

Does Premature Intercourse Delay Psychological Maturation? An Analysis of Outcome Data of the 1998-99 Teen STAR Program

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ABSTRACT

The efficacy of the Teen STAR Program for undergirding virginity and/or facilitating a return to chastity has been reported previously. We now correlate behavioral outcome with program components of the 1998-99 cohorts. There were 48 French, 23 Swiss and 234 U.S. females aged 11-17 who followed the 8-month program, which joins experiential learning of fertility signs to a developmental didactic curriculum that includes regular teacher-student interviews; there were also 371 males aged 11-16 who followed a parallel program. A previously validated Likert-type 18-item questionnaire identified demographics, participants' expectations for future abstinence, control of their emotions, empathy in dealing with others, overall helpfulness of the program, frequency of topical discussions with parents and friends, age at first intercourse, time of last intercourse, contraceptive use, pregnancy, and reasons for abstinence. Reasons for abstinence offered insight into the locus of control.

Greater control of emotions, greater empathy with others, and overall helpfulness of the program were reported by 61 (100% of virgin and non-virgin participants). Early adolescents aged 11-13 spoke about the course to their parents more often than the older students. 80% of girls and 60% of the boys talked with their friends. Reasons for maintaining chastity showed external and internal loci in the U.S., but favored internal loci in France. Nearly half of the sexually active male and female participants discontinued intercourse three months prior to the

end of the program. Failure to discontinue intercourse was nearly always linked to contraceptive use in all three age groups. Two miscarriages, one prior, one during the program were reported.

Conclusion: Tracking of fertility patterns joined to discussion correlates positively with maintaining virginity as well as with a return to chastity. The overall 50% discontinuation-rate exceeds that of the general population and can be an important tool for STD and premarital pregnancy prevention.

INTRODUCTION

The Teen STAR Program was initiated in 1980 as a developmental program of education in human sexuality which pivoted around discovery of fertility (cyclic, in the case of the female and constant in the case of males), discovery of the values inherent in possessing fertility and sexuality, and derivation of the norms of behavior based on understanding and respect for one's fertility and sexuality. Behavioral outcomes of the Teen STAR Programs have been reported previously.ⁱ

Transitions from virgin to non-virgin status by females and males were 4% in the 1998-99 cohort, while 30% of females and 43% of males discontinued previously initiated sexual activity. We now correlate exit questionnaire items: expectation of future abstinence, greater control of emotions, greater empathy with others, overall helpfulness of the program, having spoken with their parents and/or friends about sexuality, contraceptive use, pregnancy and reasons for continued or resumed abstinence with the behavioral outcomes.

METHODOLOGY

Signed informed consent from each subject and one parent permitted anonymous use of data from a previously validated exit questionnaire. Responses were grouped by gender, virgin/non-virgin status, and adolescent development. Early adolescence—11 to 13 years of age, middle adolescence—14 to 15 years, late adolescence—16 to 17 years of age. Responses of 371 females and 234 males were available from the United States. Because of possible cultural differences, the

European data are shown separately: 26 French males, 47 French females, and 13 Swiss females age 16-17. Locus of control items were separated into internal and external loci.

RESULTS

Because non-virgins represented only 2-22% of the study groups, it was not practical to apply quantitative statistical analysis. However, the responses between virgins and non-virgins showed considerable differences and indicated important trends. As all data are drawn from exit questionnaires, they reflect a “snapshot” rather than a progression. (See Tables_1-5.) When contraceptive use was reported, it was limited to condoms and oral contraceptives.

Expectation of Future Abstinence: Female and male virgins expected to remain abstinent at increasing levels as their ages increased: 16 and 66% respectively at early adolescence, 91 and 78% at middle adolescence, and 100% at late adolescence. Female non-virgins’ expectations increased as one progressed from early to mid-adolescence while the male non-virgins slope decreased from early to mid-adolescence.

Greater Control of Emotions: Male and female virgins were more or less stable, reporting from 75 to 82% increased control in both early and mid-adolescence. Male virgins reported a 50% increase only at late adolescence, which may represent a previously attained high level, rather than a decrease. Female non-virgins reported greater control at early (58%) and mid (82%) adolescence.

Empathy with Others: At early adolescence both male and female virgins (70 and 83% respectively) reported greater empathy. This remained stable for males, increased to 80% for females at mid-adolescence, and rose to 100% for male virgins at late adolescence while declining to 66% for male non-virgins.

Overall Helpfulness of the Program: Early adolescent female non-virgins rated this 100%, female virgins 89%. 72% mid-adolescent female non-virgins, 94%_ female virgins, and 100% late adolescent female virgins found the program to be helpful or very helpful. Male virgins’ reports were analogous, while male non-virgins’ ratings declined from

100% in early adolescence to 76% for late adolescence.

