

Research Article

Increasing High-Risk Sexual Behavior among Adolescents in 10 Cities of China

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Abstract

This study was to describe the prevalence of risky sexual behavior and identify correlates in Chinese adolescents. An anonymous self-reported survey was administered to 10,445 high-school students. The prevalence of having ever had sexual intercourse was 13.3%. Among currently sexually active students (6.3%), 25.0% had used alcohol or drugs before the last sexual intercourse, and 45.4% reported contraceptive nonuse. Unstable parents' marital status, low subjective socioeconomic status, low self-esteem, and impulsiveness were risk factors for risky sexual behaviors in adolescents. The prevalence of sexual behavior and associated risks are increasing among Chinese adolescents, indicating the necessity of providing sex education.

ABBREVIATIONS

RSBs: Risky Sexual Behaviors; STDs: Sexually Transmitted Diseases; HIV: Human Immunodeficiency Virus; SES: Socioeconomic Status; YRBS: Youth Risk Behavior Survey; SES: Self-Esteem Scale; BIS-11: Barratt Impulsiveness Scale-11; SSSCA: Social Support Scale for Children and Adolescents; FES: Family Environment Scale; CES-D: Center for Epidemiological Studies Depression Scale; MASC: Multidimensional Anxiety Scale for Children; OR: Odds Ratio; CI: Confidence Interval.

INTRODUCTION

Early onset sexual activity and contraceptive nonuse are considered risky sexual behaviors (RSBs) that place individuals at risk of pregnancy and sexually transmitted diseases (STDs), including human immunodeficiency virus (HIV) [1]. Research results showed that RSBs are prevalent among teenagers. For example, in the United States, 70.6% of females and 64.7% of males aged 18-19 years reported having sexual intercourse [2], and approximately one-fifth (1 million) of sexually active females aged 15-19 years become pregnant each year; most of these pregnancies are unplanned [3]. Also, the risk of STD infection is higher among teenagers than adults [4,5]. At the same time, a paucity of research has examined RSBs in Chinese adolescents.

Preliminary results examining RSBs in Chinese adolescents indicated that sexual behavior is less prevalent among Chinese adolescents compared with developed countries [6-8]. In a 2005

national survey, 4.8% of high-school students reported having sexual intercourse [7]. In 2009, the National Working Committee on Children and Women under the State Council and United Nations Population Fund China conducted the first national survey of youths' access and utilization of sexual and reproductive health services in China. Preliminary findings showed that 22.4% of China's youths aged 15-24 years had sexual experience, and notably, 10.9% of urban adolescents aged 15-19 years had sexual experience [8]. However, these survey results also suggest that RSBs are becoming more commonplace [8]. The prevalence of sexual behavior in urban Chinese adolescents increased from 4.8% in 2005 to 10.9% in 2009 [7,8], while the rate of condom use (<50%) remained much lower than in the US (60.2% in 2011) [6,9]. In China, sexuality is viewed more liberally in urban areas, increasing the prevalence of sexual behavior among adolescents [6,8,10]. For example, among 1,126 college students in Beijing, 82.76% considered non-marital sex to be acceptable [11]. With rapid economic development in China, more individuals and families have moved from rural areas to cities, Chinese youth have increased exposure to urban lifestyles, and as norms begin to change, Chinese youth may be more susceptible to peer pressure. Rapid changes in the prevalence of sexual behavior among Chinese adolescents have profound implications for the spread of HIV and other STDs.

China has the largest population among countries worldwide, and notably, has the largest adolescent populations (National Bureau of Statistics of China, 2010). Therefore, raising awareness

regarding the outcomes of RSBs, identifying factors contributing to RSB in adolescents and providing effective interventions are critical, as it will help to control the unplanned pregnancy and the spread of STDs. The identification of factors correlated with RSBs is a foregoing and important step to establish effective interventions.

Many recent publications have described risk and protective factors associated with RSBs among youth [12]. Age and gender have been related to condom use and RSBs, although results have been inconsistent [13]. Urban/rural residence was also a factor influencing sexual activity [6,8,10]. Subjective socioeconomic status (SES) has been positively associated with later sexual debut [14]. Family structure and environment significantly predicted risky sexual behaviors and pregnancy in adolescent [15]. Impulsiveness has been found to affect RSBs in adolescents [15-17]. Self-esteem has often been examined in relationship to RSBs, particularly among adolescent females [14,15,17-19]. Also, emotional distress, such as depression and anxiety, has been shown to be a risk factor of RSBs [20-22].

