

Youth Behavioral Risks and Psychosocial Resources in Peru's Alternative-Development Zones

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Abvuso de Drogas (CEDRO)

November 2004

This study was funded by the U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID) under the terms of Cooperative Agreement Number HRN-A-00-98-00012-00 and FRONTIERS subagreement number AI02.69A. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID.

EXECUTIVE SUMMARY

Context. Alternative-development (AD) programs are being offered to the population of seven regions of central-eastern Peru involved in coca cropping. The youth of these regions are above the national average in risk of pregnancy and sexually-transmitted infections, use of alcohol and drugs, and violence against women. This study sought to identify and describe protective factors expected to function as counterforces to such risks (objective 1), develop reliable indicators and provide a baseline concerning the risk behaviors and protective factors (objective 2), compare youth by gender, developmental stage, urbanization, and geography to determine whether segmented interventions are required (objective 3), and recommend specific intervention strategies (objective 4).

Methodology. Five AD zones in Peru's Amazonian basin (Apurímac-Ene, Leoncio Prado, Aguaytía, Alto Huallaga-Tocache, and Huallaga Central) were targeted. Urban and rural secondary schools were drawn from each zone and students of both sexes from 1st to 5th grades responded to a questionnaire. A sub-sample then participated in in-depth interviews. 1,721 questionnaires and 70 interviews were analyzed.

Results. Male students reported greater prevalence of sexual activity than female students. This asymmetry may be explained by male students having intercourse with girls outside the school system, i.e., lower SES partners, and female students being more selective of partner and circumstance. Males take the initiative in intercourse and use of contraception, and mainly pursue short-term relationships. Individualistic values are more developed in males and promote sexual initiation. Fear of pregnancy prevails among the female students, who generally pose resistance and seek long-term involvement with older males. Collectivistic values are more developed in females and promote virginity. Males showed higher prevalence than females in alcohol consumption and drug use. Males both impart receive violence to a greater extent than females. Females showed a higher level of depression/anxiety than males but self-esteem was similar in the two genders. Parents are the main actors in social support networks.

Conclusions and Recommendations. Objective 1: Female collectivistic values and a long-term partnering strategy are protective factors that delay sexual initiation and must be strengthened to prevent adolescent pregnancy and STIs. Community support protects females against sex and violence, while self-control protects males. Family and teacher support, respectively, protect both male and female students with respect to substance use and violence. Objective 2: The indicators of generally high reliability developed regarding six risk behaviors, seven psychosocial resources, and six risky contexts yielded detailed baselines that can be used to evaluate the impacts of future interventions. Objective 3: The risks of pregnancy, STI, and alcohol/tobacco consumption increase with age but this is not the case for illegal drug use and violence. Prevention efforts in the sexual area must be segmented by gender. Higher levels of depression/anxiety and violence in the highlands seem to function as expulsion (migration) factors. Objective 4: To be successful with females, as the Children Aid Society-Carrera Program was, interventions should mobilize their collectivistic values, long-term partnering strategy, and reliance on networking. To be successful with males, as the Peru Sex Education Program was, interventions should establish connections between responsible sexual behavior and individual achievements.

ACKNOWLEDGEMENTS

The authors are indebted to Ana Rosa Feijoo, Agustín Espinosa, Adriana Zumarán, Alex Ríos, María Elena Zavala, and Jorge Arnao for their assistance in data collection and analysis. Alberto Padilla provided technical assistance in sampling. Alejandro Vassilaqui and Carmen Leveratto supplied organizational support.

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I. STUDY BACKGROUND

A large proportion of the Peruvian population is under age 30 as a result of high fertility and low mortality and consequent rapid population growth in recent decades. According to the 1993 census, those under 15 years of age represented 37 percent of the general population. If they can be mobilized to understand and avoid high-risk health and reproductive behaviors, many of the health problems that afflict Peru may be reduced in a permanent, sustainable fashion.

In central-eastern Peru, the adolescent health risks are compounded by the stressful challenges of a social milieu of extended illicit activities. This territory encompasses the San Martín, Huánuco, Ucayali, Pasco, Junín, Ayacucho, and Cusco regions. Despite the effective interdiction of narco-trafficking and successful law enforcement over the past few years, production and trafficking of coca leaf and cocaine continue to cause serious political, economic, and environmental harm. The magnitude of the social problem is expressed by the fact that by 1994 the coca business employed almost 100,000 peasants.

Recognizing the complexity of the problem, the Government of Peru determined that only the provision of legal alternative crops to the farmers combined with strengthened local communities and better infrastructure could counter and undermine the illicit narcotics economy (PNPCD, 1995). All the sub-regions that have been targeted for alternative-development (AD) efforts are located in the Amazonian basin.

Youth Behavioral Risks in Alternative-Development Zones

This diagnostic study sought to generate information of relevance to the promotion of healthy youth behaviors in AD zones of Peru. The empirical literature suggests that the youth of these regions are above the national average in exposure to pregnancy and sexually-transmitted infections, use of alcohol and drugs, and violence against women. Policy makers that design interventions to promote youth health in AD zones need detailed information on these problem behaviors for use as a baseline against which the success of future interventions can be evaluated. They also need research instruments to conduct periodic assessments.

Sexual Risks. Adolescent pregnancy is recognized as one of the principal health problems in Peru. Magnani *et al* (2001) reported that living in the Amazonian macroregion increases the likelihood of youth's sexual activity and, according to an analysis of the Peru-DHS (2001) database, the seven regions targeted for AD efforts present an average rate of adolescent pregnancy that is 31 percent higher than the already high national rate (17 versus 13). Sexually transmitted infections (STIs) are more frequent in the Amazonian region (1.0) than in the coast (0.9) or sierra (0.7).

Use of Alcohol and Drugs. Among the general Peruvian population, 79.6 percent have consumed alcohol in the last year, the risk of initiation peaks at ages 15-18, and consumption is greater among males than females (Ascacibar *et al.*, 1999; Jutkowitz *et al.*, 1986; Ferrando, 1993; Ferrando *et al.*, 1993; León *et al.*, 1989, Villanueva, 1996). Use of alcohol in the Amazonian region is greater than the national average, as is the consumption of tobacco, tranquilizers, inhalants, and illicit drugs (Ascacibar *et al.*, 1999).

Violence. Among Peruvian women aged 15-19, 30.8 percent have suffered physical violence from their husband or partner (Peru-DHS, 2001). Amazonian women are exposed to greater family violence than the national average (e.g., DHS, 2001, Table 12.9). These social problems take place in the context of severe deprivation. Six of the seven regions targeted for AD efforts fall below the national median on the Human Development Index (they range from rank 11 [Junín] through rank 23 [Ayacucho] out of 25 departments; PNUD, 2002).

Psychosocial Resources

The Social Development Model. The prevention literature shows that diverse dysfunctions share fundamental risk factors in common (Coie *et al.*, 1993). It also shows that a single protective factor generally is relevant to several dysfunctions. For example, good communication with parents may prevent adolescent pregnancy as well as drug abuse. The social development model of Hawkins, Catalano, and Miller (1992) asserts that the most important units of socialization (family, schools, peers, and community) influence behavior sequentially. Positive socialization is achieved when youth have the opportunity within each unit to be involved in conforming activities, when they develop skills necessary to be successfully involved, and when those with whom they interact consistently reward desired behaviors. The model emphasizes the role of bonding to prosocial family, school, peers, and community as a protection against the development of behaviour problems.

Parents. In Peru, 51.9 percent of youth expect to receive information on sex from both parents, yet only 12.2 percent receive it from the father and 11.3 percent from the mother (Castro de la Mata & Rojas, 1998). Whether the information helps prevent specific youth problems (e.g., adolescent pregnancy) will depend on the parents' attitude (e.g., their concept of gender roles). Consider the findings of Raguz *et al.* (2000) pertaining to perceived female roles in rural communities of the sierra and the Amazonian region. Many young girls as well as their parents expected an early assumption of the role of mother that would give meaning to their lives. Subjectively, the girls only became citizens when they were pregnant. Promotional programs targeting AD zones need to know in what behavioral areas programs can count on parents as promotional agents and in which ones the parents ought to become the targets of promotional efforts.

Teachers. According to a study in Peruvian secondary schools, 91 percent of the teachers are Catholic and 36 percent report being very religious. Twelve percent of the teachers believed masturbation to be immoral, 21 percent that the fertile period comes just before menstruation, 31 percent that the use of contraceptives endangers health, and 14 percent that condom use does not decrease the risk of HIV/AIDS. Promotional programs need to know whether and to what extent they can count on teachers as positive agents in the school system.

Peers. FOCUS/EsSalud (2000) showed at the national level that trained male youth leaders helped reduce fellow male peers' risk behaviors in the reproductive area through communication of learned concepts or messages. One problem with the peer leadership strategy implemented was that it was not effective in the case of female behavior. Programs need to improve their understanding of peer influences.

Community. Little is known about youth relationships with their communities either in Peru as a whole or specifically in AD zones.

Need for Gender Segmentation

Programs generally confound what youth are with what their rights ought to be. They assume that male and female youth should be treated equally; otherwise the rights of females could be hampered. This conceptual confusion leads to practical distortions. For example, the didactic materials developed by the National Sex Education Program of the Peruvian Ministry of Education only mention two facts in reference to gender: 1) the physical differences between men and women, and 2) the social stereotypes concerning masculinity and femininity, the stereotypes being treated as false beliefs.

The Empirical Evidence. Yet gender differences have been found to prevail with respect to personal identity (Bakan, 1966; Cross & Madson, 1997), sexual behavior (Baumeister, 2000), social roles (Wood & Eagly, 2002), values (León, 1996), and other key personality traits and social behaviors (Azar, 2000; Brannon, 1976; Jick & Mitz, 1985; Nolen-Hoeksema, 1990; Pleck *et al.*, 1993; Spencer *et al.*, 2002; Taylor *et al.*, 2000; Thompson & Pleck, 1987; Watson & Clark, 1984; Weissman *et al.*, 1996). In Peru, Raguz (1999) reported findings indicating that males and females cannot be treated as homogeneous groups. Virtually all the local studies on youth have reported important gender differences (e.g., Arias & Aramburú, 1999, 2002; Cáceres, 1999a, 1999b; Cáceres *et al.*, 2002; Ferrando, 1991; Fuller, 1998; Ponce & La Rosa, 1995; Quintana & Vásquez, 1999; Raguz *et al.*, 2000).

Implications. Programs need to differentiate male and female participants and pay attention to possible links between gender and specific approaches to reproductive and other behavioral risks. Specific information derived from empirical research should enhance program ability to direct their resources toward effective strategies.

Need for Developmental Segmentation

Not yet adults, but not still children, adolescents are in permanent physical and psychological change. Adolescence starts with a physical growth spurt and the appearance of primary and secondary sex characteristics and terminates when physical growth is essentially completed. This is also a period of transition from child to adult roles and status, i.e., a period of becoming an independent and self-sustaining person.

Developmental Tasks. The major tasks which must be mastered by adolescents include achieving new and more mature relations with peers of both sexes, identifying and achieving a masculine or feminine social role, accepting one's body, achieving emotional independence from parents and other adults, selecting and preparing for an occupation and eventual economic independence, desiring and achieving socially responsible behavior, acquiring an internal ethical system to serve as a guide to acceptable behavior, and preparing for marriage and family life (Havighurst, 1952).

Developmental Sequence. Not only does physical growth follow an orderly sequence throughout adolescence. The adolescent attains increased abilities to generalize, to

deal with abstractions, to deal with the concept of time, to deal with ideas without immediate personal involvement, to engage in logical thought, and to communicate with others (Jersild, 1963). Adolescence is also the decisive period in moving from externally imposed conduct patterns to an internally controlled set of personal values and moral standards. Piaget (1932) described the course of moral development as moving from a rigid sense of justice to a more flexible consideration of appropriate standards, which takes mitigating circumstances into account.

Implications. A common error of evaluation research is lumping together adolescents that differ widely in age. The developmental processes in place demand that attention be paid to specific age levels.

Urbanization

Whether a person has urban or rural residence systematically increases or decreases her/his risks in Peru at least in two dimensions. The adolescent pregnancy rate in rural settings (21.7) is more than twice as high as that in urban areas (9.2; Peru-DHS, 2001, Table 12.4). On the other hand, the risk of contracting an STI is greater in urban areas (1.1) than rural settings (0.4). The information on the other risks (alcohol abuse, violence) is inconsistent. For example, a study on sexual and physical violence against women conducted in Cusco indicated that violence is greater in rural areas than in urban zones (Güezmes *et al.*, 2002), yet the opposite has been reported at the national level (Peru-DHS, 2001, Table 12.4).

Study Objectives

The objectives of this study were to:

1. Describe the psychosocial resources that must be strengthened to prevent three health risks among youth (adolescent pregnancy/STIs, alcohol and other drug use, violence).
2. Define reliable and valid indicators for the youth risk behaviors and psychosocial resources and generate a baseline against which the success of future interventions can be evaluated.
3. Compare youth subpopulations defined by gender, age, urbanization, and geography to enhance program understanding of youth risk behaviors and determine whether differentiated interventions are required.
4. Recommend specific interventions considering the results of the study.

Limitations of the Study

According to our analyses of the Peru-DHS (2001) database concerning the departments that encompass alternative development (AD) zones, girls without education and those with only primary education represent 29% of the women aged 15-19. In these departments, uneducated girls and those with only primary education account for a greater number of pregnancies (60 percent of the total number of pregnancies in girls aged 15-19) than girls

who attained secondary or university education (40 percent) despite their smaller absolute number. Hence, we regarded out-of-school youth as important research targets of this study. Unfortunately, the social unrest prevailing in coca-cropping zones during the data-collection phase of the study prevented us from approaching the out-of-school sample. Whereas coordination with schools for applying a questionnaire to the student sample could be carried out with privacy, all of the strategies designed to reach out-of-school youth exposed the research team to considerable risks. Due to the same considerations, we also discarded interviewing community leaders. Parents were not interviewed because an overwhelming majority of the students did not authorize such interviews.

II. DESIGN AND CONDUCT OF THE STUDY

Research Design

Secondary schools were selected from five alternative development zones. The sample included urban and rural schools from each AD zone. Within each school, students from first (12 to 13 year olds on average) through fifth grade of secondary education (16 to 17 year olds on average) were invited to participate in the survey, as well as the teachers that were available. Data collection took place from late April through early July 2003.