Talked With Parents About the Program: In early adolescence 100% of non-virgins and 72% of virgins had spoken with their parents; this decreased in mid-adolescence where only half of female virgins and non virgins (49% and 45%) had discussed the program with their parents. Both late adolescent female virgins had talked with their parents. Males spoke less often: 61% virgins and 54% non-virgins in early adolescence, 50% and 28% respectively in mid-adolescence, 0% and 33% in late adolescence.

Talked With Friends About the Program: Early adolescents (100%), non-virgin females (81%), virgin females (66%), those at mid-adolescence (67% of virgin males and 62% of non-virgin males) had spoken to friends, as did half of virgin and non-virgin females. Half of late adolescent virgin males, and all non-virgin males had spoken with friends about the program. (The content of their conversation is not known.) 89% of virgin and 81% of non-virgin females reported having discussed the program with friends.

Virgins' Reasons for Remaining Abstinent: Responses were categorized into internal and external loci of control. The internal and external loci showed a 1:1 ratio for all females. Males' ratio in early adolescence was 65% external, 48% internal, 81% external vs. 69% internal at mid-adolescence. Males in late adolescence did not respond, while late adolescent female virgins' and non-virgins' reasons were divided equally among both loci.

Non-virgins' Reasons for Return to Abstinence: Responses were incomplete, but among non-virgin females the reasons for returning to abstinence were equally distributed between internal and external loci. They were predominately external among females and 36% among males in early adolescence. Early and late adolescent males' responses were 100% external while mid-adolescent loci were external vs. internal by a ratio of two to one.

Contraceptive use: Among early adolescent girls, 67% said they never used contraceptives, whereas 45% of males said they always used contraceptives, 30% said sometimes, 18% never. At mid-adolescence, 85% of females used contraceptives sometimes, 36% all the time; of

males, 77% always. At late adolescence 33% of males used contraceptives sometimes, 66% all the time. This contrasts with French practice, where 66% of early adolescent males claimed to use contraceptives all the time, as did 75% of mid-adolescents and 100% of late adolescence never. All French early adolescents were virgins. 33% of mid-adolescents used contraceptives sometimes or never, while “sometimes” was reported by the only late adolescent non-virgin female. All 13 Swiss subjects were females in late adolescence. Of the six sexually active subjects, 83% (5) claimed “always” to use contraception, one “sometimes.” One woman discontinued intercourse.

DISCUSSION

Our youth live in an immensely complex environment. The home still has preponderant influence, but when teenagers begin to separate from their parents at mid-adolescence, the influence of peer groups and media becomes powerful. Past approaches to teenagers have focused on adult concerns to prevent the complications of pre-marital sexual relations, that is, pre-marital pregnancy and sexually transmitted diseases. Some investigators have even equated constant use of oral contraceptives with ego maturity,ⁱⁱ while Tolman *et al.* see femininity as a threat to the health of girls.ⁱⁱⁱ More recently, others have begun to look at the roughly 50% of adolescents who are still virgins at age 18.^{iv} Most of the significant variables which undergirded virginity were sociological: dual parent families, higher socio-economic status, better school performance, greater religiosity, absence of suicidal thoughts, feeling parents, or another adult who cared. Higher levels of body pride were associated with higher levels of sexual activity for all age and gender groups. While concerns about community had positive influence in delaying the onset of sexual behavior, high parental expectations were significantly protective for males but not for females. The study of Lammers *et al.* was descriptive and hence did not include interventions. Reported interventions have varied from contraceptive education and provision to offering programs of abstinence and/or contraception (Jemmott *et al.*^v or Kirby,^{vi} among many others). Other programs restrict themselves to enhancing parent-teen communication^{vii} or teaching “abstinence only.”^{viii}

None utilize experiential learning of fertility within a comprehensive curriculum in human sexuality that also includes parental involvement and exploration of the emotional, social, intellectual, spiritual as well as the physical components of sexuality.

We found that internalizing the understanding of one's fertility enhanced the move from peer pressure to making one's own decisions. Virgins appeared to mature more than non-virgins, yet up to 53% of sexually active students (while showing a lower attitudinal response) discontinued sexual intercourse. Their reasons fell equally between an internal and an external locus of control, leaving one to speculate that the experience of the body and its fertility led to the change in behavior. It was evident that males did not like to talk about things as much as females but showed that the program affected them by their actions. Recent studies on the development of the adolescent brain suggests that impulsive behavior is the norm until at least the age of 16.^{ix x xi} One can only speculate about the role of the oral contraceptive hormones on brain chemistry in retarding certain growth processes which would otherwise tend toward greater maturity. Since sexual intercourse is a bonding activity, adding a chemical barrier to a maturation-retardant activity is worth exploring.^{xii} However, as the majority of our subjects never used contraceptives, our data shed no light on this aspect.^{xiii}

CONCLUSION

Attitudinal changes concurrent with the behavioral changes of the Teen STAR Program participants help us to understand some of the emotional growth factors which affect adolescents. Avoiding the identity foreclosing effect which results from engaging in adult behavior prematurely allows maturation to proceed normally. The effect of internalizing one's fertility with one's sexuality through experiential learning is implied in the attitudinal data. The fact that non-virgins responded positively to the program leads one to conclude that the experience of the body is, in itself, a strongly maturational element.