Therefore, the objectives of this study were to (a) describe the prevalence of high risk sexual behavior in Chinese adolescents and (b) identify independent variables associated with RSBs among sexually active Chinese adolescents using a multivariate model.

MATERIALS AND METHODS

Participants

Participants were recruited from high-schools. Specifically, participants were in grades 10–12, and assessments occurred in 10 different cities divided by economic growth: high (Beijing, Shanghai, Guangzhou), moderate (Hangzhou, Suzhou, Shenyang, Changsha), and low (Yinchuan, Chengdu, Changping) (National Bureau of Statistics of China, 2013). Finally, 11,039 high school students attended anonymous survey, while 10,445 finished the survey.

All high schools in the 10 cities were stratified based on academic standards (high, medium, and low). Then, in each city, one to two schools ranked as medium were randomly selected for subject recruitment. In March–September 2011, an anonymous survey was administered to students from 18 schools. The ethics committee of the Second Xiangya Hospital of Central South University approved the study. Participants and their parents provided written informed consent before the survey began.

Measures

Sociodemographic information (students' age, grade, gender, ethnicity, sibling status; parents' marital status) were collected. Respondents rated subjective SES relative to provincial and school populations on a 10-point scale (10 = highest SES) using the Chinese version of the Scale of Subjective Status [23].

We used the following the Youth Risk Behavior Survey (YRBS) items to evaluate sexual behaviors: whether the student had ever had sexual intercourse; whether first sexual intercourse occurred before the age of 13 years; whether the student had four or more lifetime sexual partners; whether he/she was currently sexually active; whether he/she used condoms, oral

contraceptives, or other contraception before the last sexual intercourse; and whether he/she had consumed alcohol or drugs before the last sexual intercourse [24].

Global self-esteem was measured using the 10-item Rosenberg Self-Esteem Scale (SES), which assesses respondents' self-rated "general outlook on life" by measuring positive and negative feelings about the self (higher score = higher level of self-esteem) [25].

Impulsiveness was assessed using the 30-item Chinese version of the Barratt Impulsiveness Scale-11 (BIS-11), a widely used instrument that asks participants to rate the frequency of common (non)impulsive activities (1 [rarely/never] to 4 [almost always/always]; higher score = higher level of impulsiveness) [26].

The availability of social support was assessed by the Social Support Scale for Children and Adolescents (SSSCA), which included 24 items to assess children's perceptions of the availability of social support from their parents, classmates, and close friends (item scores, 0-2; total scores, 0-24; higher score = less perceived social support) [27].

We used the 27-item Family Relationship Index of the Family Environment Scale (FES) to examine cohesion (degrees of commitment, help, support among family members), expressiveness (encouragement of open, direct expression of feelings among family members), and conflict (amounts of openly expressed anger, aggression, conflict among family members) in the family. Higher cohesion and expressiveness subscale scores and a lower conflict subscale score indicate a better-quality family environment [28].

Finally, the 20-item Center for Epidemiological Studies Depression Scale (CES-D) and the 39-item Multidimensional Anxiety Scale for Children (MASC) were used to assess the frequency of depressive and anxiety symptoms in the past week, respectively. The CES-D includes 20 items (0 [rarely] to 3 [most of the time]; total scores, 0-60; higher score = higher level of depressive symptoms) and the MASC includes 39 items (0 [never] to 4 [often]; total scores, 0-117; higher score = higher level of anxiety symptoms) [29-31].

Statistical analyses

All analyses were performed using SPSS software (ver. 18.0 for Windows; SPSS Inc., Chicago, IL, USA). Means, standard deviations (SDs), and percentages of variables were calculated. Differences in demographic characteristics, scores, and prevalence of sexual behavior among study groups were analyzed by chi-squared and independent-samples *t*-tests. Multivariate logistic regression analyses were performed to examine factors correlated with condom and contraceptive nonuse during the last sexual activity among currently sexually active students. Sociodemographic (e.g., gender, sibling status, parents' marital and educational status, and subjective SES) and psychological (e.g., self-esteem, impulsiveness, family environment, social support, depression and anxiety) factors served as independent variables. Statistical significance of all two-tailed tests was set at $p < 0.05$.