Sample Frame

From South to North, the AD zones encompassed in this study were the following:

- **VRAE.** This is the acronym for “Valley of the rivers Apurímac and Ene”, a high-density cropping zone in the conjunction of the Ayacucho, Apurímac, and Cuzco regions.
- **Leoncio Prado.** This high-density cropping zone is located in the Huánuco region. It encompasses districts within the Leoncio Prado province and districts adjacent to this province.
- **Aguaytía.** This low-density cropping zone is located in the Padre Abad province of the Ucayali region, crossed by the Aguaytía and San Alejandro rivers and their tributaries.
- **Alto Huallaga-Tocache.** Located in the San Martín region, this medium-density cropping zone encompasses territories from five districts crossed by the Huallaga river and such tributaries as the Chuntauaca, Tocache, Mishollo, and Cotomono rivers.
- **Huallaga Central.** Also in the San Martín region, this low-density cropping zone includes territory from several provinces crossed by the Huallaga river and several tributaries.

Figure 1 in Appendix 1 presents their location in the Peruvian territory.

Selection of Schools and Students Within Schools

The Peru Ministry of Education's database of secondary schools was the basis for sampling. The selection of schools was carried out independently for each of the five AD zones. Sampling was stratified by urban and rural areas, following the Ministry's classifications of schools into urban and rural.

Sampling Procedures. Two urban and two rural schools were to be selected for each AD zone. The inclusion criteria were that the school be public (i.e., the few private schools were excluded), had male and female students, offered complete secondary education (i.e., from 1st through 5th grade), and had a minimum of 50 students in secondary education. The school sampling procedure is described in Appendix 1. Data collectors were instructed to ask of all the secondary students at the 20 schools enrolled for their consent to participate in the study. The number of questionnaires responded to surpassed expectations. We needed a smaller sample. Appendix 1 describes the procedures followed to reduce the sample. In the final sample, there were 1,721 students (1,028 urban, 693 rural).

Questionnaires

Questionnaires were designed for youth, their parents, teachers, and community leaders.

Youth Questionnaire. The construction of this questionnaire responded to three restrictions: contents that could be addressed within a 45-minute period; essential items enabling the researchers to assess the state of the problems and the protective factors; and items that conveyed unambiguous meaning. The questionnaire was pilot-tested in AD zones and adjusted. The main change consisted of the conversion of all the items to a Yes-No format to simplify its administration. The first page included identification and general personal data. The following sections formed the main body of the questionnaire: 1) physical and mental health; 2) relationships with potential protective agents such as parents, peers, and teachers; 3) community participation; 4) alcohol and drug use; 5) sexual information; 6) sexual activity; 7) violence; and 8) values. Finally, the Drug Use Screening Inventory (DUSI) was attached. The questionnaire was self-administered, i.e., applied in group administration. Three research assistants offered instructions to the students and made themselves available to solve questions and doubts.

Teacher Questionnaire. Appendix 8 presents the basic results.

In-Depth Interview

We designed an in-depth interview with youth to capture behavior-specific cognition, social interaction, and preparatory behaviors. The method used was the critical-incidents technique, a methodology used in industrial psychology to induce dimensions of job performance from

specific events. In the present application, the critical-incidents technique was used to induce categories relevant to the prevention of adolescent pregnancy from particular risk situations selected from the subject's memory.

Selection of Students. The in-depth interview involved students from 4th and 5th grades. In each school, four students from each of these grades were randomly selected on the basis of their prior questionnaire responses: two (one male, one female) who had had heterosexual intercourse and two (one male, one female) who had not yet had their sexual debut. The interviews were conducted individually and privately.

Critical Incidents. A "critical incident" is a heterosexual event within the past 12 months that involved a risk of pregnancy. In all cases, the subject was first asked to remember a Type 1 critical incident, i.e., a heterosexual event in which he or she was involved, there was intercourse, and contraception was used. In Type 2 critical incidents there was intercourse but contraception was not used. In Type 3 critical incidents there was no intercourse but the participant was involved in kissing, touching, and/or talking about sex with a heterosexual partner. All the students selected for participation in the in-depth interview were asked to identify in their memory these three types of events; the students who had had heterosexual intercourse described the three of them while those who had not were only referred to the Type 3 critical incident.

Procedure. Once the student found in his or her memory a Type 1 Critical Incident, the interviewer asked for a precise description of the context: whether it was day or night, what were the physical surroundings (street, room, etc.), the type of the partner (fellow student, other youth, adult, same sex, etc.), type of relationship (just met, fiancée, etc.), immediate social occasion (studies, party, sports, etc.), antecedents (whether a similar situation had occurred in the past and what was the outcome), thoughts entertained in the process (lust, surprise, anxiety, etc.), and the subject's explanation of the causes of the situation (i.e., why the risky event occurred or failed to occur). More specific questions were formulated as the description proceeded. Taping was not used. The interviewer wrote down *verbatim* the student's responses. Then the interview addressed Type 2 and Type 3 incidents.

Data Analysis. Seventy interviews were completed in AD zones. Two types of analyses were performed on the data. Response categories were derived from the narrative reports. For example, with respect to time of the day: day versus night. Then codes for these categories were assigned and the data were analyzed quantitatively. The second procedure involved a wholistic approach to data analysis that addressed case by case.

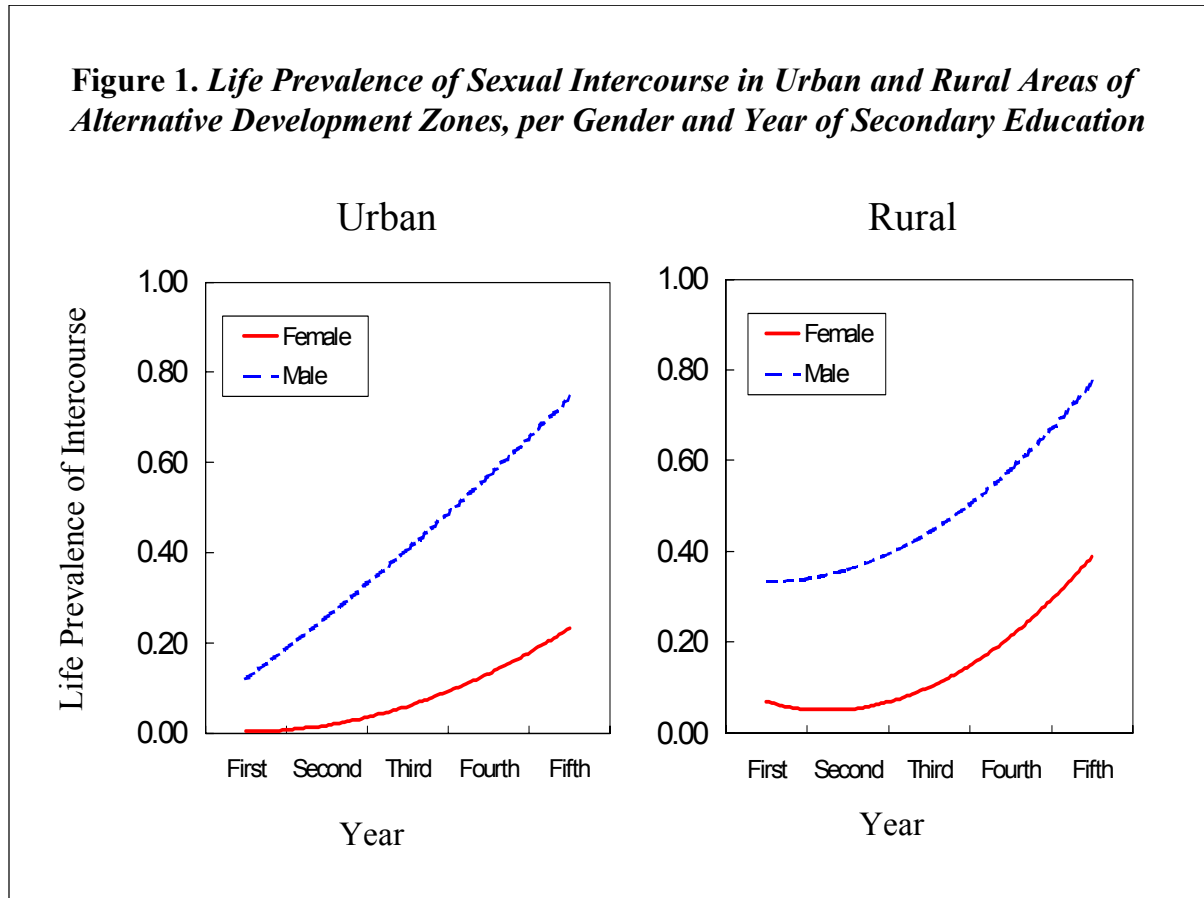
Results

The following chapters present the results of the study, starting with a general description of the sample and an analysis of questionnaire responses pertaining to the students' sexuality.

III. GENDER AND SEXUAL RISK

The percentage of men in the sample remained above 50, which probably is an expression of gender inequality in access to education. The percentage was greater in rural areas (from 56

through 62) than urban settings (from 48 through 56) in all grades but did not systematically increase or decrease throughout the five grades. Age increased monotonically throughout the five grades of secondary education in both samples. In all grades, the male students were slightly older than the females.

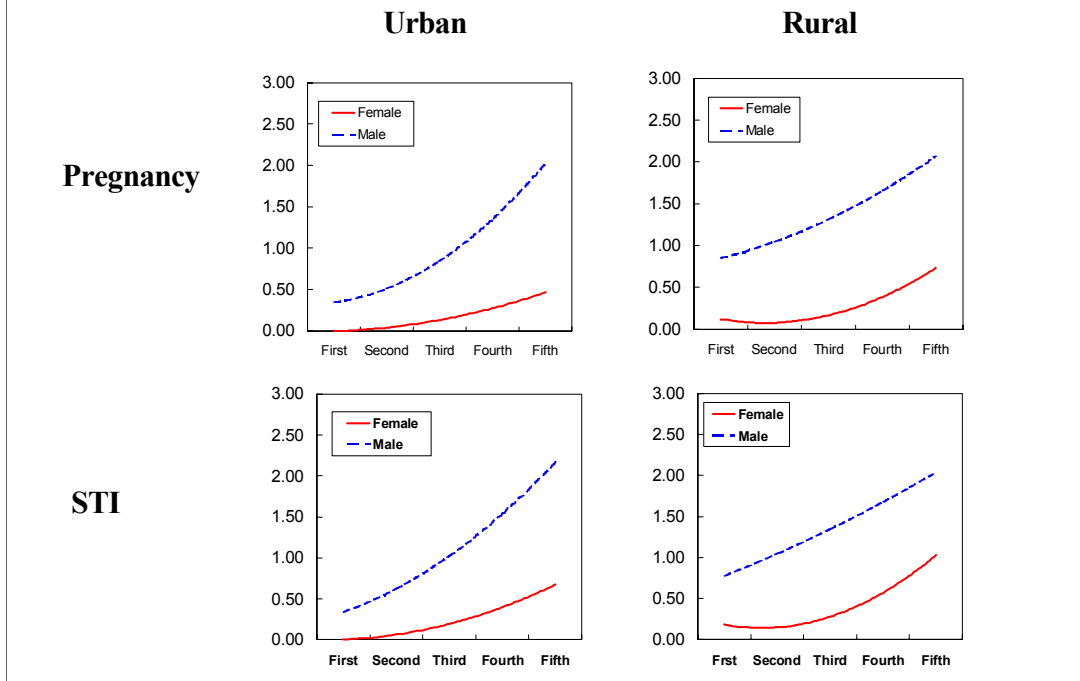


The life-prevalence of intercourse was measured through the question, “Have you had sexual relations?”. The yes responses monotonically increased from 2nd through 5th year in all the samples. In 5th year, the prevalence surpassed .75 in both male samples. In the female samples it only surpassed .20 in urban areas and .40 in rural areas. At the other extreme of secondary education, 1st and 2nd years, the rural samples showed higher prevalences than the urban samples in the four comparisons, revealing that sexual debut takes place earlier in rural than urban areas. Figure 1 present the trends. (See Note 1 concerning raw prevalences.)

The probability for the male prevalence being greater than the female prevalence 10 times out of 10 comparisons (2 areas x 5 grades) just on the basis of random fluctuation is extremely small ($p < .001$, one-tailed). The global correlation between gender (Male = 1, Female = 0) and initiation in sexual activity (Yes = 1, No = 0), as measured by the product-moment ϕ (phi) coefficient, was equal to .34 ($p < .0005$, one-tailed).

Similar results were obtained when we developed reliable summative scales for risk of pregnancy and STI. Figure 2 presents the results. Appendix 2 describes in detail the contents of the scales as well as other perceptions and behaviors relevant to this area.

Figure 2. Average Score for Risks of Pregnancy and STIs in Urban and Rural Areas of AD Zones, per Gender and Year of Secondary Education



Post-Hoc Research Questions and Hypotheses

If overreporting of sexual activity by boys and underreporting by girls explained these results, the whole survey would be invalidated. Yet, response biases do not explain the gender differences (see Appendix 3). A substantive interpretation of the findings is needed.

Arithmetic Puzzle. How can it be arithmetically possible that boys report greater sexual activity than girls? The most obvious possibility, tested in this study, is that male youth not only sexually engage girls of their same age but in addition have sexual relations with persons excluded from the samples studied, such as adults, including sex workers. Among adult males, a majority report having had sex with sex workers (e.g., Im-em 1998, Jehjeebhoy 1996). In Argentina, 42 percent of boys in secondary school said their first sexual experience was with a sex worker (Necchi and Schuffer 1998). Another arithmetic possibility is that the few girls who have had sex are active enough to account for the sexual activity of a larger number of boys. This hypothesis, however, would run contrary to theoretical predictions and would be inconsistent with meta-analyses of the literature showing that males present a greater number of sexual partners than females (Oliver and Hyde 1993).

Partnering Strategy. The gender gap can be parsimoniously explained by a majority of females employing a long-term mating strategy and more males than females seeking casual sex. Adolescent women more frequently report having premarital sex within the context of a significant relationship, while young men more frequently report having sex with multiple partners and in more occasional relationships (Green 1997). Studies in Nigeria

(Amazigo et al. 1997), Argentina (Necchi and Schuffer 1998), Guinea (Gorgen et al. 1998), and Nicaragua (Rani, Figueroa, & Ainsle 2003) consistently show that boys portray most of their sexual interactions as casual or occasional while girls portray theirs as more stable and intimate. Since humans are highly selective of their sexual partners in long-term mating (Buss 2004), a majority of females will take their time selecting a mate and thus can be predicted to present delayed initiations. In contrast, if a majority of male youngsters employ a short-term mating strategy in which they apply more relaxed selection standards, an earlier start and current sexual activity can be expected. Mating strategy has not been studied in reference to the gender gap in youth sexual activity. In this study we addressed long-term mating as a stable relationship regardless of whether the student was married, in informal union, or just in love.

Sexual Behavior from Questionnaire Responses

Table 1 presents results concerning the ages of the partner and the informant at the first sexual intercourse. The results disproved the post-hoc partner-age hypothesis of this study. Only a small minority of the sexually active male students had their first intercourse with adults. The results revealed, rather, that nearly half of the sexually active female students had their first intercourse with adult partners, a significant difference with respect to the male data ($p < .01$ according to the chi-square test). Having an adult as the sexual partner in the most recent intercourse increased to 11% among males and to 56% among the females.

