3.862370059

Regression 8

Dependent Variable: Any Pregnancy Under 18
 Independent Pledge Variables: Any Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.1553184	0.0510378	-3.04	0.003	***	0.856142538
Any Pledge	-0.5631569	0.1660588	-3.39	0.001	***	0.569408657
Race = Black	0.7464516	0.2181395	3.42	0.001	***	2.109501366
Race = American Indian	1.195058	0.689963	1.73	0.086	*	3.303749382
Race = Asian	-0.1793258	0.4990172	-0.36	0.72		0.83583354
Race = Hispanic	0.5777533	0.1884752	3.07	0.003	***	1.782030242
Female	1.191279	0.1270437	9.38	0	***	3.291288074
Self-Esteem Index Score	-0.1848832	0.1159378	-1.59	0.113		0.831201363
Income in Thousands of Dollars	-0.0039303	0.0029613	-1.33	0.187		0.996077414
Religiosity Index Score	-0.079622	0.0877534	-0.91	0.366		0.92346535
Raised in Step/Cohabiting Family	0.2483833	0.1846439	1.35	0.181		1.28195121
Raised in Single Parent Family	0.4832294	0.1379854	3.5	0.001	***	1.621301789
Raised in Other Family Type	0.7716902	0.2543866	3.03	0.003	***	2.163419777
Grade Point Average in High School	-0.2834352	0.0718891	-3.94	0	***	0.753191927
(constant)	1.362042	1.450471	0.94	0.349		3.904157457

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Regression 9

Dependent Variable: Ever Had Sex Under Age 18
 Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.1043076	0.0212725	-4.9	0	***	0.900948123
Strong Pledge	-1.067829	0.1332631	-8.01	0	***	0.343753998
Weak Pledge	-0.6332194	0.0956702	-6.62	0	***	0.530879932
Race = Black	0.3842886	0.1058975	3.63	0	***	1.46856921
Race = American Indian	-0.273902	0.2894312	-0.95	0.346		0.760406591
Race = Asian	-0.6533594	0.1457502	-4.48	0	***	0.520294959
Race = Hispanic	-0.261166	0.1173851	-2.22	0.028	**	0.770153064
Female	0.2329342	0.0669842	3.48	0.001	***	1.262298417
Self-Esteem Index Score	0.0018065	0.0557514	0.03	0.974		1.001808133
Income in Thousands of Dollars	-0.0018766	0.000868	-2.16	0.032	**	0.99812516
Religiosity Index Score	-0.2282995	0.0363133	-6.29	0	***	0.795885856
Raised in Step/Cohabiting Family	0.547635	0.1130662	4.84	0	***	1.729158718
Raised in Single Parent Family	0.384354	0.0897681	4.28	0	***	1.468665257
Raised in Other Family Type	0.4490693	0.1661635	2.7	0.008	***	1.566853236
Grade Point Average in High School	-0.3484936	0.0442313	-7.88	0	***	0.705750432
(constant)	4.330034	0.5976506	7.25	0	***	75.94686872

Regression 10

Dependent Variable: Ever Had Sex Under Age 18
 Independent Pledge Variables: Any Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.1042695	0.02138	-4.88	0	***	0.90098245
Any Pledge	-0.7985074	0.0776813	-10.28	0	***	0.450000133
Race = Black	0.4005481	0.107438	3.73	0	***	1.492642591
Race = American Indian	-0.2605327	0.2904107	-0.9	0.371		0.770640956
Race = Asian	-0.6332712	0.1469642	-4.31	0	***	0.530852433
Race = Hispanic	-0.2421974	0.1166039	-2.08	0.04	**	0.784901223
Female	0.231351	0.0666244	3.47	0.001	***	1.260301528
Self-Esteem Index Score	0.0041952	0.0556253	0.08	0.94		1.004204012
Income in Thousands of Dollars	-0.0018996	0.0008693	-2.19	0.031	**	0.998102203
Religiosity Index Score	-0.2377321	0.035998	-6.6	0	***	0.788413879
Raised in Step/Cohabiting Family	0.5499223	0.1135912	4.84	0	***	1.733118349
Raised in Single Parent Family	0.3865056	0.0896593	4.31	0	***	1.471828639
Raised in Other Family Type	0.468116	0.1686896	2.78	0.006	***	1.596982642
Grade Point Average in High School	-0.3518539	0.044117	-7.98	0	***	0.703382879
(constant)	4.351476	0.5999085	7.25	0	***	77.59290557

