

**RESEARCH DIVISION
POPULATION SERVICES INTERNATIONAL
1120 Nineteenth Street N. W., Suite 600
Washington D. C. 20036**

**PREGNANCY-RELATED SCHOOL DROPOUTS
IN BOTSWANA**

**Dominique Meekers
Ghyasuddin Ahmed**

**PSI Research Division
Working Paper No.1**

1997

Dominique Meekers is Research Director, Population Services International, Washington D. C., and Associate, Department of Population Dynamics, Johns Hopkins University.

Ghyasuddin Ahmed is Associate Professor of Demography, and former head of the Department of Demography, University of Botswana.

Acknowledgments

This project has been supported with funding from the Spencer Foundation. Additional support was provided by the Research and Graduate Studies Office, The Pennsylvania State University, and by the Population Research Institute, The Pennsylvania State University, which has core support from a grant from the National Institute of Child Health and Human Development, and from a grant for international demographic research from the Andrew W. Mellon Foundation.

The authors are grateful to the Office of the President, Government of Botswana, for granting research clearance (OP 46/1 XLVI 156) for this project, to Jeffrey Meeker for research assistance during the initial phases of this project, to Kenabetshe Bainame for his assistance with the focus group interviews, and to Dennis Hogan, Suet-Ling Pong and David Post for their helpful comments and suggestions.

ABSTRACT

PREGNANCY-RELATED SCHOOL DROPOUTS

IN BOTSWANA

In many Sub-Saharan African countries there are concerns about high rates of pregnancy-related school dropouts. Schoolgirls who become pregnant tend to have fewer opportunities for socioeconomic advancement, especially because few such girls return to school to complete their education after the birth of their first child. Many African governments have included family life education programs in the school curriculum in an attempt to reduce premarital adolescent pregnancies, including schoolgirl pregnancies.

This paper uses data from a nationally representative sample of Botswana women in conjunction with focus group interviews to evaluate the impact of family life education on schoolgirl pregnancy, and to identify the factors that facilitate the return to school of girls who did drop out because of pregnancy. The results indicate that the problem of schoolgirl pregnancy may be much more severe than is commonly assumed. Although family life education efforts start to have an effect, there is need to continue and improve these programs, and a need to try and increase the number of young mothers who return to school to complete their education.

PREGNANCY-RELATED SCHOOL DROPOUTS

IN BOTSWANA

"The most valuable resource, requiring at the same time, the most delicate handling, however, is the youth of Botswana" (Tournas 1996: 29)

Throughout sub-Saharan Africa, the school system is gradually replacing traditional initiation ceremonies as the institution that socializes adolescents into assuming the responsibilities of adulthood and parenthood. The disappearance of these traditional teachings on sexuality is thought to be partially responsible for the liberal and sometimes irresponsible sexual behavior of youths in contemporary African societies (Tournas 1996: 31-32). In an attempt to reduce teenage pregnancies, particularly schoolgirl pregnancies, and to combat sexually transmitted diseases, many African governments have introduced family life education in the school curriculum (Gyepi-Garbrah 1985; Meekers, Gage and Zhan 1995; Ukaegbu 1990). Widespread concerns about seemingly continued high rates of schoolgirl pregnancy (and the resulting dropouts) have raised important questions about the relative role of schools, the media, and parents in providing adolescents with family life education. As yet, little if any information is available about the extent to which various forms of family life education efforts have been effective in reducing the prevalence of schoolgirl pregnancy.

Because many young girls are attending school, teenage pregnancies tend to interfere with the life of many young African women. Pregnant schoolgirls

often have no choice but to drop out of school, either because school policies require that pregnant girls are expelled from school, or because it is difficult to combine motherhood with formal education. Often more than half of all schoolgirl dropouts are caused by pregnancy, and in some African regions up to ten percent of schoolgirls drop out of school because of pregnancy (Ferguson, Gitonga and Kabira 1988; Ferguson 1989; Gyepi-Garbrah 1985:21-25; Lesetedi et al. 1989; Division of Family Health 1988:21; Mwateba, Paxman and Weil 1988). Although cohort analyses of pregnancy-related dropout rates are not available, it is evident that the cumulative effect of such annual dropout rates translates into very high cohort dropout rates. In most cases, girls who drop out of school because of pregnancy do not return to complete their education (Dynowski-Smith 1989; République de Côte d'Ivoire 1990). Consequently, schoolgirl pregnancy tends to have long-term implications:

The plight of pregnant school girls in Africa is particularly wrenching. They must either terminate their pregnancy by taking recourse in abortion in order to continue their education, or drop out of school either on their own volition or on pain of threatened official expulsion (...) When girls drop out of school because of pregnancy, their future socio-economic prospects are significantly reduced (Gyepi-Garbrah 1985: 22-23).

While the issue of schoolgirl pregnancy is a matter of concern in many African countries, it is particularly important in Botswana. Because of a history of extensive male labor migration to South Africa and high male death

rates in the population (Ahmed 1993, 1996), a large proportion of Batswana¹ women remain single and live in female-headed households, and are responsible for supporting themselves and their children (Belbase and Kimani 1995; Brown 1980; Chernichovski 1985; Kalogosho 1995; Timaeus and Graham 1989). The welfare of these female-headed families depends to a large extent on the woman's level of education, because educated women are more likely to find formal wage employment than uneducated women. Consequently, if women are unable to complete their education because of pregnancy their standard of living will generally be lower.