RESULTS

Descriptive Data

The final sample consisted of 10,445 students (5,071 girls, 5,374 boys) ranging in age from 15 to 20 years (mean = 16.55; SD = 1.39). The sociodemographic characteristics of the study sample are presented in Table (1). Most (95.1%) respondents were of Han ethnicity, consistent with the ethnic distribution in mainland China. Regarding sibling status, the majority (58.3%) of students were only child whereas 41.7% had siblings. Most students' parents had stable marriages (89.3%) and junior high school or less educational levels (fathers, 49.9%; mothers, 58.0%). Average subjective SES ratings were above scale midpoints for provincial (mean, 5.83; SD, 1.57; range, 1-10) and school (mean, 6.32; SD, 1.51; range, 1-10) populations.

The Prevalence's of Sexual Behaviors

Sexual behavior data are presented in Table (2). In this sample, 13.3% of students reported having sexual intercourse. This proportion was significantly higher among males than females ($p < 0.05$), highest among 12th-graders, and lowest among 10th-graders (all $p < 0.05$).

Initial Sexual Experience: Less than 3% of students reported having first sexual intercourse before the age of 13 years. This behavior was more prevalent in males than females ($p < 0.05$) overall, but more prevalent among females than males in the 11th and 12th grades (all $p < 0.05$). The prevalence was highest among 11th-graders and lowest among 10th-graders ($p < 0.05$). Significantly more female than male students who had ever had sexual intercourse reported this behavior among 11th- and 12th-graders ($p < 0.05$).

Multiple Sexual Partners: In the entire sample, 4.2% of students reported having four or more lifetime sexual partners. This behavior was more prevalent among males than females, and least prevalent among 10th-graders (both $p < 0.05$). More female than male students who had ever had sexual intercourse reported this behavior ($p < 0.05$). This gender difference was most apparent in 10th- and 11th-graders.

Currently Sexually Active: Overall, 6.3% of students reported having sexual intercourse with at least one person during the last 3 months (currently sexually active). More males than females were currently sexually active ($p < 0.05$). However, no significant gender difference was observed among students who had ever had sexual intercourse. More students in 11th-grade than in 10th-grade were currently sexually active ($p < 0.05$).

Contraceptive Use: Among currently sexually active students, 30.9% reported condom use and 17.7% reported oral contraceptive use during/before the last sexual intercourse. The prevalence of condom use was higher among males than females, highest among 11th-graders, and lowest among 10th-graders. Oral contraceptive use was more prevalent among females than males, highest among 11th-grade females, and lowest among 10th-grade males (all $p < 0.05$). Nearly half (45.4%) of sexually active students reported contraceptive nonuse before the last sexual intercourse. The prevalence of this behavior was higher in 10th-grade than in other grades (both $p < 0.05$). Both in 10th-12th-graders, the prevalence of contraceptive nonuse was higher among females than males (both $p < 0.05$).

Alcohol or Drug Use: One-quarter (25.0%) of sexually active students reported alcohol or drug use before the last sexual

Table 1: Descriptive Characteristics of Urban Chinese High-School Students.

	10 th grade (n = 4,855)	11 th grade (n = 3,623)	12 th grade (n = 1,967)	Total sample (n = 10,445)
Age (years)	15.85 ± 1.32	16.84 ± 0.97	17.73 ± 1.19	16.55 ± 1.39
Sex (males) ^a	53.7%	49.1%	50.2%	51.5%
Ethnicity (Han) ^b	96.4%	93.9%	94.1%	95.1%
Sibling status (none)	56.6%	61.1%	57.2%	58.3%
Parents' marital status				
Stable	90.3%	88.0%	89.1%	89.3%
Divorced	4.2%	5.8%	6.3%	5.1%
Single parent	2.5%	2.6%	2.1%	2.5%
Remarried	3.0%	3.5%	2.5%	3.1%
Father's education				
Junior high school or less	50.8%	46.4%	54.4%	49.9%
High school	29.5%	28.1%	30.8%	29.3%
University or more	19.7%	25.5%	14.8%	20.8%
Mother's education				
Junior high school or less	59.0%	54.3%	62.1%	58.0%
High school	25.7%	25.9%	27.8%	26.2%
University or more	15.3%	19.8%	10.1%	15.8%
Subjective SES (province)	5.85 ± 1.58	5.84 ± 1.56	5.76 ± 1.55	5.83 ± 1.57
Subjective SES (school)	6.27 ± 1.51	6.33 ± 1.49	6.45 ± 1.52	6.32 ± 1.51

^a Percentage of male; ^bPercentage of Han nationality; SES, socioeconomic status.