Table 1. Distribution of Cases for Sexually Active Students and Mean and Median Age at each Age Interval Attributed to Partner at First Intercourse, per Gender of the Informant

Partner Age	N	%	Males		N	%	Females	
			Mean Age of Informant	Median Age of Informant			Mean Age of Informant	Median Age of Informant
10 and younger	31	9.17	9.45	10	1	1.56	18	18
11-14	159	47.04	12.54	13	2	3.12	14.19	14.41
15-18	134	39.64	13.81	14	31	48.44	15.13	15
19 and older	14	4.14	14.68	14.97	30	46.87	15.08	15

The female students had their first intercourse at an older age (median age = 15) and more recently (in the past 1.08 years on average) than the male students did (median age at first intercourse = 14, time elapsed since first intercourse = 3.05 years on average). Hence, the average male student was having sex with a girl of approximately his same age while the average female student that could be his classmate waited 1.4 years for her first intercourse, which she had with an older partner. This suggests that only a minority of the partners of the average male student were female students; a majority had to be girls of approximately their same age who were not in secondary school and, given the age distribution seen in Table 1, would not have been primary-schoolers, either.

Table 2 presents data that are relevant to the identity of the partner and other dynamic aspects of sex life, including gender ratios. The gender ratio has in the numerator the male prevalence and in the denominator the female prevalence. The table refers to the percentages of occurrence of each of nine risky sexual behaviors. The first five items maintain identical rank position in the female and male groups. The next three items present altered ranks as well as extreme gender ratios greater than unity. The gender ratio is reversed in the case of the last item.

The two items that maximize the gender gap (*Missing school and having sex* and *Having had sex with unknown persons and/or sex workers*) confirm that an important portion of the male sexual activity involved females who did not belong in the school setting. By itself, *Missing school and having sex* could not quantitatively account for the gender gap in life prevalence of sexual activity for the total sample. Hence, students seeking to to have sex *at other than school hours* with girls who were beyond the school system ought to be hypothesized as a complement. The item that reversed the gender ratio (*Having had sex with stable partner in the past 12 months*) confirms the study hypothesis concerning mating strategy and suggests that a considerable majority of the female students were looking for a husband, not for casual sex.

Table 2. Frequency of Specific Sexual Behaviors, per Gender

<u>Behaviors</u>	<u>Percentages</u>		<u>Gender</u>
	<u>Male</u>	<u>Female</u>	<u>Ratio</u> ¹
Having had heterosexual sex (1 st intercourse)	36.9	8.8	4.2**
Currently having heterosexual sex	16.9	2.8	6.0**
Having intercourse once per month or more frequently	12.0	1.9	6.3**
Having been pregnant/having gotten partner pregnant	8.6	1.3	6.6**
Having had homosexual sex (1 st intercourse)	1.8	0.7	2.6*
Having had multiple partners simultaneously	13.9	0.9	15.4**
Missing school and having sexual relations	5.6	0.0	133.1**
Having had sex with unknown persons or sex workers ²	20.4	0.0	>1,000.0**
Having had sex with stable partner in past 12 months ²	39.8	75.4	0.5**

¹ Percentage male/percentage female.

² Out of those having had sex.

** $p < .01$, * $p = .06$, chi-square (χ^2) test.

In contrast, the male students' responses suggested a greater engagement in short-term mating: compared to girls, boys reported greater sexual activity as well as more sexual activity with partners that were not part of a stable relationship. Sex with unknown persons/sex workers represented one-fifth of the male current sexual activity. Boys not only presented higher proportions of sexual debut than girls but the gender gap increased when current intercourse was considered. This could be due to the time elapsing from sexual debut, significantly longer for males than females and thus offering them greater opportunities for repetition. But it could also reflect that a greater percentage of females than males were inhibited after their first experience. The *heterosexual* gender gap was statistically

significant, which eliminates the hypothesis that homosexual relations caused the greater rate of sexual initiation among males. The homosexual gender gap itself approached significance ($p = .06$). Frequency of intercourse and the pregnancy outcome maintained similar gender ratios.

Sexual Behavior from Critical Incidents

The following examples have been selected to illustrate the diversity of situations that were present in the critical incidents obtained in this study.

As seen in Exhibits 1 and 2, there was a considerable diversity of behaviors and feelings. However, some common threads can be detected in the narratives.

Initiative. Whether in reference to critical incidents that ended or not in intercourse, the female students reported that the initiative to have intercourse always came from the partner. This pattern appeared in the narratives under the structure “He asked, I accepted.” Similarly, in the male accounts prevailed the structure “I asked, she accepted.” although there were exceptions. Some males considered that the initiative was shared by both partners, and a few attributed it to the female.

Resistance. In critical incidents reported by males and females alike, the female posed some or strong resistance to intercourse in a considerable majority of the stories. The rule was that the male insisted, the female resisted. Intercourse generally occurred when the female ended her resistance. When intercourse did not occur, this was generally due to successful resistance on the part of the girl or an interruption by strangers. Male insistence

Exhibit 1. Male, No Intercourse

“It was one month ago, a Saturday evening less warm than usual. I was walking on the street with my girlfriend. We go out five or six times per month. There were other people also walking, but as we went farther the street became deserted. Then I took her and kissed her. I had already embraced and kissed her in the past but had not touched her body. This time I was rather horny and asked her to make love. It seemed normal to me but I didn’t know how she felt or what she expected. I didn’t feel fully comfortable because there was the risk of other people seeing us. They could say stupid things, like that she is a prostitute, a whore, a ‘chapera’. I thought that the next time we might have to go even farther to avoid being seen. But I wanted to make love to her now. Yet she resisted and made clear that she did not want it. She said this was not right and that she was in a phase of ‘fecundity’, that she was menstruating. She said she loved me but did not want to get pregnant. I felt happy and proud that she said that she loved me. I controlled myself, got distracted with the conversation, tried to think of other things, and took into account that she thought that this was not right. Thus, we returned, I kissed her goodbye and we agreed to meet again in a week. The next time I saw her we just talked like friends.”

Exhibit 2. Female, Intercourse, Contraception

“The incident took place in my boyfriend’s house. It was at the beginning of December, in the evening. It could have been any day of the week, I don’t remember. There was nobody with us; we were alone, and nobody knows about it now. He had brought food from a restaurant and we were eating. I liked him. He was my boyfriend. I was 17, he 18. This was the third time that he had asked me to make love. The other times I had said ‘No’. He told me that I was getting far from him. This time I accepted and we started kissing. Then he became more passionate. I felt more love for him, but I thought, ‘What’s going to happen to me? Will he leave me? Is he making a fool of me?’ It was my first time. He said that we had to be careful to avoid pregnancy and asked if I was in my fertile days. In the past occasions I had been menstruating and he had not insisted. I said that there was no risk of my getting pregnant now, for I was not menstruating. Both of us wanted to do it, so I accepted and we did it. He was tender but I felt bad. I feared that his father could come into the house. I did not experience pleasure. I had always thought that doing it would be something awful, bad, a sin. When we were finished he said that he loved me and took me home. We have not since seen each other.”

was generally verbal and accompanied with physical expressions of passion. Physical violence was absent in the male accounts and surprisingly infrequent in the female reports (only two cases).

Reasons for Lack of Intercourse. The main determinant of the lack of intercourse despite the existence of arousal and kissing and touching was the resistance on the part of the female. In the case of females who had already had intercourse, the resistance responded to such reasons as fear of pregnancy or having problems with the boyfriend. In the case of females who had not yet had sexual intercourse, some alluded to the lack of a specific proposal by her partner while the majority considered that having sexual relations was not part of their thoughts or that they were not yet prepared for it. Others said that it was not the proper moment for having sex or attributed their resistance to a fear of pregnancy.

Type of Bond. Virtually all the females that reported intercourse mentioned a boyfriend as the partner. This qualification applied equally to relationships of long standing and to recent acquaintances or even strangers that became boyfriends during the critical incident. The male students used a more diversified language. Whereas some sexual partners were described as girlfriends others were called friends, classmates, acquaintances, relatives, or sex workers.

Motive for Intercourse. Females mentioned love as the most frequent reason for having intercourse, followed by attraction and the fact of being the girlfriend of the partner and wishing to satisfy him or keep a relationship. Arousal and curiosity were mentioned considerably less frequently. On the other hand, critical incidents in which intercourse was not accomplished could involve cases of friends (i.e., not boyfriends) or just attraction (i.e., not love). That is, the female reports implicitly posed the requirement of being in love as a necessary antecedent of intercourse. The accounts from male students generally differed from this pattern. Their verbalizations showed that arousal, attraction, and curiosity were

more frequent than love as the immediate antecedent of intercourse with a girlfriend. Love was a more important motive for males in the incidents with a girlfriend that did not end in intercourse, which suggests that love makes the male student more acquiescent to the girl's resistance. In their intercourse with friends or acquaintances, males mainly referred just to attraction and lust, and secondarily curiosity.

Thoughts and Feelings. While having intercourse, female students felt mainly a fear of pregnancy. Secondarily, fear of STIs and of being discovered by someone or later abandoned by the partner. Pleasure or physical pain followed. Those who described incidents that did not end in intercourse remembered fear of pregnancy and being nervous along with feelings of love, pleasure, and arousal. The thoughts and feelings of males during intercourse exhibited more positive contents. They reported pleasure, love, and arousal but seldom fear of pregnancy. Fear of pregnancy mainly emerged in critical incidents not ending in intercourse.

Use of Contraception. All the females who reported use of contraception indicated that the initiative for using it came from the partner. A majority of male students, on the other hand, pointed to themselves as the initiators of contraceptive use while a minority indicated a joint decision or even a suggestion on the part of the female counterpart.

Consequences of Having Sex. As perceived by females, fears of pregnancy and STIs were the main consequences of intercourse, followed by shame. The probability that the relationship with the boyfriend continued after intercourse was equal to the probability that the relationship ended. A number of cases reported abandonment. Men had more positive views post-intercourse. Whereas some felt shame, a majority experienced pleasure and satisfaction and felt proud of having had sexual relations.

Role of Values in Sexual Activity

We took advantage of León's (1996) and Cross and Madson's (1997) linkage of the Bakan (1966) concepts of agency and communion with the individualism-collectivism variable of cross-cultural psychology (Schwartz and Bilsky, 1987; Triandis 1996). Values are at the core of the person's psychological structure and can be expected to be relevant to the configuration of his/her sexual activity.

Seven value domains were considered: pleasure ("glad, comfortable, enjoys life"), security ("free of anxieties, supported by the family, member of a united group"), achievement ("ambitious, respected, influential"), self-direction ("independent, imaginative, logic"), conformity ("obedient, courteous, orderly"), pro-sociality ("honest, compassionate, committed to a social or religious cause"), and maturity ("wise, mature, admirer of beauty"). The questionnaire contained a section that listed the seven sets of personality traits in the same order presented above. The students were asked to choose one of the seven sets, i.e., the one "that includes the traits that are the most important to you (that you would like to maintain if you already have them or acquire if you do not yet have them)". Then the student was asked to choose again the most important among the six remaining value domains. In data analysis, we assigned one point to a value domain whether it was selected as first or second choice and zero points if it was not selected at all.

Table 3 presents questionnaire results concerning the agentic and communal values,

including raw percentages of occurrence. Significant gender differences are observed with respect to each value; consistent with the León (1996) findings at the national level, the gender ratio was greater than unity for agentic or individualistic values (pleasure, achievement, and self-direction) and smaller than unity with respect to communal or collectivistic values (security, conformity, and pro-sociality).

TABLE 3. STUDY OF VALUE DOMAINS AND SEXUAL ACTIVITY

<u>Value Domain</u>	<u>Value Domain Chosen¹</u>			<u>Odds Ratios from Logistic Regression of Sexual Intercourse Ever on Value Domain Chosen²</u>	
	<u>Percentage</u>		<u>Gender Ratio</u>	<u>Males</u>	<u>Females</u>
	<u>Male</u>	<u>Female</u>			
Pleasure	44.8	38.1	1.2***	1.08	0.65
Security	20.0	30.1	0.7***	1.08	0.50*
Achievement	7.5	3.2	2.3***	1.92**	1.78
Self-Direction	12.8	8.0	1.6***	1.02	1.13
Conformity	17.4	21.3	0.8**	1.29	0.46*
Pro-Sociality	15.6	23.3	0.7***	0.78	0.35***
Maturity	13.7	9.5	1.4***	0.83	1.08

¹ A 1 score was assigned to the value domain chosen whether this was first or second choice.

² The full set of value domains was used in estimating the equation.

* $p < .10$, ** $p < .05$, *** $p < .01$

To test for the moderating effect of gender on the relationships between value domains and sexual activity we carried out, separately for males and females, logistic regressions of sexual activity (intercourse ever: yes = 1, no = 0) on the seven value domains (for each domain, chosen = 1, not chosen = 0). The model used the whole set of value domains in the equation. Only one value domain, achievement, presented a significant odds-ratio from the equation developed for males, reflecting that the odds of having had intercourse were predicted to double if the student chooses “Ambitious, respected, influential”. In the female equation, the significant odds-ratio pertained to pro-sociality: the odds of having had intercourse were predicted to drop to a third if the student chooses “Honest, compassionate, committed to a social or religious cause”. Two other collectivistic values, security and conformity, presented odd-ratios smaller than unity that approached significance as part of the female equation but not as part of the male equation. These results suggest that male sexual behavior is impelled by an individualistic set of values while female sexual behavior is restrained by collectivistic values.

Discussion of Research Findings Pertaining to the Gender Gap in Sex

Arithmetic Puzzle. The arithmetic puzzle posed by the gender gap was not resolved in accordance with the post-hoc partner-age hypothesis of this study: the proportion of male students who had their first intercourse with adults was small (only 4%). Rather, the male students alluded to sexual counterparts of approximately their same age. If most of the male students’ counterparts are not adults and exceed the number of female students reporting

sexual activity, they can only be girls excluded from the sample. *Missing school and having sex*, an antisocial behavior mentioned by an important percentage of male students and virtually no female student, pointed to a population of males' sexual partners who were physically outside the school setting. Thus, the gap's asymmetry may be accounted for by the structure of the sample in a study that targeted a student population and left out all the adolescents who were not part of the school system. The frequency of unknown persons among the males' sexual counterparts is consistent with this *post-hoc* hypothesis.