There is no doubt that it would be beneficial, both for the individual schoolgirl and for society, to avoid pregnancies while girls are still in school. However, it is equally important that schoolgirls who do become pregnant are able to complete their education. This paper uses sample survey and focus group interview data from Botswana to examine the prevalence of pregnancy-related school dropouts, to evaluate the impact of family life education on schoolgirl pregnancy, and to identify the factors that facilitate the return to school of girls who did drop out because of pregnancy.

History of Education in Botswana

In pre-colonial Botswana, then called Bechuanaland, adolescents were educated by initiation. Formal education consisted of initiation ceremonies that took place every three to five years for children who reached puberty (Dynowski-Smith 1989: 159; National Institute of Development Research and Documentation 1988; Schapera 1933, 1940; Tournas 1996). Boys and girls were initiated separately, in ceremonies called *bogwera* and *bojale* respectively.

¹ 'Batswana' is the term used to refer to the citizens of Botswana (singular: Motswana).

During initiation, boys received severe physical training, learned hunting and other skills, and were circumcised. Similarly, girls learned about agricultural and domestic activities, but also about matters concerning womanhood, and about reproduction and behavior towards men. These initiation ceremonies prepared male and female adolescents for adulthood, and taught them about responsible sexual behavior, mate selection, and marital duties. The initiation ceremonies have now virtually disappeared.

With the onset of colonialism, Protestant missionaries assumed control of formal education. Colonial policy makers strongly supported a Christian-based system of education, thereby giving the missions a crucial role in colonial education (Lekhela et al. 1972; Tournas 1996; White 1996: 18). By independence in 1966, the formal school system was modeled after the British 7-3-2 school system, comprised of seven years of primary education, three years of junior secondary education, and two years of senior secondary education. Botswana has since experienced a dramatic expansion and improvement of educational facilities.

Since independence, all National Development Plans have included a section specifically devoted to education (Seisa and Youngman 1993: 6-7). Initially, basic education was defined as seven years of primary education (i.e. Standard 7). The National Commission on Education, established in 1975, reviewed the Botswana educational system in the "Government White Paper No.1 of 1977: National Policy on Education" (Leburu-Sianga 1993; Molosi 1993; Moremi 1993; Ramatsui 1993). The recommendations made by the Commission included a switch to a 7-2-3 scheme, and an expansion the concept of basic education to nine years of compulsory basic education. In other words, the goal was now to provide every student with junior secondary education. These recommendations set the stage for subsequent national plans, and were starting

to be implemented in the National Development Plan 5, 1979-85. The commitment of post-Independence governments to provide universal basic education resulted in a rapid increase in primary and secondary enrollments, and a corresponding increase in school facilities. Between 1966 and 1988 primary school enrollment increased from 71,546 to 235,941; secondary school enrollment increased from 1,531 to 35,966 during the same period (Weeks 1993: 51).

This impressive record of educational progress is hampered by high "leakage" rates after primary school and after junior secondary school (Molosi 1993; Youngman 1993), and by high levels of schoolgirl pregnancy (Central Statistics Office 1995; Demographic and Health Surveys, Macro Int. s.d.; Lesetedi et al. 1989; National Institute of Development Research and Documentation 1988). Although more girls than boys go to school in Botswana - unlike in many other countries- many girls drop out due to pregnancy, particularly in secondary school. The apparently irresponsible sexual behavior of today's adolescents, and the resulting high rates of teenage and schoolgirl pregnancy, is believed to be caused in part by the disappearance of the traditional means of socialization (Tournas 1996), and diminished parental and family control over adolescents' sexual behavior (Cherlin and Riley 1986). Rather than being informed through initiation ceremonies, adolescents nowadays need to obtain family life information from their parents, their peers, the media, and from school.

There is considerable disagreement regarding who should take responsibility for providing teenagers with family life education (National Institute of Development Research and Documentation 1988: 18-19). When the *bogwera* and *bojale* initiation schools were discontinued, neither the churches nor the parents provided an adequate substitute, thereby shifting the responsibility for providing family life education to the school system. The

moral teachings provided by the churches emphasized that sex and childbearing should occur within marriage only, but provided no information about physiological issues. Parents typically do not provide family life education either. Traditionally, parents were not involved in family life education, as this was the task of the elders who conducted the initiation schools (Dynowski-Smith 1989: 159-67; Schapera 1933, 1940; Tournas 1996). Consequently, many parents feel that is not their task to provide such information to their children, or feel that they do not have sufficient knowledge to do so. Government officials have been very reluctant to provide family life education in schools because of concerns about parental resistance. However, research has shown that the majority of parents think sex education should be taught in school, rather than at home.

Since the 1980s, a family life education program has been incorporated in the curricula of both primary and secondary schools (Dynowski-Smith 1989; Lesetedi et al. 1989; National Institute of Development Research and Documentation 1988: 21; Ukaegbu 1990). In primary school, however, these subjects were optional and not examined, which implies that the subject may only be taught in secondary school. In junior secondary school, aspects of family life education are integrated into other subjects and are examined. The Ministry of Education has also organized responsible parenthood seminars for out-of-school youths (since 1978) and family life education training courses for teachers (since 1985). The governments of several African countries are now also attempting to introduce family life education through the media (Church and Geller 1989; Meekers 1994), and Botswana is likely to follow suit. In Botswana, opinions regarding the benefits of providing family life education and contraceptive services for teenagers remain mixed, mostly due to

fears that such services may perpetuate the problem (National Institute of Development Research and Documentation 1988).

Girls who drop out of school due to pregnancy may find it difficult to return to school. A young mother's ability to return to school is constrained by the need to support and care for her child. School attendance, like female labor force participation, may not be compatible with motherhood; hence, raising a child at a very young age is likely to be more of a problem to girls who want to continue their education than to those who do not (Cherlin and Riley 1986). Scattered literature suggests that a girl's ability to return to school after a pregnancy-related dropout may depend on 1. school policies, 2. support from parents or other relatives, and 3. the level of education already achieved.