Table 2: Sexual Behavior among High-School Students.

	10 th grade (n = 4855)			11 th grade (n = 3623)			12 th grade (n = 1967)			Total sample (n = 10445)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ever had sexual intercourse	13.3%	4.8%	9.4%	17.7%	12.1%	15.3%	23.3%	15.1%	19.1%	16.6%	9.7%	13.3%
Sexual intercourse <13 years old ^a	3.0% (23.1%)	1.0% (21%)	2.1% (22.3%)	3.2% (18.1%)	3.9% (32%)	3.5% (22.9%)	3.0% (12.9%)	3.8% (25.2%)	3.4% (17.8%)	3.0% (18.1%)	2.7% (27.8%)	2.9% (21.8%)
Sexual intercourse with ≥4 persons ^a	3.2% (24.1%)	2.4% (50%)	2.9% (31%)	4.9% (27.7%)	5.5% (45.5%)	5.2% (34.0%)	7.1% (30.4%)	4.2% (27.8%)	5.7% (29.8%)	4.4% (26.5%)	4.0% (41.2%)	4.2% (31.6%)
Sexually active (last 3 months) ^a	5.6% (42.1%)	2.4% (50.0%)	4.1% (43.6%)	9.2% (52.0%)	6.5% (53.7%)	7.8% (51.0%)	12.0% (51.5%)	5.5% (36.4%)	8.8% (46.1%)	8.0% (48.2%)	4.5% (46.4%)	6.3% (47.4%)
Condom use ^b	26.9%	23.6%	26.0%	38.7%	30.6%	35.2%	31.0%	25.9%	30.0%	32.5%	28.1%	30.9%
Oral contraceptive use ^b	14.1%	17.2%	16.4%	16.0%	21.5%	18.3%	19.3%	20.0%	19.8%	16.4%	20.2%	17.7%
Contraceptive nonuse ^b	47.9%	56.4%	50.0%	46.0%	40.5%	43.7%	40.0%	50.0%	43.0%	44.9%	46.5%	45.4%
Alcohol or drug use ^b	26.2%	25.5%	26.0%	25.8%	16.5%	21.8%	27.1%	32.8%	29.1%	26.2%	22.8%	25.0%

^aParenthetical data represent a subsample of students who had ever had sexual intercourse.

^bDuring last sexual intercourse, among currently sexually active students.

intercourse. This behavior was more prevalent among males than females ($p < 0.05$) and most prevalent in 12th-grade females.

Psychological Measure Outcomes

Means and SDs of sociodemographic and psychological measures are presented in Table (3) according to condom (non) use during the last sexual activity. Adolescents who did not use condoms had higher BIS-11 scores, CES-D scores, and parents and friends SSSCA subscale scores (all $p < 0.05$), while lower subjective SES (school) ($p < 0.01$) and FES cohesion subscale scores ($p < 0.05$) than did adolescents who used condoms. No significant difference in other scores was observed between adolescents with condom use and those without condom use (all $p > 0.05$).

Factors Correlated with Contraceptive Use

In multivariate analyses, significant independent predictors of condom use among currently sexually active students were parents' marital status, subjective SES (school), BIS-11 scores, FES conflict scores, and other psychological variables (all $p < 0.05$). Parents' marital status (odds ratio [OR], 1.26; 95% confidence interval [CI], 1.11–1.53), subjective SES (school) (OR, 0.68; 95% CI, 0.56–0.83), self-esteem (OR, 0.78; 95% CI, 0.61–0.98), impulsiveness (OR, 1.24; CI, 1.14–1.42), and FES conflict scores (OR, 1.461; CI, 1.16–1.84) were related to condom nonuse among sexually active students (all $p < 0.05$). Unstable parents' marital status, low subjective SES at school, low self-esteem, high impulsiveness and high family conflict were risk factors of condom nonuse among currently sexually active students.