The constructivist/feminist theory of human sexual activity posits that groups with less power pay more attention and adapt their behavior more to those with power than the reverse (Hyde and Durik 2000) and evolutionary psychology predicts women's long-term mate selection on the basis of indicators of higher SES (Buss 2004). Hence, it is reasonable to infer that a majority of the male students of this study desiring to prove their heterosexuality sought sexual partners with greater success with girls outside the school setting than with their classmates. The latter were waiting for older mates and had demanding criteria for mate selection in other respects. In Peru, adolescents who do not attend secondary school generally are of lower SES than those who do. By engaging girls of lower SES, the male students increased the power inequality in their favor and thus may have compensated for the less educated girls' natural preference for older mates. As many as 8.6% of the male students stated that they had caused a pregnancy. Some of these may have been girls of lower SES and others secondary school students who had to drop out of secondary school because of the pregnancy.

More precise demographic studies that transcend school settings are needed to identify this hypothetical scenario of the interplay between age, SES, power and opportunity.

The Gap as a Result of Values and Mating Strategy. The results suggest that female students' collectivism and selectivity of partner and occasion restricted their access to intercourse. The finding that the female students generally resisted in sex emerged in the critical incidents in which intercourse was not attained but also in the majority of those that ended in intercourse. This suggests that the girls were reflecting in their actual sex behavior the pressure of social norms and/or the partner selectivity that comes with long-term mating strategy. An underlying long-term mating strategy was revealed by the female students' stable relations with a boyfriend and older partners. Evolutionary psychology expects that females seeking long-term mating apply selection criteria that include a preference for older men (Buss 2004). Long-term mating implies stringent mate selection criteria and consequently restricts access to intercourse. The female behavior expressed in the critical incidents (having sex only with a boyfriend, being driven by love, showing fear of abandonment) and the results concerning values suggest that the more socially responsive girls were more strongly impelled to delay initiation in obedience of collective norms.

The homosexual gap found here can be explained by Baumeister's (2000) theory of gender differences in erotic plasticity on the same grounds that it explains the heterosexual gender gap: women's greater malleability, a script for saying no, and their milder sexual drive. Schmitt et al. (2003: 98) concluded from their study in 52 nations that "married or single, heterosexual or homosexual – men consistently desire larger numbers of sexual partners than women do", which reflects a degree of consistency of male-female differences in sexual behavior that transcends sexual orientation.

Conclusions

The prevention of sexual risks requires, first of all, recognition that male and female youths approach sexuality differently. Girls tend to look for stable relationships with older partners and delay sexual initiation because the mate must satisfy some demanding criteria. Boys tend to look more for casual sex and are less discerning concerning mate selection. They take the initiative concerning sexual intercourse as well as the use of contraception. This study was able to identify consistent psychological factors that underlie the observed gender differences in sexual activity. Individualistic values (specifically, need for achievement) promoted initiation in sexual activity among males while collectivistic values (specifically, pro-sociality) promoted virginity among females. Prevention programs, however, treat boys and girls as if there were no substantial differences between them.

Reconsidering Conventional Prevention Strategies. Evaluators concerned with adolescent pregnancy find mixed results when they look at the lessons learned from prevention programs (Kirby 2001; Logan, Cole, & Leukefeld 2002). The five-year experience of the FOCUS on Young Adults program showed that almost all rigorously evaluated interventions improved youths' reproductive health knowledge. Often, however, programs tried and failed to improve sex risk behaviors (FOCUS 2001). This suggests that the task of identifying and mobilizing the motivational factors that really matter to youth may need a new focus. The prevailing prevention strategies assume not only gender equality as a right but as an extant condition insofar as youth psychological make-up is concerned and generally implement unisex intervention packages. Prevention programs that target boys and girls as if they constituted a homogenous population and achieve behavioral success generally do so with one of the genders but fail with the other. For example, Vereau et al. (1999) reported positive effects on boys while Philiber et al. (2002) reported positive effects on girls, as if the interventions had inadvertently mobilized essential male or female motives, but not both. (See an analysis of these studies in Appendix 4.)

The main theories of human sexuality assume basic gender differences and predict a gender gap in sexual activity (see Appendix 3) and youth survey responses confirm these predictions. This suggests that prevention programs might profit from implementing interventions segmented by gender. In marketing, segmentation implies recognizing the needs of specific market segments and tailoring *ad hoc* interventions for each segment. Evidently, the actual advantages of gender segmentation would have to be empirically demonstrated prior to their wide acceptance. So far, the few attempts to use sex-specific methods of intervention have proved more effective than the average intervention (Mize et al., 2002). Basic guidelines for segmented interventions include:

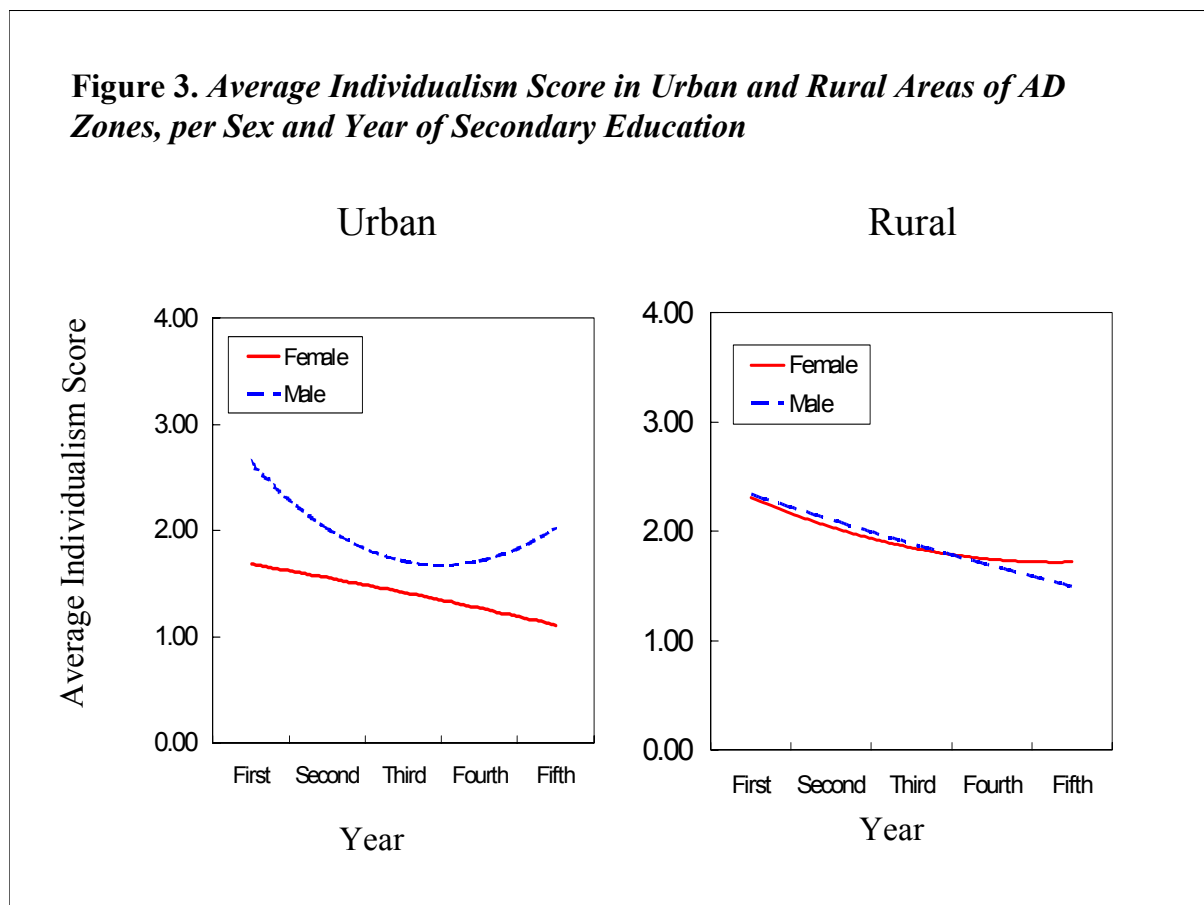
- Formulation of specific treatments and messages for each gender.
- Reinforcing female basic motives (collectivism, prosociality, long-term mating strategy, social networking) at the service of abstinence or responsible sexual activity. Philiber et al. (2002; see Appendix 4) provide an example of successful actions.
- Establishing associations between male basic motives (self-control, instrumentality, need for standing out, achievement of social recognition) and abstinence or responsible sexual activity. Vereau et al. (1999; see Appendix 4) provide an example of successful actions.

IV. PSYCHOSOCIAL RESOURCES AND SEXUAL RISK

This section evaluates a number of psychosocial resources, including contextual variables, as possible protective factors concerning youth sexual risks.

Individualism-Collectivism

Replicating León's (1996) procedures, we constructed a scale of individualistic value orientation in which the highest score (4) indicated maximum individualism and the lowest score (0) indicated maximum collectivism (see Appendix 5). Figure 3 compares the value-orientation trends of the urban and rural AD subsamples per gender over the five years of secondary education. Clear trends toward a decreased individualism (or increased collectivism) are observed in the four sub-samples.

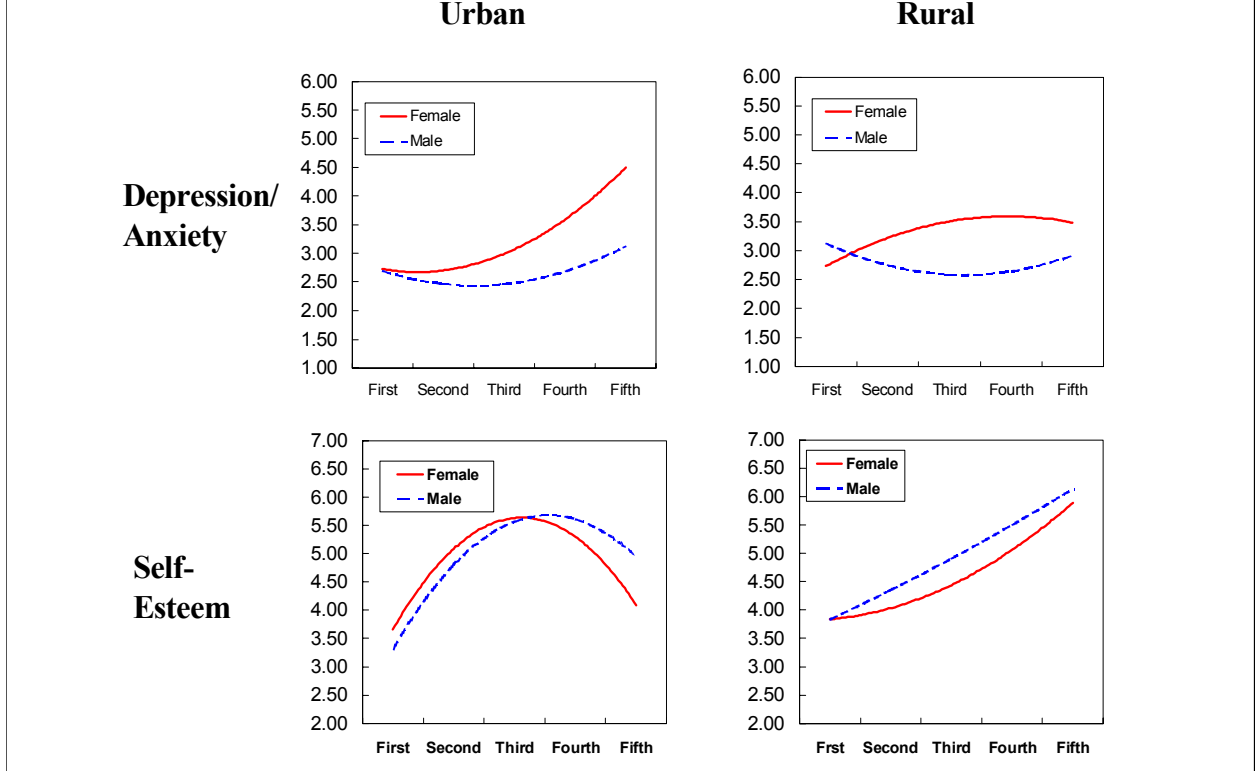


Mental Health

Appendix 5 presents the specific contents of the summative scales that were developed to measure other psychosocial resources. The evolution of symptoms of depression/anxiety along the five years of secondary education can be seen in Figure 4. The averages for males and females are similar in 1st year but soon the curves are differentiated due to the systematic increase in female depression/anxiety up to 4th or 5th years. The female students end

secondary school more depressed in urban than rural settings. The figure also presents the evolution of self-concept or self-esteem. Self-esteem falls in 5th year in urban settings. No systematic gender differences in self-esteem were observed.

Figure 4. Average Depression/Anxiety and Self-Esteem Scores in Urban and Rural Areas of AD Zones, per Sex and Year of Secondary Education



Support Network

Appendix 5 presents the specific contents of the summative scales that were developed to measure several components of the support network: parents, teachers, friends, and community. Figure 5 shows the evolution of perceived support from parents through school grades. It can be seen that the patterns for female and male participants are similar. The small decline observed in the upper school years could be attributed to the increase of autonomy from parents in older adolescents. It is important to remark that urban females perceived slightly more support from parents than males while in the rural settings this is the opposite.

Figure 6 presents the perception of friend support throughout school years. It can be seen that friends are important for younger as well as older adolescents. In urban settings, friends' support is perceived similarly by males and females. In rural areas, males perceived

more support from friends than females did.