Official school policies regarding schoolgirl pregnancy may directly or indirectly contribute to the young mothers' difficulty of returning to school to complete their education. In Botswana, married persons are not allowed to attend primary or secondary schools (Dynowski-Smith 1989). Given that pregnancy may lead to marriage, this policy implies that some pregnant girls will not be able to complete their education after having the baby. However, since formal marriage is relatively uncommon in Botswana, especially at younger ages (Dynowski-Smith 1989: 11-12; Lesetedi et al. 1989: 11; Manyeneng et al. 1985: 46), this policy is not expected to have a large impact.

Educational policies in Botswana also prescribe that pregnant girls are only allowed to reapply for admission to a school other than the one they left. Such a policy implies that most girls who want to return to school need to go to a school in another village and, consequently, that someone needs to

assume responsibility for their child.² As a result of this policy, few girls reapply for admission (Dynowski-Smith 1989; National Institute of Development Research and Documentation 1988). Consequently, many pregnant schoolgirls never complete their education. It is estimated that nine percent of teenage schoolgirls in Botswana left school because of pregnancy, and that only 23% of them returned to school after the delivery (Lesetedi et al. 1989: 30-31).

Research from other countries further suggests that girls who already had a relatively high level of secondary schooling, and those who have relatives willing to take care of the child, are most likely to return to school to complete their education (Division of Family Health 1988:1; République de Côte d'Ivoire 1990: 196-97). In Botswana, grandmothers often take on such responsibilities, but because women lack resources (Rutenberg and Diamond 1993; Ahmed 1993), they are not always able to take care of their grandchildren without support from the children's mother. Therefore, rather than going to another school, young mothers often migrate to urban centers to find work and to support their children they leave with grandmothers in rural areas.

Data and Methods

This paper analyzes sample survey data from the 1988 Botswana Family Health Survey II (BFHS-II) in conjunction with focus group interview data. The BFHS-II contains information on a random sample of 4,368 women aged 15-49, of whom 3,336 ever attended school (Lesetedi et al., 1989).³ All respondents were

² The need to re-apply to a school in another village may have less of an impact for those girls who stay in boarding schools or hostels, but these girls will also need someone to take care of the baby, and the financial means to take care of the baby.

³ This sub-sample of 3,336 schooled women does not include women who were not citizens of Botswana, or who were enrolled in Standard 1 at the time of the survey.

asked what the highest level of education was that they ever completed. Because of concerns about teenage pregnancy in Botswana the BFHS-II also asked all women if they ever left formal school because they became pregnant. If so, women were asked which grade they were in at the time of dropout, and if they returned to school after the birth of the child. Overall, pregnancy caused 7.8 percent of the women to drop out of primary school, as well as 19.7 percent of those who attended secondary school.

In Botswana, youths may obtain family life education from several sources including school, the media, religious organizations, and from their parents. Indicators of parental family life education used in this study include: 1. Whether or not the respondent's parents or guardian discussed pregnancy or family planning with her before she became pregnant for the first time, and 2. whether or not she was living with her parents or guardian (in the same yard) when she became pregnant with her first child. This latter information is available only for parous women who were not married at the time of their first birth. Exposure to mass media family life education is measured through household ownership of a radio or television. Religious denomination (Christian versus other) is used a proxy for exposure to family life education by religious organizations. Exposure to these sources of family life education are expected to affect sexual behavior and contraceptive use. The latter is measured through a dichotomous variable indicating whether or not the respondent was using contraceptives before her first pregnancy. Control variables include type of place of residence (rural versus urban) and the respondent's birth cohort (respondents aged 15-34 versus 35-49).

The data analysis consists of five parts: 1. levels and trends in grade progression, 2. levels and trends in pregnancy-related school dropouts, 3. factors affecting the prevalence of pregnancy-related dropouts, 4. factors

affecting women's ability to return to school, and 5. the educational progress of women who return to school after dropping out due to pregnancy.

Grade progression is analyzed using life table techniques. The duration variable is the number of years of schooling completed by the respondent (calculated from the highest level of education completed). Because the BDHS-II does not contain information indicating whether a respondent is still in school, we restrict this analysis to women who are aged 19 and older. Recent statistics showing that less than one percent of female secondary school students are age 17 or older (Central Statistics Office 1995: 29), confirm that it is safe to assume that nearly all women complete schooling before age 19.⁴ For each grade, this life table analysis provides us with estimates of the proportion of female respondents who do not complete the subsequent grade. We also analyze the cumulative proportion of a hypothetical cohort of Standard 1 students⁵ who complete each of the subsequent grades. The procedure for studying the risk of experiencing a pregnancy-related school dropout is similar. In this case, the duration variable is the dropout grade, and the dependent variable indicates whether or not the respondent dropped out of school due to pregnancy.

The effects of indicators of exposure to family life education on the probability of experiencing a pregnancy-related school dropout and the probability of returning to school after a pregnancy-related dropout are estimated using logistic regression analyses. These logistic regression models estimate the probability (P) of dropping out of school due to pregnancy, and

⁴ Nearly identical results were obtained when the analysis was restricted to women aged 24 and older (not shown).