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Regression 11

Dependent Variable: Number of Lifetime Sex Partners

Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note
Age at Interview	0.4449832	0.0655276	6.79	0	***
Strong Pledge	-1.870788	0.2943176	-6.36	0	***
Weak Pledge	-1.34567	0.2509428	-5.36	0	***
Race = Black	0.8161261	0.4521732	1.8	0.073	*
Race = American Indian	0.4118535	1.116191	0.37	0.713	
Race = Asian	-2.013272	0.2992937	-6.73	0	***
Race = Hispanic	-0.6345594	0.3166149	-2	0.047	**
Female	-0.7710662	0.1925105	-4.01	0	***
Self-Esteem Index Score	0.2572763	0.1706204	1.51	0.134	
Income in Thousands of Dollars	0.0017206	0.0020778	0.83	0.409	
Religiosity Index Score	-0.5007862	0.1036872	-4.83	0	***
Raised in Step/Cohabiting Family	1.643741	0.5657019	2.91	0.004	***
Raised in Single Parent Family	1.258039	0.3133994	4.01	0	***
Raised in Other Family Type	2.010212	0.6843079	2.94	0.004	***
Grade Point Average in High School	-0.8978417	0.126324	-7.11	0	***
(constant)	-1.07313	1.730669	-0.62	0.536	

Regression 12

Dependent Variable: Number of Lifetime Sex Partners

Independent Pledge Variables: Any Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note
Age at Interview	0.444974	0.0656253	6.78	0	***
Any Pledge	-1.548533	0.2064131	-7.5	0	***
Race = Black	0.8336003	0.4512504	1.85	0.067	*
Race = American Indian	0.4298159	1.120813	0.38	0.702	
Race = Asian	-1.987724	0.3009884	-6.6	0	***
Race = Hispanic	-0.6102126	0.314976	-1.94	0.055	*
Female	-0.7723483	0.1928724	-4	0	***
Self-Esteem Index Score	0.2596631	0.171445	1.51	0.132	
Income in Thousands of Dollars	0.0017031	0.0020753	0.82	0.413	
Religiosity Index Score	-0.5115705	0.1020775	-5.01	0	***
Raised in Step/Cohabiting Family	1.647612	0.5660364	2.91	0.004	***
Raised in Single Parent Family	1.261679	0.3139736	4.02	0	***
Raised in Other Family Type	2.031532	0.6847339	2.97	0.004	***
Grade Point Average in High School	-0.9023169	0.126328	-7.14	0	***
(constant)	-1.047065	1.732569	-0.6	0.547	

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

* Statistically significant at the 90 percent level.

** Statistically significant at the 95 percent level.

*** Statistically significant at the 99 percent level.

Regression 13

Dependent Variable: Had Sex in Last 12 Months

Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.1686396	0.0303239	5.56	0	***	1.183693459
Strong Pledge	-1.325649	0.117254	-11.31	0	***	0.265630509
Weak Pledge	-0.6261979	0.1198014	-5.23	0	***	0.534620623
Race = Black	0.1678711	0.1360143	1.23	0.219		1.18278414
Race = American Indian	-0.1508243	0.4177184	-0.36	0.719		0.859998787
Race = Asian	-0.6721491	0.194394	-3.46	0.001	***	0.510610046
Race = Hispanic	-0.2589391	0.139072	-1.86	0.065	*	0.771870028
Female	0.3966187	0.1024902	3.87	0	***	1.486788909
Self-Esteem Index Score	0.2460268	0.0866518	2.84	0.005	***	1.278933849
Income in Thousands of Dollars	-0.001369	0.0006374	-2.15	0.034	**	0.998631937
Religiosity Index Score	-0.2400049	0.0590749	-4.06	0	***	0.786624007
Raised in Step/Cohabiting Family	0.5317119	0.2055326	2.59	0.011	**	1.701843202
Raised in Single Parent Family	0.2581873	0.1104401	2.34	0.021	**	1.294581271
Raised in Other Family Type	0.0187914	0.2520468	0.07	0.941		1.018969069
Grade Point Average in High School	-0.3644102	0.0655822	-5.56	0	***	0.694606209
(constant)	-0.967821	0.8203953	-1.18	0.24		0.379909961