Multivariate analyses identified the following significant independent predictors of contraceptive nonuse among currently sexually active students: parents' marital status, mother's educational level, subjective SES, BIS-11 scores, SSSCA parent's scores, and self-esteem (all $p < 0.05$). Parents' marital status (OR, 1.17; 95% CI, 1.03–1.58), mother's educational level (OR, 0.88; 95% CI, 0.82–0.94), subjective SES (school) (OR, 0.77;

95% CI, 0.65–0.91), self-esteem (OR, 0.85; 95% CI, 0.78–0.92), and impulsiveness (OR, 1.25; 95% CI, 1.04–1.59) were related to contraceptive nonuse among currently sexually active students. Unstable parents' marital status, low mother's educational level, low subjective SES at school, low self-esteem, and high impulsiveness were risk factors of contraceptive nonuse among currently sexually active students.

DISCUSSION

RSBs place individuals at risk of adverse health outcomes

Table 3: Psychological Measures According to Condom Use during Last Sexual Intercourse among Sexually Active Students.

	Condom Nonuse (n = 456)	Condom Use (n = 205)
Subjective SES (province)	5.74 ± 1.92	5.89 ± 1.60
Subjective SES (school)	6.31 ± 1.82	6.99 ± 1.63**
BIS-11	72.59 ± 11.69	64.75 ± 9.84**
Self-Esteem Scale	17.61 ± 5.41	22.73 ± 4.92**
SSSCA_Parents	14.63 ± 2.25	13.27 ± 2.31*
SSSCA_Classmates	12.24 ± 2.68	11.98 ± 2.85
SSSCA_Friends	12.25 ± 3.75	10.72 ± 3.78*
SSSCA_Total	37.82 ± 6.78	36.23 ± 6.64
FES_Cohesion	10.82 ± 2.19	12.98 ± 2.01*
FES_Expressiveness	12.00 ± 1.71	12.18 ± 1.61
FES_Conflict	12.45 ± 2.47	11.62 ± 2.16
CES-D	22.78 ± 12.08	17.89 ± 8.92**
MASC	40.00 ± 20.61	37.74 ± 19.78

* $p < 0.05$, ** $p < 0.01$ (two-tailed).

Abbreviations: SES: Socioeconomic Status; BIS-11: Barratt Impulsiveness Scale-11; SSSCA: Social Support Scale for Children and Adolescents; FES: Family Environment Scale; CES-D: Center For Epidemiological Studies Depression Scale; MASC: Multidimensional Anxiety Scale for Children

and burden health care systems [5,32]. Various situational/contextual factors (e.g., condom, drug, alcohol availability) and individual variables (e.g., personality traits, knowledge about STD transmission, emotional distress) may contribute to the extent to which individuals engage in such behaviors [20-22,32,33].

In this study, 13.3% of Chinese high-school students, and more males than females, reported ever having sexual intercourse. Patterns in RSBs and preventive behaviors among sexually active students in this study demonstrate that Chinese adolescents might be at high risk of STD infection and unintended pregnancy. Nearly two-thirds of students reported condom nonuse, in contrast to the 60.2% use rate among US high-school students [9]. Approximately half of STD cases diagnosed annually in the US occur in youth aged 15-24 years [33], 39% of all new HIV infections are in individuals aged 13-29 years [34], and the pregnancy rate is approximately 7% among girls aged 15-19 years [35]. Given the greater prevalence of some RSBs among Chinese adolescents despite the lower overall prevalence of sexual behavior, further studies examining STD infection and unwanted pregnancy are needed. Official data reveal that 0.2% of Chinese individuals aged 15-24 years are infected with HIV in 2009, but do not indicate what proportion has had sexual experience before the age of 15 years (Ministry of Health of the People's Republic of China, 2010).