⁵ Note that because of the nature of the data, the term Standard 1 students refers to students who completed Standard 1, rather than to students who ever attended Standard 1.

of returning to school after a pregnancy-related dropout, as a function of the independent variables (X):

$$\text{Prob (event)} = \frac{1}{1 + e^{B_0 + B_1X_1 + B_2X_2 + \dots + B_pX_p}}$$

The results of the logistic regression analyses are presented in the form of odd ratios, which represent the change in the odds of experiencing the event associated with a one-unit change in the explanatory variables. Because of the inclusion of the parental family life indicators, the logistic regression analyses are restricted to the sub-sample of mothers who were unmarried at the time of first birth, which reduces our sample to 1973 cases. Among this sub-sample of mothers, 12 percent had a pregnancy-related dropout in primary school, and 33 percent in secondary school.

The final section examines if women who dropped out of school because of pregnancy end up having lower levels of education than girls who did not interrupt their schooling. For this analysis we compare the grade in which the respondents dropped out due to pregnancy with the highest grade of education completed. In this section we also examine if the percentage of respondents who completed primary, junior secondary and senior secondary school varies for non-dropouts, dropouts who did not return to school, and dropouts who did return to school.

The focus group interview data were collected among students at the University of Botswana in December 1995. The interviews were conducted in English, and male and female students were interviewed separately. Focus group interview participants were asked to discuss their opinions about following topics: the causes of schoolgirl pregnancy, the existing family life education

programs and the role of the parents, and the conditions that facilitate or impair women's ability to return to school after the delivery. These interview data are used to supplement and illustrate the results of the analyses of the BFHS-II data.

Levels and Trends in Grade Progression

Despite very substantial increases in both primary and secondary school enrollment in Botswana, various reports suggest that a considerable number of students leave the formal educational system after completing the primary and junior secondary school levels (Central Statistics Office 1995: 21-22; Dynowski-Smith 1989: 36-38; Tournas 1996: 28-29). Progression to secondary and higher levels of education is mainly dependent upon available places, and usually that number is much lower than the number of students graduating each year at each level. Because admission to secondary and higher levels of education is also based on performance, those students who are performing poorly cannot be admitted to the next higher level.

We estimate cohort progression rates using data on the highest level of education *completed* by the respondent.⁶ Figure 1 shows life table estimates of the proportion of women who have completed one grade but did not complete the next grade, for women currently aged 19-34 and 35-49. The results indicate that a large fraction of female students leave school after completing

⁶ Note that published grade progression rates based on total annual school enrollments may be misleading because grade repetition biases these progression rates upward. The high levels of grade repetition for Standard 7, which is an examination grade, lead to an overestimation of the progression rate from Standard 6 to Standard 7 (causing the progression rate to exceed 100 percent), and an underestimation of progression to Form 1. Because our analysis is based on the completed level of education, our estimates are not affected by grade repetition.

primary, junior secondary, and senior secondary school. Consistent with the 7-3-2 educational structure that was in place from Independence until 1986 (Leburu-Sianga 1995; Weeks 1993: 55), between 50 and 70 percent of students who completed Standard 7, Form 3, and Form 5, never completed the next grade. Comparison of the progression probabilities for younger and older women (ages 19-34 versus 35-39) shows a very clear improvement in progression for Standard 1 through Standard 6, but not (yet) for subsequent grades. This improvement in progression probabilities at the primary level reflects the attempts of post-Independence governments to provide seven years of Universal Primary Education (see Weeks 1993). In recent years, this expansion of opportunities to complete primary school has been followed by a gradual increase in the percentage of Standard 7 leavers who are admitted to Junior Secondary School. Nevertheless, upon completion of Junior Secondary school very few opportunities exist yet for students to enter Senior Secondary School (Ramatsui 1993: 146-148; Youngman 1993: 196).

Figure 1 about here

The cumulative effect of the improvement in primary school progression probabilities is most clearly demonstrated by using a cohort approach. Figure 2 shows the proportion of a cohort of female Standard 1 students who completed each of the subsequent grades, for women aged 19-34 and 35-49. For the older cohort of Standard 1 students, less than 75 percent completed Standard 4 and only about one third completed Standard 7. For the younger cohort, on the other hand, 94 percent completed Standard 4 and 75 percent completed Standard 7, demonstrating that the government achieved much success in its attempts to provide universal primary education. Although the proportion of women

progressing from Standard 7 to Form 1 remained low, even for the youngest cohort (see Figure 1), Figure 2 shows that nearly 30 percent of the youngest cohort of Standard 1 students will now complete Junior Secondary School, as opposed to only 12 percent for the older cohort.⁷ In other words, the considerable increase in the proportion of women completing Junior Secondary School was accomplished primarily by ensuring that fewer girls left school during or immediately after primary school.

Figure 2 about here

Levels and Trends in Pregnancy-Related School Dropouts

Pregnancy is one of the main obstacles that may prevent female students from achieving their desired level of education. In Botswana, sexual activity and childbearing start at an early age (Dynowski-Smith 1989: 99-103; Lesetedi et al. 1989: 14-31; Manyeneng et al. 1985; National Institute of Development Research and Documentation, University of Botswana 1988). Data from the 1988 BFHS-II show that 7.2 percent of women aged 15-49 had sexual intercourse before reaching age 15, 54.3 percent became sexually active between ages 15 and 17, and 22.2 percent between ages 18 and 19. These data further show that 23.5 percent of women aged 15-19 had already given birth to one or more children, and an additional 4.9 percent were pregnant at the time of the survey. These percentages rapidly rise with age, with 46.9 percent of women

⁷ During the 1990s, the government implemented the Nine Year Basic Education Programme, which targets providing universal access to junior secondary education, and recent statistics suggest that the goal of nearly universal education for nine years has now been achieved (Weeks 1993: 51).

aged 19 either having a child or being currently pregnant (39.2 and 7.7 percent respectively).