TABLES

The following categories apply to all of the following tables:

- Category 1: Expect future abstinence (%)
- Category 2: Greater control of emotions (%)
- Category 3: Greater empathy with others (%)
- Category 4: Overall helpfulness (%)
- Category 5: Talked with parent (%)
- Category 6: Talked with friends (%)
- Category 7: Discontinued intercourse (%)
- Category 8: Contraceptive use (%)
 A-always, B-sometimes, C-never
- Category 9: Reasons for abstinence:
 locus of control external-A, internal-B

TABLE 1

U.S. Females: Correlations of 1988-99 Teen Star Questionnaires
 (N.B. Some responses are incomplete)

Total - 234

Age	1	2	3	4	5	6	7	8	9
11-13 Virg. N-80	66	75	83	89	72	81			A 80 B 80
Non- Virg. N-6	84	50	84	100	100	100	34	A 17 B 17 C 67	A 17 B 17
14-15 Virg. N135	91	74	83	94	49	89			A 90 B 92
Non- Virg. N-11	91	82	63	72	45	81	54	A 9 B 45 C 36	A 18 B 18

16-17 Virg. N-2	100	0	0	100	100	100			A100 B100
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TABLE 2

U.S. Males: Correlations of 1988-99 Teen Star Questionnaires
(N.B. Some responses are incomplete)

Total - 371

Age	1	2	3	4	5	6	7	8	9
11-13 Virg. N-60	69	78	70	88	61	66			A 65 B 48
14-15 Virg. N241	78	79	80	86	50	67			A 81 B 69
Non- Virg. N54	37	61	81	76	28	62	45	A 13 B 10 C 77	A 26 B 13
16-17 Virg. N-2	100	50	100	100	0	50			
Non- Virg. N-3	0	100	66	66	33	100	0	A 0 B 33 C 66	A 33

TABLE 3

French Males: Correlations of 1988-99 Teen Star Questionnaires
 (N.B. Some responses are incomplete)

Total - 26

Age	1	2	3	4	5	6	7	8	9
11-13 Virg. N-3	0	66	66	100	66	66			A 0 B100
Non- Virg. N-3	33	33	33	33	33	33	66	A 66 B 0	A 33 B 33 C 0
14-15 Virg. N-8	12	62	50	87	12	24			A 75 B 25
Non- Virg. N-8	0	37	12	12	0	62	50	A 0 B 0 C 75	A25 B 12
16-17 Virg. N-1	0	100	100	0	0	100			NR
Non- Virg. N-3	0	100	100	100	66	100	33	A B C100	

TABLE 4
 French Females: Correlations of 1988-99 Teen Star Questionnaires
 (N.B. Some responses are incomplete)

Total - 47

Aged	1	2	3	4	5	6	7	8	9
11-13 Virg. N-14 Non- Virg. N-0	49	66	79	93	35	79			A 64 B 71
14-15 Virg. N-19 Non- Virg. N-3	42 66	79 100	68 100	100 100	48 100	85 100	 33	 A 0 B 33 C 33	A 58 B 84 A 0 B 33
16-17 Virg. N-10 Non- Virg. N-1	80 0	40 0	50 100	80 100	50 0	60 100	 0	 A 0 B 100 C 0	A 70 B 100 NR

TABLE 5
 Swiss Females, Aged 16-17: Correlations of 1988-99 Teen Star
 Questionnaires (N.B. Some responses are incomplete)

Total - 13

	1	2	3	4	5	6	7	8	9
Virg. N-7	48	94	88	94	88	76			A 100 B 47
Non- Virg.	0	83	50	83	84	67	17	B 17	A 17

N-6								C 83	
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NOTES

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- ii. Speier *et al.* "Predicting Contraceptive Vigilance in Adolescent Females: A protective Method for Assessing Ego Development" in *Journal of Adolescent Health* 20/1 (1997) 14-19.
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- iv. Lammers *et al.* "Influences on Adolescents' Decision to Postpone Onset of Sexual Intercourse: A Survival Analysis of Virginity Among Youths Aged 13 to 18 Years" in *Journal of Adolescent Health* 26 (2000) 42-48.
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- vi. D. Kirby *et al.* "Reducing the Risk: Impact of a New Curriculum on Risk Taking" in *Family Planning Perspectives* 23 (1991) 263.
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