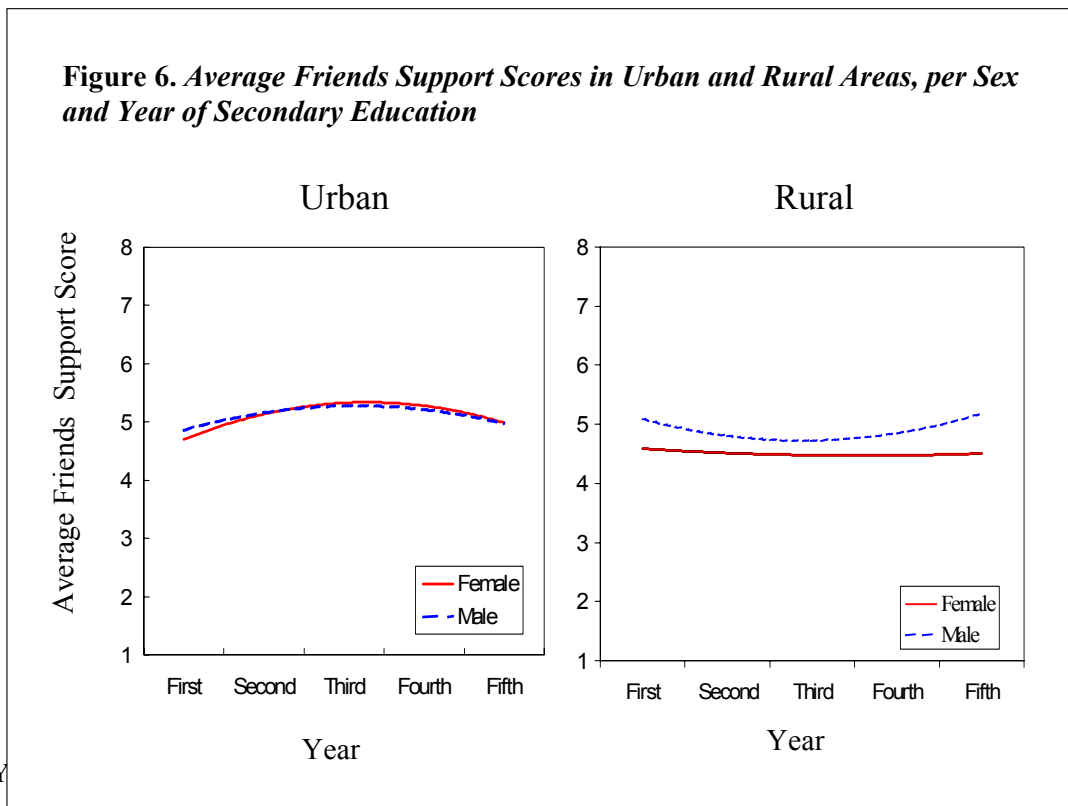
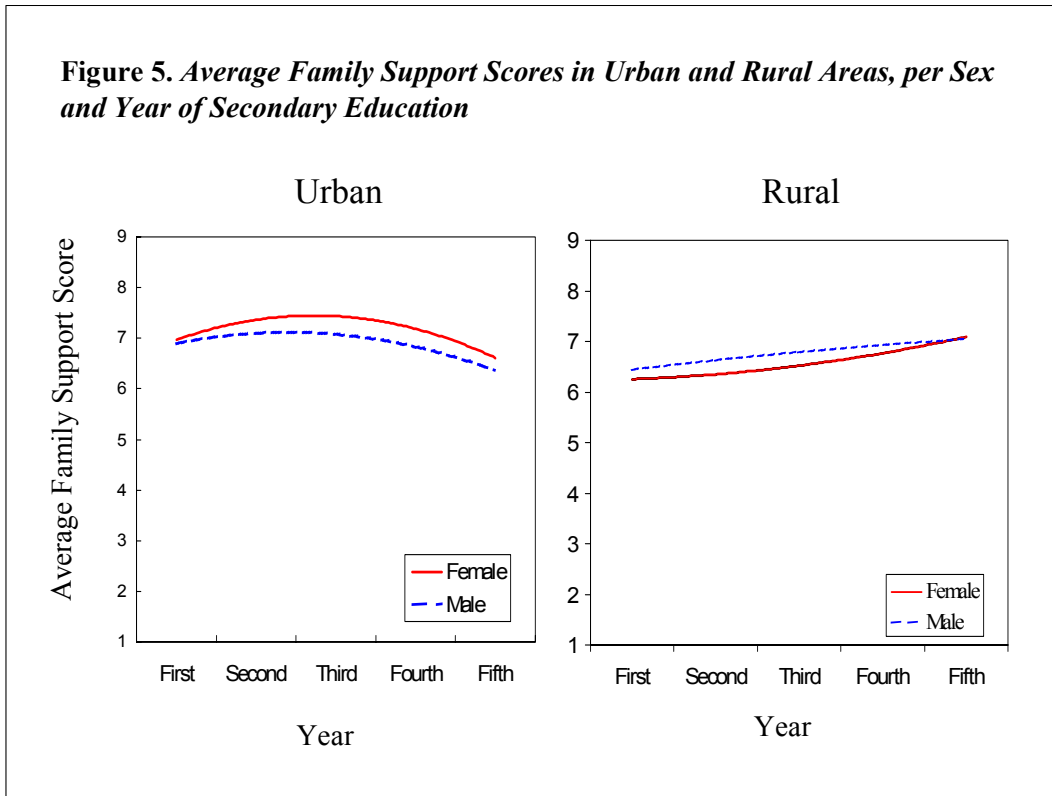


Figure 7. Average Teachers' Support Scores in Urban and Rural Areas, per Sex and Year of Secondary Education

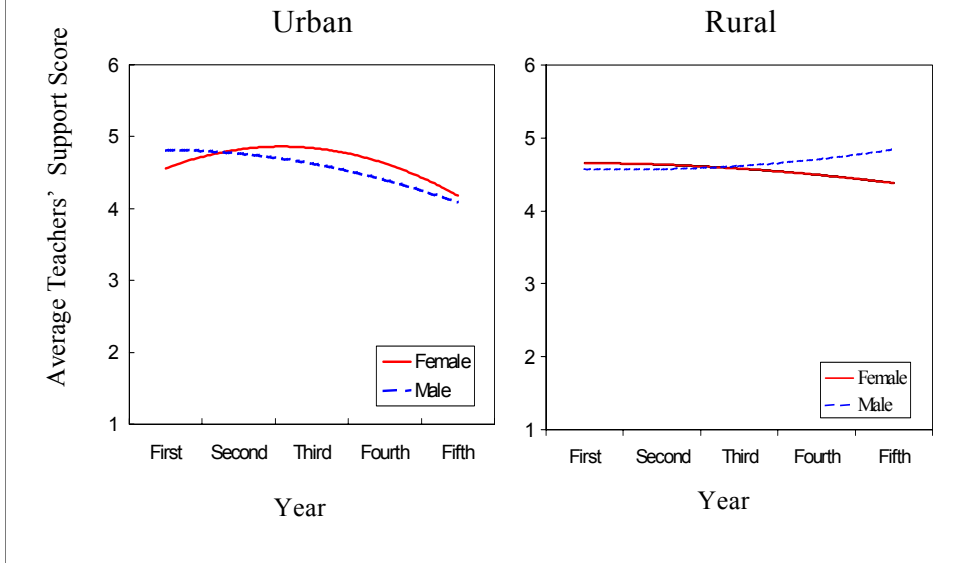
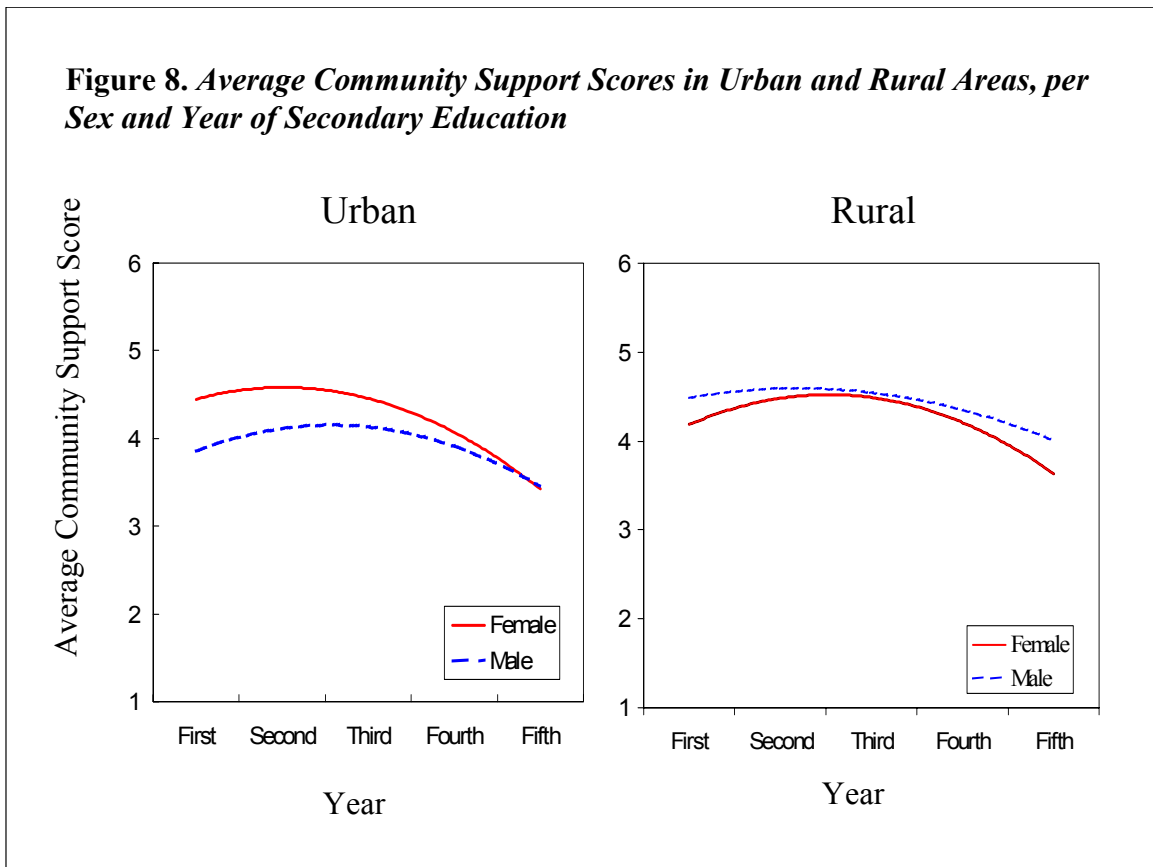


Figure 8. Average Community Support Scores in Urban and Rural Areas, per Sex and Year of Secondary Education



Teachers also are important social agents in the adolescents' milieu. Figure 7 presents the average scores of perceived support from teachers throughout the school grades. It can be seen that perceived teacher support decreases as students grow older, excepting males in rural areas. These results can be explained by the autonomy gained by the adolescents through the years.

Finally, we have the community. Figure 8 illustrates the evolution of perceived support from the community. The perception of community support goes down from 3rd year through the end of school. This result can be attributed to developmental factors. Older adolescents may have greater awareness of external and community opportunities because they are more concerned with future goals, including personal and social development plans. Consequently, they can more easily become disappointed. A gender gap is observed in early adolescents in urban settings, wherein females have a tendency to perceive greater community support. This gap disappeared in older adolescents, especially in the final school year. In rural areas the perception of support is weaker in the female group and the gap in this direction increases toward the end of the school years.

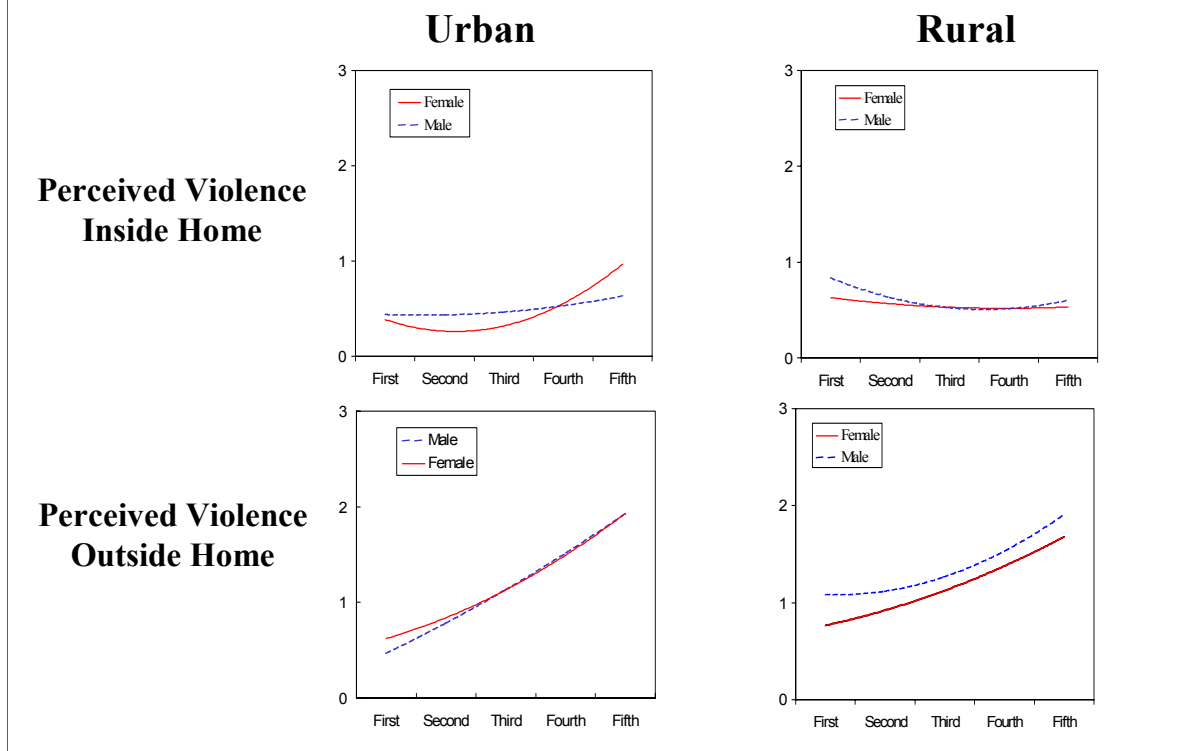
Risky Contexts

In order to better understand adolescent risk behavior, we measured the adolescents' perception of the presence of risk behaviors in their close surroundings. They were asked about their exposure to risky behaviors or factors related to violence as well as alcohol and drug consumption in their homes or outside their homes. Appendix 5 presents the specific contents of these scales.

Figure 9 shows the trends for the perception of violence in surroundings inside and outside the home. In general, it can be stated that the perception of violence is relatively low both in urban and rural areas. Exposure to violence inside the home seems to be stable throughout the school grades, that is, it does not increase with age. The same pattern is observed in urban and rural areas. This, however, did not occur with the perceived violence outside home, which increased as the students advanced towards the upper school grades. This could be explained by changes in adolescents' independence and their greater opportunities for staying outside home or doing activities outside home. In this process they would have to cope with adversities and risks in which violence could be involved. Since boys are expected, and allowed, to be more in the streets than girls, this could explain why boys perceived more violence in the streets than girls.

Adolescents were also asked for information about how permissive they perceived their environment to be regarding alcohol and drug consumption as well as their perception concerning the exposure to people who use these substances in their homes or outside them. Male students are more actively involved in drinking behaviors with family members or at family celebrations than female students. Males also perceived their home as more permissive regarding alcohol use. Figure 10 shows the evolution of perceptions of alcohol- and tobacco-use throughout the school years for both inside and outside family contexts. Women tend to perceive less alcohol use in all areas. Nevertheless, these perceptions increase as the school years advance.

Figure 9. Average Violence Perceived Inside and Outside Home Scores in Urban and Rural Areas, per Sex and Year of Secondary Education



These results have implications in prevention programs since parents and close family members play a social role as models of substance use and in defining behavioral standards towards the use of alcohol and tobacco. Parents and family members must be central targets in drug-use prevention programs.

We also explored the perception of illegal drug-use. The percentages are very low. The male group tended to perceive more illegal drug-use than the female group, especially in outside the home settings like bars and the streets. It is important to remark that boys also perceived significantly more permissive use of drugs in their homes than girls. This could be attributed to the fact that boys tend to be more in the streets than girls and that parents are not so attentive to where their male children are. Perceptions concerning the surroundings of illegal drug use remain stable throughout the school years, as shown in Figure 11.