In Botswana, early pregnancy and childbearing hamper education not only because it is difficult to combine child-rearing and schooling, but also because of the Ministry of Education's policy that prohibits pregnant women from attending primary or secondary school until their child is one year of age (Dynowski-Smith 1989: 253-54). Similar policies banning pregnant women from attending school are in also effect in several other African countries (Meekers 1994; Meekers, Gage and Zhan 1995). As an increasing proportion of Batswana women attend secondary school, thereby remaining in school at older ages, pregnancy is expected to become an even more important obstacle to education.

Most studies indicate that the majority of female dropouts are due to pregnancy. In 1985 and 1986, 64 and 56 percent respectively of female secondary school dropouts were caused by pregnancy (National Institute of Development Research and Documentation, University of Botswana 1988). More recent data have attributed an even higher proportion of school dropouts to pregnancy, particularly at the senior secondary level. For example, a 1988 study found that 75 percent of all female school dropouts at the junior secondary level were due to pregnancy, and at the senior level this was the case for 85 percent of dropouts (Duncan 1988, cited in Dynowski-Smith 1989 and National Institute of Development Research and Documentation, University of Botswana 1988: 25-26). Similarly, 1993 data indicate that 60 percent of all female secondary school dropouts in Botswana are caused by to pregnancy,⁸ and

⁸ Up to 1980, government educational statistics on the cause of primary school dropouts distinguished only between "inability to pay fees" and "other." After the abolishment of primary school fees in 1980, information on the cause of primary school dropout was no

among females in Form 4 and Form 5, pregnancy is responsible for 81 and 88 percent of all female dropouts respectively (Central Statistics Office 1995: 43).

Despite the fact that pregnancy accounts for most female dropouts (at least at the secondary level), the published annual pregnancy-related dropout rates are deceptively low. For example, the pregnancy-related dropout rates averaged only about three percent of the female enrollment in each of the five secondary level grades in 1993 (Central Statistics Office 1995: 43). However, at the individual level the effect of pregnancy on female education is cumulative, with girls being at risk of experiencing a pregnancy-related dropout in each grade. In the BFHS-II, one out of every seven women (14.9 percent of 3,326) who ever attended school reported having dropped out due to pregnancy.

To get a more complete picture of the effect of pregnancy on female education, we use life table techniques to calculate the proportion of schoolgirls who will experience a pregnancy-related dropout in each grade. The results are presented in Figure 3. The oldest cohort of women (aged 35-49) had a considerable risk of experiencing a pregnancy-related dropout while in primary school. For this group of women, the proportion having a pregnancy-related school dropout increases rapidly, reaching .05 for Standard 5 and .18 for Standard 7. This pattern of pregnancy-related dropouts fits the national educational policy. The women in this older cohort generally passed through the educational system before Independence (i.e., before 1966), when completing primary school was not yet considered a necessity, and when secondary schools were few (Ramatsui 1993: 143). Consequently, these women had

longer collected. Reasons for secondary school dropouts has been collected since 1985 (National Institute of Development Research and Documentation, University of Botswana 1988: 22-23).

relatively little motivation to avoid pregnancy while in primary school. For the more elite (and small) group of women who continued to secondary school, the risk of dropping out due to pregnancy was lower than in Standard 7, although still considerable. This relatively low risk of dropping out due to pregnancy in Form 1 may stem from the fact that women who proceeded to the next level were dedicated to continuing their education.

Figure 3 about here

The pattern for the younger group of women is different. This younger cohort of women (now aged 15-34) were in school after Independence, a period when educational policies resulted in a massive expansion of primary level education, and in a general expectation that completing Junior Secondary education increased a person's chances of socio-economic advancement (Ramatsui 1993: 143). Consistent with these new educational policies, Figure 3 shows that these women have a much lower risk than older women of experiencing a pregnancy-related dropout while in primary school, with the proportion dropping out because of pregnancy reaching only .05 in Standard 7. In secondary school, the risk of dropping out due to pregnancy is highest in Form 2 and Form 4, and lowest in Forms 1, 3 and 5. The pregnancy-related dropout rates in recent educational statistics show a similar pattern (Central Statistics Office 1995: 43), suggesting that women in entry and examination grades are more likely to avoid pregnancy.

These findings are encouraging, but also disconcerting. On the one hand it is encouraging that the results suggest that the younger generation of women has been successful at avoiding pregnancy-related dropouts (either through abstinence or the use of some form of family planning) as long as they

have not completed primary school. On the other hand, there is the quite troublesome finding that pregnancy-related dropouts remain fairly common in Standard 7 and in secondary school. Clearly, the implications of dropping out of school before obtaining the relevant school certificate are much more severe than those of dropping out after having obtained the certificate. In a subsequent section of the paper, we will examine to what extent women who report dropping out in an examination grade did so after completing the grade, or subsequently returned to school to complete that grade.

Figure 4 about here

The cumulative impact of pregnancy-related dropouts on a cohort of female Standard 1 students is shown in Figure 4. The results show that for women aged 35-49 the grade-specific risks of dropping out due to pregnancy (see Fig. 3) imply that 20 percent of the Standard 1 students dropped out of school because of pregnancy by Standard 6, and over 30 percent by Standard 7. By Form 5, over 50 percent of the original Standard 1 cohort has dropped out due to pregnancy. For the younger group of women the problem is much less severe, at least during primary school. For this group of women, less than 10 percent experienced a pregnancy-related dropout by Standard 7. Nevertheless, in secondary school the proportion having experienced a pregnancy-related dropout increases rapidly, with over 25 percent dropping out by Form 3, and over 40 percent by Form 5. The findings show that the relative low published annual pregnancy-related dropout rates do in fact have a very large cumulative impact on female education, and demonstrate the need for understanding the factors that are associated with pregnancy-related school dropouts.