Our finding that condom use was least prevalent among 10th-graders is consistent with observations in other developing countries that use increases with age [36]. Youth are less knowledgeable about self-protection and lack planning skills to avoid unsafe sex [8]. They may also lack access to condoms or be less cautious about sex than older students. The importance of condom use is increasingly recognized in China, but the utilization of condom remains lower than in Western countries. China's first condom advertisement was released on China's Central Television in 1999, while which had been banned shortly after its release because government officials argued condom advertisements were illegal. China's first major television campaign promoting condom use was launched in 2007, and condom sales had increased notably by early 2010. However, utilization remains low. Individuals' attitudes about condom use affect others' likelihood of engaging in RSBs, particularly early sexual debut and condom nonuse [37]. Our results, particularly the low condom use rate among sexually active of 10th-graders, indicate the necessity of providing Chinese youth with effective, comprehensive school-based sexuality education emphasizing the risks of unsafe sex and providing information about self-protection (and perhaps distributing condoms) in adolescence, especially at the beginning of high school. In the United States, National Sexuality Education Standards were developed to provide age-appropriate sexuality education at different grade levels, which could be put into practice in classroom (Future of Sex Education Initiative, 2012). Similar school-based education program is needed for Chinese adolescents. Public resistance represents the main challenge to implementing such a program.

Sexuality education begins at home, and adolescents continue to receive information about sexuality attitude and behavior from their family, especially from their parents. Socioeconomic indicators that significantly predict RSBs and pregnancy in

adolescents include having a parent with low educational status and living in a single-parent family [15]. Compared to adolescents from two-parent families, adolescents from single-parent families were significantly more likely to report having ever had sexual intercourse. The divorce rate in China has increased from 1.8‰ in 2002 to 2.8‰ in 2015 (Development Statistics Report in 2002 of the Ministry of Civil Affairs, 2003 Development Statistics Report in 2015 of the Ministry of Civil Affairs, 2016). More than 10% of adolescents in our study reported instability in their parents' marriages, including divorce, remarriage, and single-parent families. This instability was a significant factor in the likelihood of sexual experience (ever had intercourse, currently sexually active) and high-risk sexual behavior (condom and other contraceptive nonuse). These findings are consistent with those of previous studies. Thus, the potential increase in the number of adolescents with multiple sexual partners and the widespread adoption of high-risk behaviors cannot be ignored in China, given ongoing transformations in sexual norms and behaviors in the context of rapid social and economic changes. Meanwhile, although most Chinese parents supported sexuality education, very few parents had provided it [38]. More and more Chinese parents should be aware that strengthening communication on sexual issues could be a good way to reduce high-risk sexual behavior.

We also attempted to clarify the relationships between psychological factors and sexual behavior at the individual level. Adolescents with lower self-esteem reported more condom and contraceptive nonuse. Low self-esteem has often been associated with (risky) sexual behavior, particularly in adolescent females [14,18,19]. Several studies have found that depression is related to sexual experience, contraceptive nonuse, non-monogamous sexual partners, pregnancy, and STD history in adolescent females [20-22,39,40]. In this study, depression was associated with RSBs in adolescents. Impulsiveness has also been linked to RSBs, such as sexual activity under pressure or while drunk in female high-school students and multiple sexual partners and alcohol use before sex in both genders [16,17,41]. In this study, impulsiveness was a risk factor for RSB, including increased rates of condom and contraceptive nonuse.

This study provides up-to-date data about the prevalence of sexual behavior in Chinese adolescents and information useful for its prevention. The study had several limitations. Firstly, it did not include students in rural areas, weakening the generalizability of findings to all adolescents in China. Secondly, same-sex attraction and behavior were not measured in this study, while previous researches showed that adolescents with same-sex behavior have poorer mental health [42-44]. The percentage of adolescents with same-sex behavior and its related factor should be further investigated in China. Lastly, measures of target variables relied on self-reporting, and most RSB measures assessed sexual history rather than ongoing behavior. Although the temporal nature of relationships is difficult to determine in cross-sectional research, patterns may be clarified by separating historic from current behavior, examining generalized tendencies (e.g., self-esteem) separately from recent feelings (e.g., depressive symptoms), and adopting a longitudinal approach. Such research efforts would help to distinguish the psychological effects of RSBs and aid the design of interventions to reduce such behavior. In a

word, a longitudinal model including both stable and short-term psychological factors and multiple measures of sexual behavior over time would provide much clarification of these complex issues.

CONCLUSIONS

Our study findings reinforce the importance of programs to prevent RSBs among Chinese adolescents. Adolescence is a developmental period of experience seeking associated with intense feelings and arousal, resulting in non-optimal decision making when faced with requirements to control impulses and delay gratification. Adolescents' impulsive propensities may be developmentally normative. They should thus be educated about the serious health risks associated with sexual behavior. Promising results have been achieved with sex education programs that include significant parental involvement [45-47].

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