Prediction of Sexual Risk from Psychosocial Resources

This section presents linear regression coefficients of sexual risks on psychosocial resources. Since risk of pregnancy and STI were highly correlated both within the male ($r = .80$) and female samples ($r = .77$), we integrated them into a single summative sex risk score. This score was tested in a stepwise-method regression model having psychosocial resources as predictors. Among the personal attributes, the model comprises structural traits, i.e., self-

Figure 10. Average Alcohol Use Inside and Outside Family Context Scores in Urban and Rural Areas of AD Zones, per Sex and Year of Secondary Education

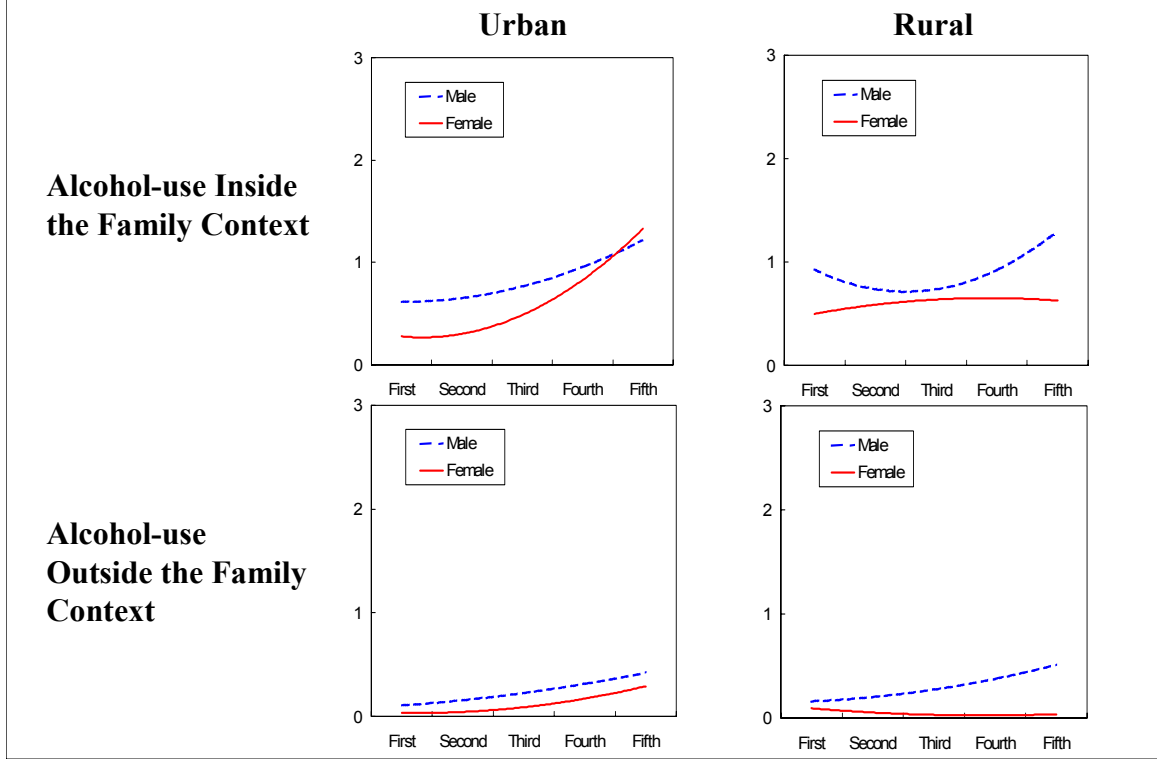
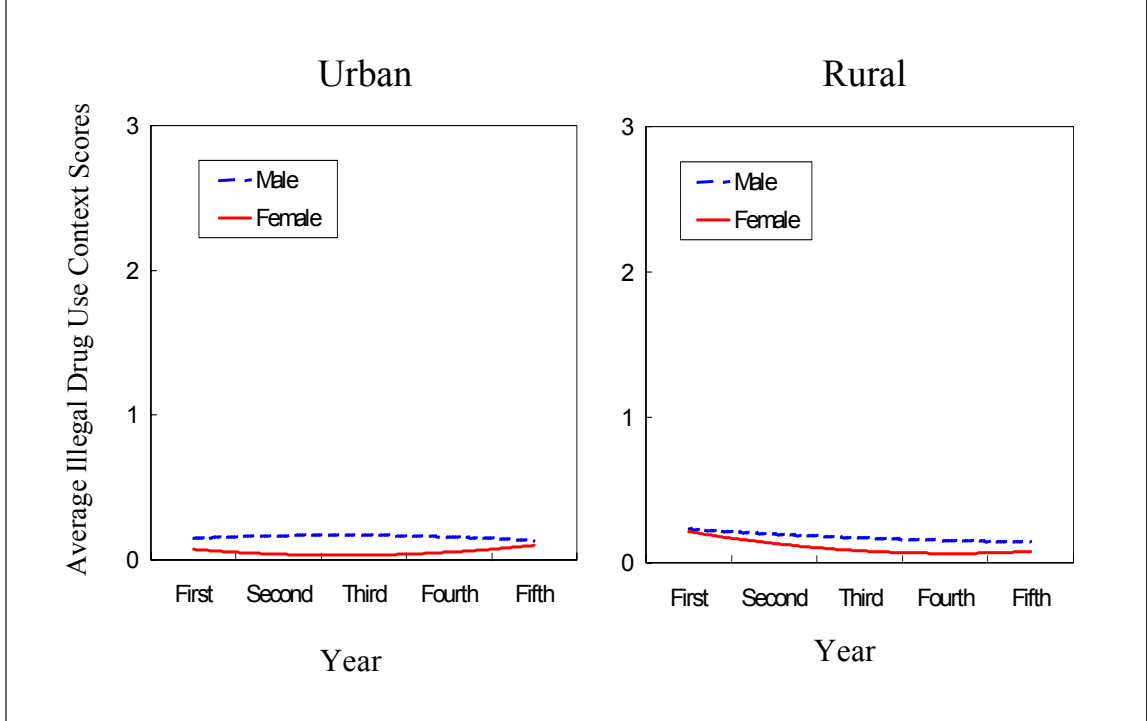


Figure 11. Average Illegal Drug Use Context Scores in Urban and Rural Areas, per Sex and Year of Secondary Education



concept, depression and anxiety, and individualism, as well as other personal characteristics, such as use of spare time and age. Social context indicators encompass social support networks as well as exposure to substance-use and/or violence outside and within the family. Table 4 presents the results.

Table 4. Regression of Sexual Risk on Psychosocial Resources in AD Zones

Predictors	Female		Male	
	Beta	t	Beta	t
Age	0.35	7.49***	0.52	12.26***
Alcohol/tobacco-use outside the family	0.23	4.94***	0.18	3.98***
Community support	-0.16	-3.57***	0.08	2.06*
Violence within the family	0.15	2.99**	0.07	1.76
Illicit drug-use context	0.11	2.55*	0.03	0.60
Exposed to violence outside the family	-0.11	-2.33*	0.07	1.58
Self-concept	0.03	0.69	-0.04	-1.08
Depression and Anxiety	0.02	0.49	-0.004	-0.11
Alcohol/tobacco-use within the family	-0.02	-0.48	0.09	2.27*
Use of spare-time	-0.02	-0.41	0.04	0.95
Family support	0.02	0.41	0.018	0.20
Teachers' support	-0.01	-0.30	0.003	0.07
Individualism	-0.01	-0.15	0.11	2.90**
Friends' support	-0.001	-0.03	0.04	0.99
Values of the Regression Models:	R Sq. = 29.9%		R Sq. = 40.2%	
	F = 26.08; $p < .000$		F = 52.55; $p < .000$	

*** $p < .001$

** $p < .01$

* $p < .05$

Indicators are sorted in order of levels of significance for the female group. Age is the most significant predictor for both female and male. This result can be understood as a developmental example since prevalence of sexual behavior is lower in early adolescence. As adolescents grow, their sexual risk increases. The context of alcohol/tobacco-use outside the family is a significant predictor for both girls and boys. Drinking alcohol may relax the inhibition of sexual behavior. Only alcohol use within the family is significant in the male group. In the male group individualism is an important personal predictor not present in the female model. This result corroborates previous results in this study about gender differences in value orientation and their impact on sexual behavior. Higher male achievement values are related to greater engagement in sexual activity and hence greater sexual risk behavior.

It is important to remark that in the female group age is the only personal attribute with a significant role as a predictor. All other significant predictors are related to social context. Among these social indicators violence seems to be especially relevant. Violence within the family acts as a positive predictor of sexual risk-behavior whereas exposure to violence outside the family functions as a protective factor. The hypotheses of violence within the family as a parenthood practice used to control or prohibit sexual intercourse in young female adolescents or as a factor that may cause an adolescent to run away from a violent home environment through the attachment to a romantic partner merits further study. On the other hand, violence outside the family context could provoke a sense of fear in female adolescents that would restrain sexual behavior. It is important to highlight that neither violence within nor outside the family context have predictive significance in the male regression model.

Community support is significant in the regression model of sexual risk-behavior for girls and boys. But for girls it functions as a protective factor and for boys as a risk factor. The community support scale assesses participation in religious, sport or political institutions, as well as perception of opportunities provided by the community. No significant differences were found between genders in the perception of opportunities offered by the community. Nonetheless, boys reported a greater participation in community organizations than girls, especially in sports and political associations. The latter could explain why community support could be acting as a risk factor in the male group. These results raise the hypothesis that sports participation may not reduce adolescent risk behavior.

Discussion of Research Findings

The importance of developmental factors will never be sufficiently emphasized in the evaluation of sexual risk. Age is the most potent predictor of sexual risk both for boys and girls. However, prevention programs concerned with youth often ignore this information and employ the same intervention strategies with youth of various ages. Another notable finding of this section pertains to the role of individualism as a promoter of male sexual risk despite the statistical control exerted upon several possible confounding factors. For example, individualism decreased with age (see Figure 3) but was found to be correlated with sexual risk within age levels (Table 4). The presence of alcohol use in the adolescent's environment emerged as a third important predictor of sexual risk, either outside or inside the family context. This, in turn, functioned as an independent factor. In Peru, alcohol consumption by males promotes the expression of *machista* attitudes. Similar may be the mechanism whereby participation in sports and political activities promotes sexual risk in male youths

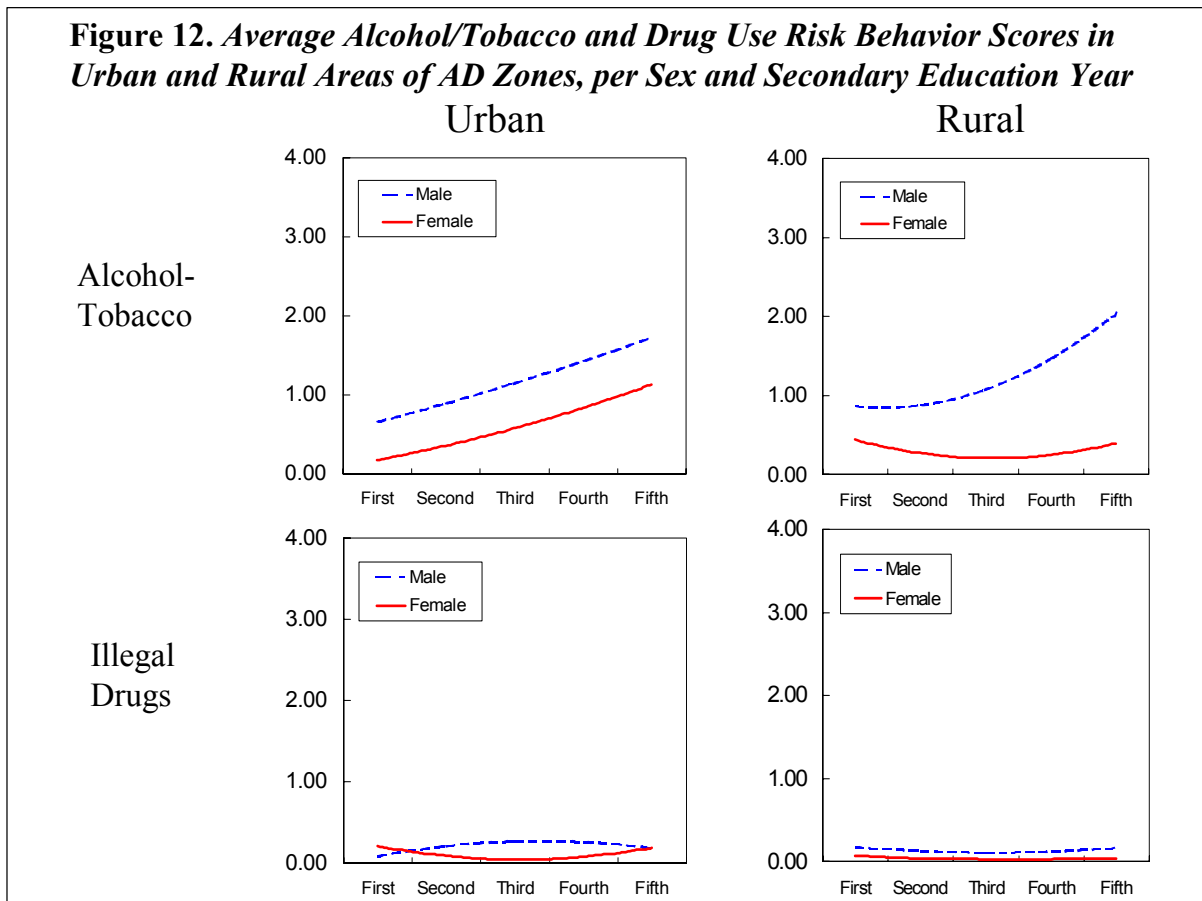
Among the females, collectivism (i.e., low scores on individualism) failed to emerge as associated with virginity when other factors were controlled for. In the light of the findings shown in Table 3, this suggests that some other factors included in the regression equation may capture female collectivism better than the preference for personality traits used in our measurement. Indeed, all the predictors of female sexual risk, positive or negative, except age were social factors. Nonetheless, girls who choose to interact with environments wherein alcohol and illegal drug use prevail not only become exposed to their influence but may also reveal some sort of predisposition. More specifically, collectivistic attitudes seem to be the restraining forces of community support. The underlying social mechanisms may be similar to those discussed in Appendix 4 in reference to the Philiber et al. findings.

V. PREDICTORS OF SUBSTANCE USE AND VIOLENCE

In addition to sexual risks, this study targeted the risks of violence and substance use. Appendix 6 presents the specific contents of the scales that were developed to measure these risks, as well as student perceptions of consequences. This section is concerned with the relationships between psychosocial resources and the risks of violence and substance use.