Factors Associated with Pregnancy-Related School Dropouts at the Primary and Secondary Levels

Having established that schoolgirl pregnancy is an important reason for dropping out of school, we now explore the factors that are associated with differentials in the prevalence of pregnancy-related dropouts. In particular, we are interested in the effect of potential sources of exposure to family life education messages described earlier, i.e. information obtained from radio broadcasts, government pamphlets, religious organizations, schools, and from one's parents.

Table 1 shows differentials in the percentage of women who dropped out of primary and secondary school due to pregnancy, for various indicators of exposure to family life education. [For consistency, we have restricted the tabulations to the sub-sample of respondents used in the multivariate analyses.] The results for primary school dropouts show that overall 12 percent of the women dropped out of primary school due to pregnancy, and among those who attended secondary school, 33 percent dropped out due to pregnancy. The largest differentials in pregnancy-related school dropout at the primary level are associated with access to a television, residence arrangements, contraceptive use, and the respondent's birth cohort. As indicated in previous analyses, older cohorts are much more likely to have dropped out of primary school because of pregnancy than younger cohorts. Among women aged 35 or older at the time of the survey, 22 percent had dropped out of primary school because of pregnancy, as opposed to only 9 percent for those under age 35. Mass media exposure is also associated with substantial differences in pregnancy-related dropouts. Among women who had a television set in the household only seven percent dropped out of primary school because of pregnancy; for those who did not have a television set this was the case for

over 12 percent. Access to a radio, on the other hand, only has a small effect on pregnancy-related dropouts. As expected, contraceptive use at first sexual intercourse greatly reduces pregnancy-related school dropouts. Only five percent of women who used contraception at first intercourse had a pregnancy-related school dropout, as opposed to 12 percent for those who did not. Finally, pregnancy-related dropout are much more common among women who lived with their parents at the time of their first pregnancy than among women who lived elsewhere (12 and 6 percent respectively). This latter finding is unexpected, and contradict arguments suggesting that lack of parental control contributes to pregnancy-related school dropouts, and the teenage pregnancy problem in general (see Cherlin and Riley 1986).

Table 1 about here

The results presented in Table 1 also show differentials in the level of pregnancy-related school dropouts at the secondary levels. Women who are exposed to radio or television a have much lower percentage of pregnancy-related secondary school dropouts than those who do not have access to these media (40 versus 31 percent for radio, and 34 versus 23 percent for television). As was the case for dropout due to pregnancy at the primary level, secondary dropouts are also associated with co-residence with one's parents and with contraceptive use. Among secondary school students living with their parents, 35 percent dropped out due to pregnancy, as opposed to 28 percent for those not living with their parents. As expected contraceptive use is associated with a large differential in secondary level pregnancy-related school dropouts. Only eighteen percent of women who used contraceptives at first intercourse dropped out of school due to pregnancy, in contrast with 35

percent of those who did not use any contraceptives at first sexual intercourse. In addition to these factors, secondary level dropouts are substantially lower for Christian respondents than for women of other religions (27 versus 37 percent respectively), suggesting that religious family life education is more important for secondary than for primary school students. Consistent with earlier findings, there is no substantial difference in the percentage of women of older and younger cohorts dropping out of secondary school due to pregnancy.

Table 2 shows the results of logistic regression models of the effect the indices of exposure to family life education and control variables on the likelihood of dropping out of primary and secondary school due to pregnancy. Consistent with the results shown in Table 1, the bivariate analyses shown in Model 1 indicate that the likelihood of primary level dropout due to pregnancy is significantly higher for older cohorts (aged 35+) and respondents living with their parents at the time of pregnancy. Contraceptive use at first intercourse is associated with significantly lower likelihood of a pregnancy-related dropout, and the risk of a pregnancy-related dropout also decreases significantly with the number of years of schooling attended at the primary level. The multivariate results shown in Model 2 confirm that after controlling for other factors, women who lived with their parents at the time of their first pregnancy are twice as likely than women who lived elsewhere to have dropped out of primary school due to pregnancy. Likewise, women from older birth cohorts are also more than twice as likely than younger women to have had a pregnancy-related school dropout while in primary school. This latter finding may be partly explained by the fact school entry age was higher in the past, which implied that girl were more mature. Finally, the results show that women who used contraceptives at first intercourse are only

51 percent as likely as women who did not to have had a pregnancy-related dropout before finishing primary school.

Table 2 about here

Models 3 and 4 respectively show the bivariate and multivariate effects of the indicators of family life education on the risk of having a pregnancy-related dropout while in secondary school. The bivariate results presented in Model 3 indicate that low risks of secondary level dropout due to pregnancy are associated with radio and television ownership, Christianity, use of contraceptives at first intercourse, and the number of years spent in secondary school. The multivariate results presented in Model 4 show that the effects of radio and television ownership disappear after controlling for the other variables. These results further show that women who used contraceptives when they first had sexual intercourse are only 49 percent as likely as other women to drop out of secondary school because of pregnancy, while the risk for Christian respondents is only 72 percent that for non-Christians ($p < .10$). This latter finding is consistent with previous research (National Institute of Development Research and Documentation 1988: 39). The strongest effect on pregnancy-related dropouts in secondary school is produced by the time spent in secondary school. With each year spent in secondary school, the risk of having a pregnancy-related dropout reduces to 46 percent of risk during the year before.