Regression 14

Dependent Variable: Had Sex in Last 12 Months

Independent Pledge Variables: Any Pledge (Default = No Pledge)

Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.1687977	0.0304885	5.54	0	***	1.183880616
Any Pledge	-0.9341379	0.0846927	-11.03	0	***	0.39292446
Race = Black	0.2078315	0.1378178	1.51	0.134		1.231005728
Race = American Indian	-0.1033759	0.438055	-0.24	0.814		0.901787928
Race = Asian	-0.6124157	0.1963111	-3.12	0.002	***	0.54203988
Race = Hispanic	-0.201625	0.1365376	-1.48	0.142		0.817401396
Female	0.3870955	0.1022393	3.79	0	***	1.472697127
Self-Esteem Index Score	0.2516402	0.0861829	2.92	0.004	***	1.286133203
Income in Thousands of Dollars	-0.0013606	0.0006461	-2.11	0.037	**	0.998640325
Religiosity Index Score	-0.2662096	0.0577287	-4.61	0	***	0.766278499
Raised in Step/Cohabiting Family	0.5395253	0.206175	2.62	0.01	**	1.715192467
Raised in Single Parent Family	0.266187	0.1116642	2.38	0.019	**	1.304979067
Raised in Other Family Type	0.0703788	0.2553953	0.28	0.783		1.072914524
Grade Point Average in High School	-0.3722736	0.0653197	-5.7	0	***	0.689165661
(constant)	-0.9073314	0.8265643	-1.1	0.274		0.403599835

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

* Statistically significant at the 90 percent level.

** Statistically significant at the 95 percent level.

*** Statistically significant at the 99 percent level.

Regression 15

Dependent Variable: Had Sex Last 12 Months
 Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)
 Population: All Unmarried Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.0811793	0.031281	2.6	0.011	**	1.084565342
Strong Pledge	-1.507381	0.1275687	-11.82	0	***	0.221489299
Weak Pledge	-0.6608575	0.1261762	-5.24	0	***	0.516408324
Race = Black	0.3109134	0.1392044	2.23	0.027	**	1.364671036
Race = American Indian	-0.2594166	0.4318387	-0.6	0.549		0.771501549
Race = Asian	-0.5813638	0.1954429	-2.97	0.004	***	0.559135298
Race = Hispanic	-0.2455585	0.1483645	-1.66	0.1		0.78226752
Female	0.2583657	0.1074425	2.4	0.018	**	1.294812245
Self-Esteem Index Score	0.2775123	0.0899792	3.08	0.003	***	1.319842353
Income in Thousands of Dollars	-0.000584	0.0006589	-0.89	0.377		0.99941617
Religiosity Index Score	-0.280871	0.0625604	-4.49	0	***	0.75512574
Raised in Step/Cohabiting Family	0.591444	0.2083108	2.84	0.005	***	1.806595256
Raised in Single Parent Family	0.3208482	0.1142546	2.81	0.006	***	1.37829634
Raised in Other Family Type	0.2758758	0.2927353	0.94	0.348		1.317684197
Grade Point Average in High School	-0.3470433	0.069032	-5.03	0	***	0.706774724
(constant)	0.6494477	0.8508167	0.76	0.447		1.914483168

Regression 16

Dependent Variable: Had Sex Last 12 Months
 Independent Pledge Variables: Any Pledge (Default = No Pledge)
 Population: All Unmarried Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.084206	0.0316535	2.66	0.009	***	1.087852968
Any Pledge	-1.021333	0.0874274	-11.68	0	***	0.360114587
Race = Black	0.3577009	0.1413946	2.53	0.013	**	1.430037832
Race = American Indian	-0.203016	0.4582575	-0.44	0.659		0.816265181
Race = Asian	-0.5048237	0.1990402	-2.54	0.012	**	0.603611983
Race = Hispanic	-0.1713178	0.1471855	-1.16	0.247		0.842553767
Female	0.2566529	0.1062764	2.41	0.017	**	1.292596389
Self-Esteem Index Score	0.2940948	0.0883231	3.33	0.001	***	1.341911111
Income in Thousands of Dollars	-0.0005951	0.0006592	-0.9	0.368		0.999405077
Religiosity Index Score	-0.3120926	0.0611269	-5.11	0	***	0.73191375
Raised in Step/Cohabiting Family	0.6033121	0.2087067	2.89	0.005	***	1.828163845
Raised in Single Parent Family	0.3205682	0.114741	2.79	0.006	***	1.377910471
Raised in Other Family Type	0.3252267	0.2974212	1.09	0.276		1.384344441
Grade Point Average in High School	-0.3566795	0.0685248	-5.21	0	***	0.699996811
(constant)	0.6207998	0.8598153	0.72	0.472		1.860415407