Use of Alcohol/Drugs and Psychosocial Resources

Figure 12 presents the distribution of the risks of alcohol/tobacco and illegal drug use throughout secondary education in urban and rural areas of AD zones. The risk of alcohol consumption increases throughout secondary education, except in the case of females in rural areas. Surprisingly enough, no increases are observed with respect to illegal drug use. The risks are systematically greater for male than female students, either concerning alcohol/tobacco or illegal drug consumption.



Given the high correlation between risks of alcohol/tobacco use and use of illicit drugs ($r = .69$ in the female sample, $r = .69$ in the male sample), these scales were integrated into a single summative score. Table 5 presents the coefficients from the regression model

for substance-use risk behavior. This model has the highest explained variance both for female and male groups. As expected, context of alcohol use outside the family and illicit drug use are highly significant risk factors in this domain. Alcohol use within the family is only significant for the male group. The indicators that were found to be protective factors of substances abuse behaviors are teacher support in the case of girls, and family support in the case of males.

Table 5. Regression of Substance Use Risk on Psychosocial Resources in AD Zones

<u>Predictors</u>	<u>Female</u>		<u>Male</u>	
	Beta	T	Beta	t
Alcohol/tobacco-use outside the family	0.56	15.09***	0.48	11.88***
Illicit drug-use context	0.18	4.10***	0.22	5.87***
Depression and Anxiety	0.19	4.86***	0.09	2.31*
Teachers' support	-0.14	-3.66***	-0.05	-1.28
Use of spare-time	0.09	2.29*	-0.01	-0.23
Alcohol/tobacco-use within the family	0.08	1.85	0.13	3.49**
Violence outside family context	-0.07	-1.70	-0.05	-1.46
Friends' support	-0.07	-1.57	-0.05	-1.46
Family support	-0.05	-1.11	-0.10	-2.78**
Community support	-0.04	-1.02	0.02	0.48
Violence within the family	-0.04	-1.01	-0.03	-0.68
Self-concept	-0.04	-0.96	-0.05	-1.57
Individualism	0.03	0.83	0.10	2.98**
Age	-0.01	-0.23	0.05	1.31
Values of the Regression Models:	R Sq. = 50.8%		R Sq. = 56.2%	
	F = 76.25; <i>p</i> < .000		F = 83.51; <i>p</i> < .000	

*** *p* < .001

** *p* < .01

* *p* < .05

Among the personal attributes, the presence of depression and anxiety can be noted as a risk factor of substance use in both female and male groups. The relationship between depression and substance use has also been found in other studies, according to which psychological distress is negatively related to personal competence, which is needed to resist substance consumption. These studies suggested that youth might attempt to regulate their negative effect through the use of drugs. Once again individualism is only present as a risk factor in the case of boys. This could be related to pleasure seeking. There is evidence that sensation seeking is an important risk factor of alcohol and drug consumption in adolescents.

An important result is that age is not significant in the regression model for substance consumption while it was the most important predictor of sexual behavior. In this model, alcohol or drug use context, as well as depression and anxiety, are the most significant predictors.

Violence and Psychosocial Resources

The scores for violence received were greater than those for violence exerted in virtually every year of secondary school, in the case of male as well as in the case of female students. This suggests that adults are involved in many violent interactions with youths.



Figure 13 presents the distribution of the average scores for violence exerted and violence received. In rural settings, male students exert more violence than female students at every year of secondary school. In urban settings, male students exert more violence than females in 4th and 5th years but not in the early years of secondary school. In contrast, they receive more violence than female students in early adolescence but not in latter years of secondary education. The gender gap in violence is considerably more systematic in rural than in urban settings. Generally, violence increases from 3rd through 5th years in urban

settings, especially in the case of male students, while such increase is not seen in rural settings.

A single summative violence score was used in the regression despite that the correlations between violence exerted and violence received were significant but low (.23 in the male sample, .36 in the female sample). Contexts of violence explained most of the variance. Table 6 presents the regression model for risk of violence excluding such contexts.

Table 6. Regression of Violence Risks on Psychosocial Resources in AD Zones

<u>Predictors</u>	<u>Female</u>		<u>Male</u>	
	Beta	t	Beta	t
Depression and anxiety	0.42	9.24***	0.26	5.38***
Teachers' support	-0.12	-2.56*	-0.068	-1.33
Community support	-0.11	-2.23*	-0.043	-0.94
Alcohol/tobacco-use outside the family	0.10	2.14*	0.058	1.08
Alcohol/tobacco-use within the family	0.07	1.346	0.178	3.88***
Friends' support	0.06	1.281	0.022	0.48
Illicit drug-use context	-0.05	-1.056	0.164	3.51**
Self-concept	-0.04	-0.90	-0.045	-1.01
Family support	-0.04	-0.69	-0.116	-2.40*
Individualism	-0.03	-0.621	0.068	1.52
Use of spare-time	-0.02	-0.46	-0.066	-1.44
Age	0.02	0.37	0.085	1.86
Values of the Regression Models:	R Sq. = 26.7%		R Sq. = 22.8%	
	F = 33.62; <i>p</i> <.000		F = 29.004; <i>p</i> <.000	

*** Significant at 0.001 level

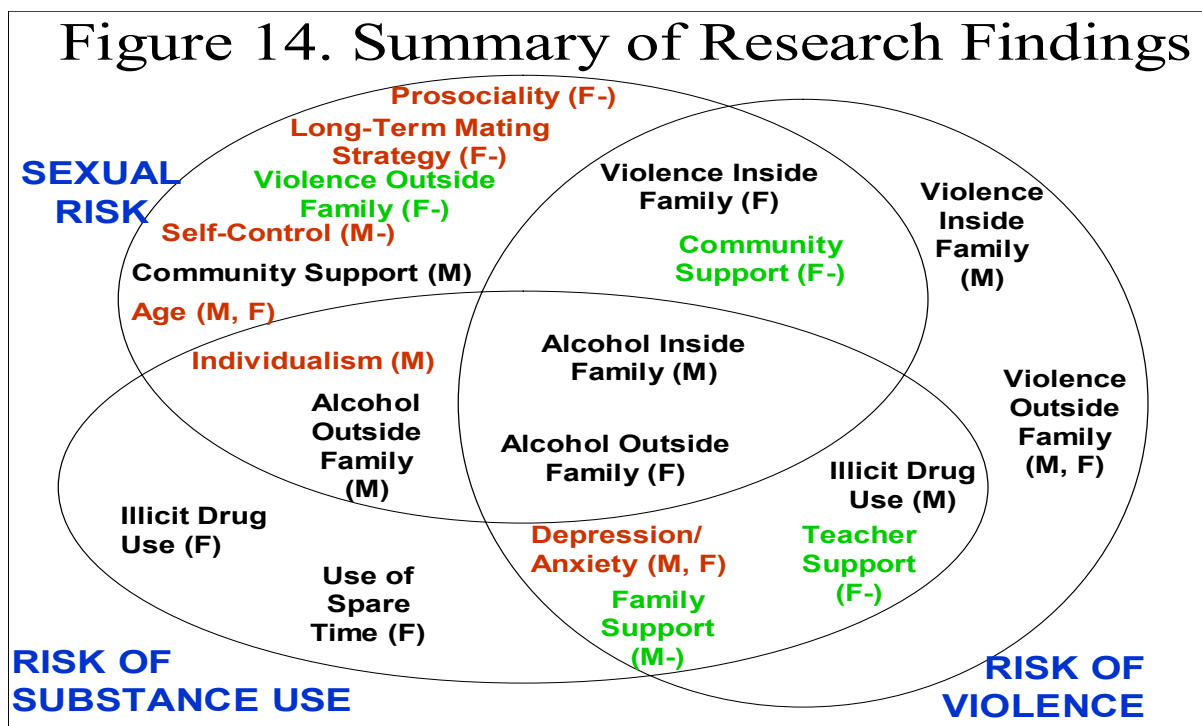
** Significant at 0.01 level

* Significant at the 0.05 level

In this model depression/anxiety is the most significant predictor. It is well known that irritability can be a symptom of a depressive problem and in this sense violent social interactions emerge. Among the social indicators, the protective role of teacher and community support can be noticed in the female group and family support in the male group. The exposure to alcohol use and illegal drug use contexts are risk-factors for violent behavior, too. Others have found that received and expressed violence correlate with substance abuse. Some authors have also found that violence-related problems were associated with family background, childhood developmental problems, current drug problems and psychiatric distress.

Integration and Practical Implications of Research Findings

Figure 14 summarizes the findings from the linear regressions and other study sources. Starting with the individual-difference variables (IDVs), we can see that age, a developmental factor that strongly determined sexual risk for both male and female students, was absent in the causation of substance abuse and violence. Another personal factor, individualism, determined male sexual risk. Individualism also contributed to the risk of substance use in males while the male self-control observed in critical incidents reduced sexual risk. Prosociality and long-term mating strategy were associated with virginity in females. A sixth personal factor, depression/anxiety, contributed to the risks of substance use and violence in both genders. IDVs should be the target of the first two levels of a hierarchy of possible interventions.



Level 1: Clinical Approach to IDVs. A potentially effective strategy is the clinical approach to the prevention of behavioral risks, which would entail singling out the youth most predisposed to a behavioral risk (for example, the most individualistic boys and the less collectivistic girls with respect to sexual risk, or the most depressive/anxious students of either gender with respect to substance use and violence). Then intensive preventive treatments could be applied on an individual basis. School settings are amenable to this type of intervention and the measurement tools developed in this study have the reliability needed for effective identification of the students at risk. The level 1 strategy can be applied alone or combined with the level 2 strategy.

Level 2: Collective Gender Segmentation for IDVs. Interventions segmented by gender can focus on the collective of students. The prevention of pregnancy in females

should start in 3rd year and emphasize social connections. Direct/personal interactions in small groups, legitimization of virginity (or at least freedom from pregnancy) as a goal to be maintained throughout the school years, and the provision of a network for joint sports and other social activities should produce the best results with girls. The prevention of pregnancy and STIs in males should start in 1st year with a strategy that ties: 1) risky sexual behavior to its possible negative consequences, such as pregnancy and sexual infection, and 2) responsible sexual behavior, encompassing both abstinence and condom use, to such individualistic goals as self-control and social recognition. Personal interactions of program staff with boys will not be as important as those needed with girls. Classroom lectures, written communications, and radio messages may be enough, though peer education can be expected to cause positive results, too. These prevention efforts should be scaled-up in 4th and 5th years for both genders. Depression/anxiety may be more difficult to deal with on a collective basis, does not require gender segmentation, and may have to depend on the clinical approach until satisfactory collective interventions are invented.

Level 3: Positive Social Influences. The next group of factors encompasses positive social influences, some of which may be easier to control than others. Teacher support for girls may be easier to promote than the other factors, since both the agents and the targets are administratively approachable within the school context. One advantage of addressing teacher support for girls is that this factor impinges on two areas, substance abuse and violence. Community support for girls also impinges on two areas, sexual risk and substance use. Municipalities may be engaged in the production of opportunities of sports, social, and political actions for girls. Similar is the case of family support for males (substance use and violence), although changing family interactions for boys may be more difficult to achieve than dynamizing teacher and community support for girls. Schools, however, have experience in dealing with parents and can design technically appropriate interventions with the help of specialists in family interactions. Violence outside the family was a negative factor that had protective effects on female students. More research is needed to understand the specific role of violence outside the family in the reduction of sexual risks for girls and its potential as a protective factor.

Level 4: Negative Social Influences. These are the toughest targets, since only costly prevention programs with long-term goals may expect success in changing such negative social influences as the use of alcohol or presence of violence in the family. Alcohol use outside the family is the most potent negative factor, for it impinges on the three risk areas (sexual risk, substance use, violence) for males and on two of them (sexual risk, substance use) for females. Alcohol use inside the family is a potent negative factor for males in the three risk areas. School interventions that engage parents can be combined with community campaigns to reduce alcohol use inside and outside the family. Illegal drug use contexts are important negative factors, too, despite the limited prevalence of drug use found in this study. Perhaps what this reveals is the presence of corrupting adults in the social environment of youths. Violence inside the family had a specific effect on girls, increasing their sexual risk. It may be that girls exposed to family violence seek consolation in sexual partners. The negative effects of spare time on substance abuse in females suggest the importance of maintaining a tight schedule of activities both inside and outside the school. The negative effects of community support in males merit further research.

VI. CONCLUSIONS AND RECOMMENDATIONS

Study Objective 1: Describe the psychosocial resources that must be strengthened to prevent three health risks of youth (pregnancy/STIs, alcohol/drug use, violence).

This study identified female collectivistic values (particularly, prosociality) and a long-term mating strategy as protective factors that delay female sexual debut and must be strengthened to prevent adolescent pregnancy and STIs. Community support also emerged as a protective factor in females both in the sex and violence areas. The critical incident study revealed the importance of self-control in males in response to partner resistance to engage in sex as well as to the need to use contraception. Family and teacher support, respectively, protected the male and female students with respect to substance use and violence. These protective factors were described in detail in the study report and its appendices. Each of these factors can be conceptualized as an independent variable that can have a direct effect on behavior and can also moderate the relationship between a risk factor and behavior. For example, age is a risk factor for sex. As girls approach 15, they become particularly vulnerable to the risk of sexual debut. A long-term mating strategy may retard sexual initiation among girls aged 15 and older. But risk and protection can also be conceived as opposite ends of a single continuum. A protective factor, then, is the absence of or a low level of risk. In this study, individualism (particularly, achievement needs) functioned as a risk factor in males. Consequently, its opposite, collectivism, could be regarded as a protective factor that must be strengthened in males to prevent adolescent pregnancy and STIs. Similar would be the case of the presence of alcohol use inside the family, that promotes sexual, substance use, and violence risks for males, and of other variables that were discussed earlier in this report.

Study Objective 2: Define reliable and valid indicators of risk behaviors and psychosocial resources and generate a baseline for evaluation of future interventions.

Six key indicators of generally high reliability were developed in this study to measure behavioral risks, encompassing risks of pregnancy, STIs, alcohol/tobacco consumption, illegal drug use, violent behavior exerted, and violent behavior received. Seven indicators were developed to measure key psychosocial variables: individualism-collectivism, depression/anxiety, self-concept, perceived family support, perceived friends' support, perceived teacher support, and perceived community support. Additionally, measures of risky contexts were developed, tapping use of alcohol inside and outside the family, violence inside and outside the family, contexts of illegal drug consumption, and use of spare time. Two types of baselines were obtained. One was based on the individual questionnaire items and was presented in the form of percentages of occurrence in specific tables per indicator. The individual items for the indicators are made available in the wording recommended for questionnaire replications in future studies (see Appendix 5). The second set of baselines was based on the summed scores per indicator and presented as trends from first through fifth year of secondary education. Instructions were provided for the reader to access the raw data.