A number of important conclusions emerge from these findings. The results provide no support for arguments suggesting that parents may be the best source of family life education. There is no significant difference in the risk of pregnancy-related dropout from either primary or secondary school

between schoolgirls whose parents discussed pregnancy and family planning with them before they became pregnant, and those who did not do so. These findings are consistent with the fact that traditionally parents were not responsible for educating their own children about family life issues (Tournas 1996). Focus group participants explain that there is a lack of communication between parents and children when it comes to issues related to sexual behavior, and add that this failure to communicate exists in both directions:

It is not everybody in our society who can just sit down with their kids and talk about sex and related matters. But I think parents should learn to accept the situation as it is now. [...] parents should face reality. Parents should begin to talk to their own children, if they can. If they can't do that, maybe they could invite a friend, a family friend, to talk to the daughter of the family.

Kids won't even have the guts to talk to their parents. [...] You know, but there is no way to ask what is happening. You want to know about this, but there is nobody to ask. And all you can do is experiment.

In most cases, we are not taught about reproduction at home. It is totally left to the teachers. The parents, I don't know whether they are shy to talk about it.

Previous research also indicated that teenagers cannot talk about sexual issues with their parents because it would be insulting to an older person, and because it would imply that they are sexually active (Dynowski-Smith 1989: 175-79). This lack of communication, and the cultural limitations on what can be discussed, explains why parental family life education has had no

significant impact on pregnancy-related dropouts. If anything, the data analysis suggests that those girls who discussed these family life issues with their parents may be more likely, rather than less likely, than other girls to have had a pregnancy-related dropout. This finding may indicate that parents are more likely to discuss family life education issues with their daughters if the latter are perceived to exhibit irresponsible sexual behavior.

Arguments that schoolgirl pregnancy stems from loss of parental control over adolescent sexual behavior (Cherlin and Riley 1986), caused by schoolgirls moving away from the parental home, are not supported either. Primary level schoolgirls who are living with their parents are more likely than those living elsewhere to have dropped out of school due to pregnancy, and at the secondary level there is no significant difference between those living with their parents and those living somewhere else. It is important to recognize that staying with one's parents may not necessarily imply close supervision. Particularly among female headed or single parent households, which are very common in Botswana, mothers typically have to spend a lot of time away from the household engaging in economic activities, and leaving their teenage children unsupervised. One focus group participant also remarks that children who live with their parents may be afraid to use contraceptives:

Some parents they don't even allow their children to take contraceptives. So if a child thinks of going to the hospital for contraceptives, then the alternative thought will be "What would my mother say, if she were to see these things?". Then that thought will prevent here from going to the hospital. Then she will end up being involved in having sex, and end up being pregnant.

The results indicating that after controlling for other factors the likelihood of experiencing a pregnancy-related dropout decreases with the number of years spent in school contradict claims that exposure to modern education and various forms of family life education leads to irresponsible sexual behavior (see Cherlin and Riley 1986; National Institute for Development Research and Documentation 1988). Furthermore, the finding that women who used contraception at first intercourse are less likely to have had a primary or secondary school dropout, shows that knowledge of family life education reduces pregnancy-related school dropouts.

Factors Associated with Women's Ability to Return to School After a Pregnancy-Related School Dropout

The extent to which a pregnancy-related school dropout affects a girl's educational achievements depends not only on the grade she completed before dropping out of school, but also on her ability to return to school after delivering the baby. In Botswana (as in some other African countries) there are strict regulations governing under what conditions a girl who dropped out of school due to pregnancy is allowed to return:

If a student becomes pregnant, she is asked to leave school immediately. She may not be allowed to re-enter until the child is one year old. At that time, she must apply for permission to re-apply. She may re-apply for a certain form, but will not be admitted to an examination class or to her former school [...] The teacher training colleges also have the same policy on pregnancy, except that the girls may be readmitted to the same school (Dynowski-Smith 1989: 253-54).

Because of this rule that primary and secondary schoolgirls cannot return to the same school after a pregnancy, schoolgirls who became pregnant often need

to return to a school in another village, which may be far away. The latter generally means that it is difficult, if not impossible, for such girls to return to school unless they are willing and able to leave their child at home with their parents, or with someone else. There are also indications that many girls do not re-apply to return to school, because the procedures for re-entering are not widely known (Dynowski-Smith 1989: 254). As one of the focus group participants explains:

To go back to school, she needs a birth certificate for the kid, something that is not very easy to obtain, especially if you do not know anything about this. Like when you live in a rural place somewhere, you don't know the importance of having a birth certificate for a kid. And if your child drops out of school, and then she is going to go back to school, she needs a birth certificate for the kid. The kid is about a year old, and you haven't got that, there is no way she is going to go back to school. I mean, the ways of going back to school are so tightened these days. It is not very easy to go back to school.

Considering these difficulties, it is expected that few dropouts return to school. The percentage of women who returned to school after a pregnancy-related dropout is shown in Table 3. Overall, 14 percent of women who dropped out of primary school due to pregnancy, and 18 percent of those who dropped out of secondary school returned to school. For women who had a pregnancy-related dropout while in primary school, the percentage who return to school is considerably higher for those living in a household with a radio (15 versus 9 percent), or with a television (27 versus 13 percent), and for those living in urban areas (18 versus 8 percent). Among respondents who lived with their parents at the time of first pregnancy, only 13 percent returned to school

after dropping out of primary school, as opposed to 18 percent for those who did not live with their parents. Likewise, respondents whose parents were angry about their first pregnancy are less likely than others to return to school, but the differential is small (13 versus 15 percent).

