tion that adolescents should have no sexual interactions at all may well be damaging as well as misguided. For that matter, merely kissing another person may well lead to riskier sexual behavior, too. Does that make it a reason for concern?

I'm sure that Schuster et al. did not intend to convey such a restrictive view of adolescent sexuality. Their goal of examining teen sexual behavior besides vaginal sexual intercourse is laudable and important. However, the omission in the article of any discussion of the normal developmental context of adolescent sexuality leaves room for considering it as one more piece in a predominant pattern of discussions of adolescent sexuality that focus solely on risk, danger, and negative consequences. The place of sexuality as a major and positive dimension of human development seems to be increasingly neglected in the empirical study of teenage sexuality and in our messages to young people. There is reason to be concerned that the unintended consequences of a narrow focus on fear and disease may lead to increased rates of sexual inadequacies, sexual distortions, and interpersonal problems for an entire generation. □

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Annotation: The Use of Educational Attainment as an Indicator of Socioeconomic Position

In this issue of the Journal, Zhu and colleagues present an interesting analysis of the relationship between education and smoking.[1] They conclude that the smoking histories of persons with the lowest levels of education, 8 years or less, are more like those with 12 years of education than those with 9 to 11 years. Both those with low education and those with 12 years of education are less likely to be current smokers, to ever have smoked, or to be heavy smokers, and more likely to have quit smoking than those with 9 to 11 years of education. Zhu et al. recommend that, in analyzing smoking and targeting smoking cessation programs, those with low education be distinguished from those with 9 to 11 years of education.

Zhu et al. suggest that, in both data collection and analysis, "when describing the relation between an outcome variable and a continuous explanatory variable, the scale of the latter should be carefully examined before it is categorized," and that the findings of their study need to be replicated using other data sets. These are excellent suggestions. Their article, however, offers the reader an opportunity to think about the meaning of educational attainment and some of its limits as an indicator of social class position.

The usual way in which an education question is framed in our surveys—namely, what is the highest grade of school completed—invites its use as a continuous variable. Ample justification for this use is found in results, like those that Zhu et al. report, that show monotonic relationships, with years of education over the range describing most of the US population. Education, no doubt, has its own rewards.

For some purposes, however, a distinction should be drawn between 12 years of education and a high-school diploma, or between 16 years and college graduation. The effect of one year of education may not be equal to the effect of another; the attainment of certain milestones, the passing of examinations, or the completion of requirements, are significant for both the achieving individual and for prospective employers, customers, and licensing authorities.[2] Additionally, to measure education in years is to treat all educational institutions equally. This measure equates a year in a liberal arts college with a year in a military academy, with a year in an engineering school, and with a year in a trade school. American educational institutions are enormously diverse. To measure their impact in years certainly is to abstract, to simplify, and to iron out this diversity.

Diversity among American educational institutions goes far beyond the content of their subject matter. State and local governments largely control public education, and both private and religious institutions offer alternatives to public education. Nonetheless, every state currently requires school attendance for at least 9 years, between the ages of 6 to 8 and 16 to 18.[3] Although there have been some adjustments over time, this has been the basic pattern since Mississippi became the last state to pass a compulsory education law in 1918.[4]

Editor's Note. See related article by Zhu et al. (p 1582) in this issue.

In 1920, the gap between these legal requirements and reality was greater than it has been more recently. The 1920 census found that 91% of 7- to 13-year-old children were attending school, but only 80% of 14- and 15-year-old children were. By 1940, 90% of 14- and 15-year-old children were in school, and since 1970, this percentage has been over 95%. Between 1940 and 1980, the percentage of 5- and 6-year-old children enrolled in school doubled from 43% to 86%. Since 1940, each census has reported over 95% of children aged 7 to 13 years in school.

Recently, only about 3% of Americans have been reaching adulthood with a low level of education, 8 years or less. Low levels of education are more common among older persons. In 1990, of persons aged 40 to 44, only 5.1% had low education, but of those aged 45 to 54, 7.9% had low education; among those aged 55 to 64, the proportion rose to 13.9%. Thus, as long ago as 1945, only a very small minority of Americans were not completing more than 8 years of school. For all but the oldest age groups, to have grown to adulthood in the United States and received only low education is to have grown up outside the law and without opportunity to attain, at least in the usual ways, the positions for which education is preparation.

Most adults with low education are either older or foreign born. In 1990, 49% were 65 years of age or older, and 24% were foreign born. It seems likely that some proportion of the remainder have disabilities. Some may also have been home-schooled. For these, and perhaps others with low education, schooling is not a qualification for their positions in society.

Years of schooling is an imperfect indicator of socioeconomic position. For most adults, there is a gradient of socioeconomic status with years of schooling that is related to cigarette smoking, as Zhu et al. report. Cigarettes appeal to the socially or economically disadvantaged because, as a drug, they are effective against the anxiety and tedium that these groups experience. Furthermore, for these groups, smoking cigarettes symbolizes opposition to dominant social orders and their exchange cements personal relationships.[5,6] The small minority of persons with low education may smoke cigarettes less than those with slightly more education, because their relationship to society is not determined in the same way by education. Status for the elderly is determined by their achievements during middle age; for the foreign born, by their position within their own ethnic groups; and for the disabled, by more personal characteristics. Those with low education probably live largely outside of the mainstream of society and find cigarettes unappealing as a drug and symbolically useless or irrelevant. Ethnographic or focus group research on cigarette smoking in some low education groups might help us better understand these issues. □

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Erratum

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In Table 1, the dates listed for the National Ambulatory Medical Care Survey should have been updated to "1974–1981, 1985, 1989–present." Also in Table 1, the Drug Abuse Warning Network (DAWN) is now maintained by the Substance Abuse and Mental Health Administration (SAMHSA).