In both cases, results for male and female students were differentiated. Additionally, results were provided for urban and rural areas. The methodology of data collection and analysis is described in Appendix 1 with enough detail to help the reader replicate the study and compare the results with those of the baselines.

Study Objective 3: Compare youth subpopulations defined by gender, age, urbanization, and geography to enhance program understanding of youth risk behaviors and determine whether differentiated interventions are required.

Age and gender significantly influenced sexual activity. Sexual activity systematically increased from 2nd through 5th year of secondary education. Male students consistently reported greater prevalence of sexual activity than female students. This asymmetry may be associated with male students having intercourse with girls outside the school system and female students being more selective of partner and circumstance. Males take the initiative in intercourse and use of contraception. While males mainly sought short-term mating, females mainly pursued long-term mating. Individualistic values prevailed among the former, collectivistic ones among the latter. Achievement values were positively correlated with sexual activity in males while prosocial and other collectivistic values prevented it in females. Gender also differentiated student behavior concerning alcohol consumption and illicit drug use, with greater prevalences being observed for males. Males imparted violence and received violence to a greater extent than females. Females showed a higher level of depression/anxiety than males but self-esteem was similar in the two genders. Asystematic and small urban-rural differences were observed. Students from the highlands presented greater depression/anxiety and greater violence inside and outside the family than students of alternative-development zones. These variables may be functioning as expelling factors in the highlands or incentives to migrate to AD zones.

Study Objective 4: Recommend specific interventions considering study results.

The results of this study reinforce the idea that interventions must be segmented by gender. The specific needs of males and females must be recognized. The interventions for males should mobilize individualistic values such as pleasure, achievement, and self-direction and consider that males seek differentiation from others, are more competitive, and are prone to casual sex. A study that can be taken as a model of successful interventions with boys is the Peru Ministry of Education's Sex Education Program (Vereau et al., 1999). The interventions should mobilize collectivistic values such as security, conformity, and pro-sociality and consider that they seek to be part of significant social entities such as family and other social groups and are prone to long-term mating. A study that can be taken as a model of successful interventions with girls is the Children Aid Society-Carrera Program (Philiber et al., 2002). Both were described in detail in Appendix 4. More generally, four levels of interventions were discussed considering individual differences in risk and protective factors under a clinical approach, a collective approach, positive social factors, and negative social factors.

NOTES

¹ Raw data represented in the trends shown in the figures can be accessed by: 1) placing the cursor at the center of the figure and 2) doing double click, which 3) will allow you to enter the PowerPoint file. To see the data, 4) do a double click at the center of the specific figure targeted, which 5) will open the data table. To exit the PowerPoint file, 6) place the cursor outside the figure and 7) do a single click.

REFERENCES

Amazigo, U., Silva, N., Kaufman, J., and Obikeze, D. 1997. "Sexual activity and contraceptive knowledge and use among high-school adolescents in Nigeria." *International Family Planning Perspectives*, 23 (1): 28-33.

Arias, R., & C. Aramburú (1999). *Uno empieza a alucinar...: Percepciones de los jóvenes sobre sexualidad, embarazo y acceso a los servicios de salud: Lima, Cusco e Iquitos*. Lima: Redess Jóvenes.

Arias, R., & C. Aramburú, Eds. (2002). *Sexualidad y salud reproductiva entre jóvenes andinos: Nuevos rostros y viejas costumbres*. Lima: Redess Jóvenes.

Ascacibar, G., E. Peñaherrera, D. Lí, A. Saavedra, et al. (1999). *Encuesta nacional sobre prevención y uso de drogas*. Lima: Contradrogas and Instituto Nacional de Estadística e Informática.

Azar, B. (2000). "A new stress paradigm for women". *American Psychologist*, 55, 42-43.

Bakan, D. (1966). *The duality of human existence*. Chicago: Rand-McNally.

Baumeister, R. 2000. "Gender differences in erotic plasticity: The female sex drive as socially flexible and responsive." *Psychological Bulletin* 126, 3: 347-374.

Brannon, R. (1976). "The male sex role: Our culture's blueprint for manhood and what it's done for us lately". In D. David & R. Brannon (Eds.), *The forty-nine percent majority: The male sex role*. Reading, MA: Addison-Wesley.

Buss, D. M. 2004. *Evolutionary psychology: The new science of the mind*. 2nd edition. Boston: Pearson Education, Inc.

Cáceres, C. F. 1999a. *La (re)configuración del universo sexual: Cultura(s) sexual(es) y salud sexual entre los jóvenes de Lima a vuelta de milenio*. Lima: Universidad Cayetano Heredia/Redess Jóvenes.

Cáceres, C. F., Ed. 1999b. *Nuevos retos: Investigaciones recientes sobre salud sexual y reproductiva de los jóvenes en el Perú*. Lima: Redess Jóvenes.

Cáceres, C. F., X. Salazar, A. M. Rosasco, & P. Fernández-Dávila (2002). *Ser hombre en el Perú de hoy: Una mirada a la salud sexual desde la infidelidad, la violencia y la homofobia*. Lima: Redess Jóvenes.

Castro de la Mata, R., & M. Rojas (1998). *Los jóvenes en el Perú: Opiniones, actitudes y valores - 1997*. Lima: CEDRO.

Coie, J. D., N. F. Watt, S. G. West, J. D. Hawkins, J. R. Asarnow, H. J. Markman, S. L. Ramey, M. B. Shure, & B. Long (1993). "The science of prevention: A conceptual framework and some directions for a national research program". *American Psychologist*, 48, 10: 1013-1022.

Cross, S. E., & L. Madson (1997). "Models of the self: Self-construals and gender". *Psychological Bulletin*, 122, 1: 5-37.

Ferrando, D. (1991). *Los jóvenes en el Perú*. Lima: CEDRO.

Ferrando, D. (1993). *Conocimiento y uso de drogas en los colegios de secundaria*. Lima: Ministerio de Educación.

Ferrando, D., A. Padilla, W. Sánchez, C. Puicon, R. Durand, M. Rojas, M. Castro de la Mata, & F. Codina (1993). *Drogas en el Perú urbano: Estudio epidemiológico 1992*. Lima: CEDRO.

FOCUS/EsSalud (2000). *Evaluación de Juventud EsSalud*. Final Report. Lima: FOCUS on Young Adults, Peru's Social Security, and Pathfinder International.

FOCUS on Young Adults (2001). *Advancing young adult reproductive health: Actions for the next decade (End of Program Report)*. Washington, DC, Pathfinder International, The Futures Group International, and Tulane University School of Public Health and Tropical Medicine.

Fuller, N. (1998). *Identidades masculinas*. Lima: Pontificia Universidad Católica del Perú.

Gorgen, R., Yansane, M. L., Marx, M., and Millimounou. 1998. "Sexual behaviors and attitudes among unmarried youths in Guinea." *International Family Planning Perspectives*, 24(2): 65-71.

Green, C. 1997. *Young men: the forgotten factor in reproductive health*. Washington, DC, FOCUS on Young Adults. (Occasional paper No. 1, unpublished draft).

Güezmes, A., N. Palomino, & M. Ramos (2002). *Violencia sexual y física contra las mujeres en el Perú*. Lima: Flora Tristán, WHO, Universidad Peruana Cayetano Heredia.

Havighurst, R. J. (1952) *Developmental tasks and education*. New York: Longmans, Green.

Hawkins, J. D., R. F. Catalano, & J. Y. Miller (1992). "Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention". *Psychological Bulletin*, 112, 1: 64-105.

Hyde, J. S., and A. M. Durik. 2000. "Gender differences in erotic plasticity: Evolutionary or sociocultural forces? Comment on Baumeister (2000)." *Psychological Bulletin* 126, 3: 375-379.

Im-em, W. 1998. "Sexual contact of Thai men before and after marriage." Paper presented at

the seminar on *Men, family formation and reproduction*. Buenos Aires, Argentina, May 13-15.

Jehjeebhoy, S. 1996. *Adolescent sexual and reproductive behavior: a review of evidence from India*. Washington, DC, International Center for Research on Women, Working Paper No. 3.

Jersild, A. T. (1963) *The psychology of adolescence*. 2nd ed. London: Macmillan.

Jick, T, & L. Mitz (1985). "Sex differences in work stress". *Academy of Management Review*, 10, 408-420.

Jutkowitz, J., R. Arellano, R. Castro de la Mata, P. Davis, J. Elison, R. Jerí, M. Shaycoft, & J. Timaná (1987). *Uso y abuso de drogas en el Perú: Una investigación epidemiológica en el Perú urbano*. Lima: CEDRO.

Kirby, D. 2001. *Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.

León, F. R. (1996). "La orientación valorativa del adolescente peruano: Hallazgos e implicancias". In F. Morante & L. Soberón (Eds.), *Género, sexualidad y población desde la perspectiva de las ciencias sociales*. Lima: FOMCIENCIAS.

León, F. R., N. Ugarriza, & M. Villanueva (1989). *La iniciación y el uso intenso de sustancias psicoactivas*. Lima: Ministry of Education.

Logan, T. K., J. Cole, and C. Leukefeld. 2002. "Women, Sex, and HIV: Social and Contextual Factors, Meta-Analysis of Published Interventions, and Implications for Practice and Research." *Psychological Bulletin*, 128(6): 851-885.

Magnani, R. J., E. E. Seiber, E. Zielinsky Gutiérrez, & D. Vereau (2001). "Correlates of sexual activity and condom use among secondary-school students in urban Peru". *Studies in Family Planning*. 32, 1: 53-66.

Ministry of Education. 1996. *Guía de educación familiar y sexual para docentes y padres de familia: Cuarto grado de educación secundaria*. Lima: Ministerio de Educación del Perú.

Mize, S. J. S., B. E. Robinson, W. O. Bockting, and K. E. Sheltema. 2002. "Meta-analysis of the effectiveness of HIV prevention interventions for women." *AIDS CARE*, 14: 163-180.

Necchi, S., and Schuffer, M. 1998. *Adolescente varón: iniciación sexual y conducta reproductiva*. Buenos Aires, Argentina, Adolescence Program, Universidad de Buenos Aires, WHO and CONICET.

Nolen-Hoeksema, S. (1990). *Sex differences in depression*. Stanford, CA: Stanford University Press.

Oliver, M. B., and Hyde, J. S. 1993. "Gender differences in sexuality: A meta-analysis." *Psychological Bulletin*, 114, 40-49.

Piaget, J. (1932) *The moral judgment of the child*. New York: Harcourt, Brace, Jovanovich.

Philliber, S., Kaye, J. W., Herrling, S., and West, E. 2002. Preventing Pregnancy and Improving Health Care Access Among Teenagers: An Evaluation Of the Children's Aid Society-Carrera Program. *Perspectives on Sexual and Reproductive Health*, 34(5), 244-251.

Pleck, J. H., F. L. Sonenstein, & L. C. Ku (1993). "Masculinity ideology: Its impact on adolescent males' heterosexual relationships." *Journal of Social Issues*, 49, 11-29.

PNPCD (1995). "Plan Nacional de Prevención y Control de Drogas". *Official Newspaper "El Peruano"*, Legal Norms, Special Separata, October 3.

Peru-DHS (2001). *Encuesta demográfica y de salud familiar 2000*. Lima: Instituto Nacional de Estadística e Informática.

PNUD (2002). *Informe sobre desarrollo humano: Peru 2002*. Lima: Programa de las Naciones Unidas para el Desarrollo.

Ponce, A., & L. La Rosa (1995). *Nuestra sexualidad: Mis abuelos, mis padres y yo*. Lima: Pontificia Universidad Católica del Perú.

Quintana, A., & E. Vásquez (1999). *Construcción social de la sexualidad adolescente: Género y salud sexual*. Lima: Instituto de Educación y Salud, IES.

Raguz, M. (1999). "Riesgo sexual y reproductivo en adolescentes desde una perspectiva de género". In C. Cáceres (Ed.), *Nuevos retos: investigaciones recientes sobre salud sexual/reproductiva de los jóvenes en el Perú*. Lima: REDESS Jóvenes.

Raguz, M., M. R. Gárate, & A. M. Buller (2000). *Estudio cuantitativo de triangulación con el estudio cualitativo "Hombres como socios en la salud"*. Lima: Population Council.

Rani, M., Figueroa, M. E., and R. Ainsle. 2003. "The psychosocial context of young adult sexual behavior in Nicaragua: Looking through the gender lens." *International Family Planning Perspectives*, 29, 4: 174-181.

Repetti, R. L., S. E. Taylor, & T. E. Seeman (2002). "Risky families: Social environments and the mental and physical health of offspring". *Psychological Bulletin*, 128, 2: 330-366.

Schmitt, D. P. and 118 members of the International Sexuality Description Project. 2003. "Universal sex differences in the desire for sexual variety: Tests from 52 nations, 5 continents, and 13 islands." *Journal of Personality and Social Psychology*, 85, 1: 85-104.

Schwartz, S. H., & W. Bilsky (1987). "Toward a universal psychological structure of human values". *Journal of Personality and Social Psychology*, 53, 550-562.

Spencer, J. M., G. D. Zimet, et al. (2002). "Of sex, self-esteem and 9th grade". *Pediatrics*.

Taylor, S., L. Klein, B. Lewis, R. Gurung, T. Gruenewald, & J. Updegraff (2000). "Biobehavioral responses to stress in females: Tend and befriend, not fight or flight". *Psychological Review*, 107, 411-429.

Thompson, E. H., & J. H. Pleck (1987). "Reformulating the male role." In M. S. Kimmel (Ed.), *Changing men*. Newbury Park, CA: Sage.

Triandis, H. 1996. “The psychological measurement of cultural syndromes.” *American Psychologist*, 51, 407-415.

Vereau, D, FOCUS on Young Adults, and Peru Ministry of Education. 1999. *Evaluación del Programa Nacional de Educación Sexual del Ministerio de Educación (Preliminar)*. Lima: Pathfinder International.

Villanueva, M. (1996). *Adolescence in middle class Lima (Peru): A description of social and psychological aspects and the incidence of drug use*. Doctoral dissertation at Katholieke Universiteit Nijmegen, The Netherlands. 26 August.

Watson, D., & L. A. Clark (1984). “Negative affectivity: The disposition to experience aversive emotional states”. *Psychological Bulletin*, 96, 465-490.

Weissman, M. M. R. C. Bland, G. J. Canino, C. Faravelli, S. Greenwald, H. G. Hwu, P. R. Joyce, E. G. Karam, C. K. Lee, J. Lellouch, J. P. Lepine, S. C. Newman, M. Rubio-Stipec, J. E. Wells, P. J. Wickramaratne, H. U. Wittchen, & E. K. Yeh (1996). “Cross-national epidemiology of major depression and bipolar disorder”. *Journal of American Medical Association*, 276, 293-299.

Wood, W, and A. H. Eagly. 2002. “A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences”. *Psychological Bulletin*, 128, 5, 699-727.