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Regression 17

Dependent Variable: Had Sexual Intercourse - No Contraception Last Sex
 Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)
 Population: All Unmarried Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.0116271	0.0288145	-0.4	0.687		0.988440234
Strong Pledge	-0.503944	0.1771912	-2.84	0.005	***	0.604143214
Weak Pledge	-0.1778661	0.1229674	-1.45	0.151		0.837054498
Race = Black	0.326783	0.1138671	2.87	0.005	***	1.386500574
Race = American Indian	0.3583569	0.3089167	1.16	0.248		1.430976245
Race = Asian	0.1997852	0.2074908	0.96	0.337		1.221140429
Race = Hispanic	0.4102701	0.1293073	3.17	0.002	***	1.507224832
Female	0.0082399	0.0794943	0.1	0.918		1.008273941
Self-Esteem Index Score	-0.0020558	0.0692095	-0.03	0.976		0.997946312
Income in Thousands of Dollars	-0.0055039	0.0015361	-3.58	0	***	0.994511219
Religiosity Index Score	-0.0067577	0.0393379	-0.17	0.864		0.993265082
Raised in Step/Cohabiting Family	0.3953094	0.1396487	2.83	0.005	***	1.48484353
Raised in Single Parent Family	0.2311282	0.087519	2.64	0.009	***	1.260020764
Raised in Other Family Type	0.4197211	0.231342	1.81	0.072	*	1.52153714
Grade Point Average in High School	-0.2231057	0.0446411	-5	0	***	0.800030282
(constant)	-0.2787941	0.6989884	-0.4	0.691		0.756695691

Regression 18

Dependent Variable: Had Sexual Intercourse - No Contraception Last Sex
 Independent Pledge Variables: Any Pledge (Default = No Pledge)
 Population: All Unmarried Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	-0.0112396	0.0288834	-0.39	0.698		0.988823328
Any Pledge	-0.2861605	0.111009	-2.58	0.011	**	0.751142048
Race = Black	0.3333373	0.1149178	2.9	0.004	***	1.395617961
Race = American Indian	0.3656726	0.3091685	1.18	0.239		1.441483224
Race = Asian	0.2158047	0.2093092	1.03	0.304		1.240860015
Race = Hispanic	0.422256	0.1284801	3.29	0.001	***	1.525398977
Female	0.0100671	0.0794347	0.13	0.899		1.010117944
Self-Esteem Index Score	0.0021742	0.0694427	0.03	0.975		1.002176565
Income in Thousands of Dollars	-0.0055431	0.0015394	-3.6	0	***	0.994472235
Religiosity Index Score	-0.0121474	0.0391609	-0.31	0.757		0.987926082
Raised in Step/Cohabiting Family	0.3983462	0.1404948	2.84	0.005	***	1.489359557
Raised in Single Parent Family	0.231565	0.0878612	2.64	0.009	***	1.260571261
Raised in Other Family Type	0.4312822	0.229801	1.88	0.063	*	1.539229859
Grade Point Average in High School	-0.2262467	0.0449404	-5.03	0	***	0.797521329
(constant)	-0.2846591	0.7025807	-0.41	0.686		0.75227066

