

## Teenage illegitimate births high

Among today's teenagers premarital sex is a relatively common event but birth control is unfortunately not. Two Johns Hopkins sociologists have found that 30 percent of all American women between the ages of 15 and 19 experience premarital intercourse. This results in pregnancy for about a third of the women involved. Three-fourths of all first pregnancies of American teenagers are conceived before marriage.

"To marry and then conceive is the exception among teenagers," comment Melvin Zelnik and John F. Kantner in the *FAMILY PLANNING PERSPECTIVES*, a technical journal of the Planned Parenthood Federation of America, after studying a nationwide survey of young women taken in 1971. Projecting from the national probability sample, Zelnik and Kantner estimate that out of 2.6 million teenagers that had premarital sexual experience, 1.1 million became pregnant and 831,000 became pregnant out of wedlock. Birth control is rarely used. Among those that became pregnant, only 13 to 16 percent used any birth control. Those who did, frequently used an ineffective one such as withdrawal and douche.

"By race," the authors say, "differences in the prevalence of premarital first pregnancies mirror differences in the prevalence of premarital intercourse: proportionately twice as many blacks as whites have premarital intercourse, and twice as many of these become pregnant. The result is that four times as many black teenagers experience pregnancy than whites."

Whites are six times more likely than blacks to marry before the child's birth.

Among the teenagers that married, most married the putative father of the child but about 40 percent married someone else.

Among those who did not marry before the conclusion of the pregnancy, two-thirds had live births; about one-fifth had abortions. The authors report that blacks, however, were nearly two times more likely to have a live birth and seven times less likely to have an abortion than whites, though changes in abortion legislation may have changed these findings in the last three years. In addition white teenagers were nine times more likely than blacks to give up their babies for adoption.

Although wanted and unwanted child-bearing among married persons has decreased in the United States in recent years (SN: 6/22/74, p. 397), out-of-wedlock births have continued to increase, with illegitimacy rates among teenagers rising most rapidly.

In a companion article, Leo Morris of the Department of Health, Education and Welfare's Center for Disease Control in Atlanta estimates from the Johns Hopkins figures that there are between 1.4 and 2.3 million never-married teenagers who are risking unintended pregnancy. Sixty to 75 percent of these women are without access to contraceptive service. "Clearly, there is a significant gap between estimated need for and utilization of family planning services among never-married teenagers in the United States," Morris says. When services for teenagers are available, he observed, "teenagers appear willing to use facilities responsive to their needs. . . ." □

## ALADDIN: A lamp for the atmosphere

You'd have thought the attack was coming any minute. The flight center on tiny Wallops Island, Va., is hardly the flagship installation of the National Aeronautics and Space Administration, but bristling with rockets last week it looked like the setting for the Final Showdown. Nikes, Tomahawks, Viper-Darts, Super-Lokis and a host of other ex-weapons and multipurpose boosters craned upward towards the gray sky, aimed at a single target—the air.

They were the armament for Project ALADDIN '74, a vast but concentrated study of winds, temperatures, ion concentrations and other characteristics of the upper atmosphere, too high for balloons to measure and too low for satellites. There were two previous ALADDINS (the name stands for Atmospheric Layer And Density Distribution of Ions and Neutrals), conducted in 1970 and 1972 from Eglin Air Force

Base in Florida, but they involved the launch of only six and nine sounding rockets respectively. ALADDIN '74 was a monster.

In the space of 24 hours and 20 minutes during the weekend, 54 rockets were launched from Wallops Island, an average of one every 27 minutes. The limited launch crew—the place is a far cry from the heyday of, say, Florida's Kennedy Space Center—was augmented with extra NASA and Air Force personnel plus reinforcements from the National Oceanic and Atmospheric Administration. Researchers came from England, Canada and West Germany. Even eight visiting Italian radar and telemetry trainees were drafted into the cause. Many of the scientists, engineers and technicians worked more than 30 hours without sleep.

The mission was a spectacular. Twelve of the rockets injected huge

chemical clouds into the atmosphere as tracers, so bright and so large that they were sighted from the southern states all the way up to New England. A double injection of barium and trimethyl aluminum, for example, produced a glowing green cloud, with the brightness of the barium indicating variations in electric fields and the trimethyl aluminum marking temperature profiles.

Some of the rockets ejected free-falling spheres, which could be tracked during their descent to show winds and density variations in the atmosphere. Plasma probes, mass spectrometers and other instruments were all part of the program, whose results are expected to be so voluminous that they may not be published until autumn of 1975.

The rockets were investigating the atmosphere between about 35 and 100 miles up. Although this is below the reach of almost all orbiting satellites, one, Atmosphere Explorer C, gets as low as 84 miles, and the rocket launches were originally timed to coincide with the probe's low passage over Wallops. Murky skies delayed the project a week, but it just managed to squeeze in before the satellite moved on to a less desirable position.

Besides measuring mere winds in the atmosphere, the experiments aboard the rockets were planned to study wind shear (one layer of wind blowing past another), temperature variations, diffusion and mixing patterns, composition and other features. In addition, heavily instrumented aircraft cruised the area, photographing and recording data of their own, and ground-based studies were carried out at the same time, in part to provide correlations with past programs that had not had the benefit of the rocket armada.

As in most large-scale meteorological efforts, the name of the ALADDIN game is "modeling." The atmosphere obviously changes too often for numerical measurements from specific locations to be particularly useful in themselves. Instead, they must be incorporated into a numerical model that can be used to show what is going on (or to predict what will be going on) when a given set of conditions appears.

"We don't have adequate models of a quiet atmosphere or normal ionosphere," says Russel Philbrick of the Air Force Cambridge Research Laboratories, which have a major research role in the operation. "The ALADDIN '74 program will provide the data base which can be used for developments of new atmospheric and ionospheric models and many theoretical studies of atmospheric properties. Because of the thoroughness of the investigation, the results . . . will provide a baseline for comparison of past and future . . . investigations." □