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Regression 19

Dependent Variable: Had Sexual Intercourse - No Contraception Last Sex
 Independent Pledge Variables: Strong Pledge, Weak Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.0267088	0.0242948	1.1	0.274		1.027068677
Strong Pledge	-0.3669181	0.1461205	-2.51	0.013	**	0.692866388
Weak Pledge	-0.1295699	0.1055353	-1.23	0.222		0.878473181
Race = Black	0.1987892	0.097797	2.03	0.044	**	1.219924779
Race = American Indian	0.3351089	0.2758501	1.21	0.227		1.398092629
Race = Asian	0.0775228	0.187849	0.41	0.681		1.08060687
Race = Hispanic	0.3684858	0.1058471	3.48	0.001	***	1.445544114
Female	0.0814539	0.0669451	1.22	0.226		1.084863204
Self-Esteem Index Score	-0.0589395	0.0622634	-0.95	0.346		0.942763805
Income in Thousands of Dollars	-0.0069253	0.0013849	-5	0	***	0.993098625
Religiosity Index Score	0.012506	0.0329139	0.38	0.705		1.012584527
Raised in Step/Cohabiting Family	0.3023823	0.1270141	2.38	0.019	**	1.35307841
Raised in Single Parent Family	0.1704289	0.0813686	2.09	0.038	**	1.185813338
Raised in Other Family Type	0.3884924	0.1991262	1.95	0.053	*	1.474755775
Grade Point Average in High School	-0.2218939	0.0413613	-5.36	0	***	0.801000346
(constant)	-0.6753016	0.631208	-1.07	0.287		0.509002882

Regression 20

Dependent Variable: Had Sexual Intercourse - No Contraception Last Sex
 Independent Pledge Variables: Any Pledge (Default = No Pledge)
 Population: All Add Health Youth

Independent Variables	Logged Odds Coefficient	Standard Error	Wald (t-test)	Significance	Note	Odds Ratio
Age at Interview	0.0265964	0.0243193	1.09	0.276		1.026953241
Any Pledge	-0.2154397	0.0921183	-2.34	0.021	**	0.806186882
Race = Black	0.2044621	0.0986862	2.07	0.04	**	1.226864957
Race = American Indian	0.3413351	0.276347	1.24	0.219		1.406824589
Race = Asian	0.0881578	0.1887542	0.47	0.641		1.092160451
Race = Hispanic	0.3771916	0.1053919	3.58	0	***	1.458183671
Female	0.0812145	0.0669226	1.21	0.227		1.084603519
Self-Esteem Index Score	-0.0573328	0.0621444	-0.92	0.358		0.944279761
Income in Thousands of Dollars	-0.0069558	0.0013872	-5.01	0	***	0.993068336
Religiosity Index Score	0.0084628	0.0332178	0.25	0.799		1.008498711
Raised in Step/Cohabiting Family	0.3042932	0.1275142	2.39	0.018	**	1.355666479
Raised in Single Parent Family	0.1718194	0.0816535	2.1	0.037	**	1.187463358
Raised in Other Family Type	0.3980939	0.1982372	2.01	0.047	**	1.488983839
Grade Point Average in High School	-0.2238576	0.0412552	-5.43	0	***	0.799428965
(constant)	-0.6650106	0.6330731	-1.05	0.296		0.514268076

Default condition is a white male from an intact family who does not take a virginity pledge.

Notes:

- * Statistically significant at the 90 percent level.
- ** Statistically significant at the 95 percent level.
- *** Statistically significant at the 99 percent level.

Probable Life Outcomes After Controlling for Background Variables: Two Pledge Categories*

Dependent Variables	Predicted Probability by Pledge Categories	
	Non-Pledgers	All Pledgers
Probability of Pregnancy Under Age 18	5.9%	3.4%
Probability of Out-of-Wedlock Birth	14.4%	10.7%
Probability of Any Birth	23.7%	18.1%
Probability of Any Birth Under Age 18	3.2%	1.8%
Probability of Having Sex Under Age 18	64.2%	44.5%
Probable Number of Sexual Partners	5.1%	3.57%
Probability: Had Sex in Last 12 Months	91.5%	80.6%
Probability: Had Sex in Last 12 Months (Unmarried Persons Only)	88.3%	72.9%
Probability of Unprotected Sex Activity, Unmarried Persons	13.2%	10.7%
Probability of Unprotected Sex Activity, All Persons	24.9%	21.0%

*The model shows the expected probabilities for a white female from an intact family, with an average grade point average, and average values for self-esteem, age, religiosity, and family income.

Source: National Longitudinal Study of Adolescent Health.