Table 3 about here

For women who dropped out of secondary school due to pregnancy, the patterns for radio and television ownership are similar to those described for the primary level. However, at the secondary level Christian respondents are much more likely than other respondents to return to school (22 versus 15 percent). Urban residence has no obvious effect at the secondary level, but both indicators of parental influence have a strong effect. The percentage of respondents who returned to secondary school after dropping out due to pregnancy varies from 14 percent for those whose parents were angry about the first pregnancy to 28 percent for those whose parents were not angry about the pregnancy. Surprisingly, only sixteen percent of those respondents living with their parents at the time of pregnancy returned to school, as opposed to 23 percent for those who were living elsewhere.

Table 4 shows the results of logistic regression analyses of the effect of family life education indicators on the likelihood of returning to primary or secondary school after dropping out due to pregnancy. The findings for returning to primary school confirm the bivariate results described earlier, but (perhaps due to the small number of cases) only the effect of urban residence is statistically significant. Women living in urban areas are 2.4 times as likely as those living elsewhere to return to primary school after dropping out due to pregnancy. At the secondary level, urban residence has no

significant effect (if anything, it is in the opposite direction) on the likelihood of returning to school, but the parental support is very important. Women whose parents were angry about their first pregnancy are only 43 percent as likely as other women to return to secondary school after the delivery. Focus group interviews suggest that parents who are upset about the pregnancy may be more likely to encourage their daughters to start working during the mandatory dropout period:

You spend a year at home, waiting for that kid [to turn one year old], waiting for that year, so that you can go back to school. That is when you experience problems. That is when your mother reminds you every day that "Here is your kid." And that is why you go out to work. And once you are there, you know, there is very little probability of you going back to school [...] your mother [may be] suffering, may be a single parent who has never been working. You know, you won't quit work to go back to school.

These findings suggest that lack of parental support for these adolescent mothers increases the chances that they will obtain work during the period of mandatory leave, which in turn decreases the likelihood that they will be able to return to school when their baby is one year old. The lack of parental support is mainly due to the economic hardship experience by single mothers, and by the grandmothers who foster their daughters' babies. Other studies have also indicated that many dropout schoolgirls are economically dependent on their mothers, who may themselves have few resources (Ahmed 1993, 1996; Rutenberg and Diamond 1993). Even though the government of Botswana takes responsibility for students' educational and other basic expenses (food, shelter, books, health care etc.), these young mothers need financial support to provide for their babies. Since the fathers of the children do not always

take financial responsibility, many young mothers are solely responsible for providing for their babies. The need to provide for their babies may pressure dropout schoolgirls to enter the labor market instead of going back to school.

Table 4 about here

Educational Progress of Returnees Who Had Dropped Out of School Due to Pregnancy

Although only a small fraction of the women who dropped out of primary or secondary school due to pregnancy return after the birth of the child, it is important to examine to what extent these women are successful in completing their education when they return to school. Table 5 shows the distribution of returnees by dropout grade and the number of additional years of schooling completed upon returning to school. Of those respondents who returned to school, thirteen women completed the grade they dropped out from when they became pregnant, 23 completed one additional year of schooling, 13 completed two additional years, and 19 completed two or more years of education. Of course, not all returnees succeed in improving their educational status. Twenty women reported that they returned to school, but never completed the grade they dropped out from.

The shaded diagonal lines in Table 5 show the number of returnees who stayed in school until they either completed primary, junior secondary, or senior secondary school. For example, primary school was completed by the 6 respondents who dropped out in Standard 7 but completed the year upon their return, by the 5 respondents who completed one additional year after dropping out of Standard 6, by the two respondents who completed two additional years after dropping out of Standard 5, and by the respondent who completed

six more years of schooling after experiencing a pregnancy-related dropout in Standard 1. The results presented in Table 5 show that the majority of returnees stayed in school until they obtained a degree. Indeed, 16 percent of the 88 returnees (14 out of 88 cases) stopped schooling as soon as they completed primary school, 28 percent stopped after completing junior secondary school, and 13 percent after completing senior secondary school. This findings indicate that the select group of returnees are highly successful.

Table 5 about here

In order to compare the educational achievements of these returnees with those of other respondents, Table 6 shows the percentage of respondents who completed primary, junior secondary, and senior secondary school. Among women who did not have a pregnancy-related dropout, 68 percent completed primary school, 23 percent junior secondary, and seven percent completed senior secondary school. The educational achievements of women who had a pregnancy-related dropout and did not return to school are noticeably poorer. Among this group of women only 54 percent completed primary school, eight percent junior secondary school, and less than one percent completed senior secondary school. Dropouts who did return to school after the delivery, but made no progress (i.e. who never completed the class they dropped out from -see Table 5) also have low graduation rates, although 65 percent of this group of women (13 out of 20) had already completed primary school when they dropped out due to the pregnancy. The latter confirms our earlier findings (see Table 3) that women who become pregnant in secondary school are more likely to return to school than women who become pregnant before completing primary school. Finally, the results presented in Table 6 show that returnees can be highly successful.

Among those returnees who completed at least one year of schooling upon returning, 91 percent completed primary school, 66 percent completed junior secondary school, and 30 percent completed senior secondary school. In sum, there is strong evidence indicating that women who dropped out of school due to pregnancy are able to complete their educational goals when they return to school. Even when recognizing that relatively good and highly motivated students are more likely than weaker and less motivated students to return to school after a pregnancy-related dropout, it seems likely that even the latter will be able to improve their level of education if they are given the opportunity to do so.

Table 6 about here

Discussion

Schoolgirl pregnancy is considered a social problem in several African countries, including Botswana. In these countries, a large number of girls are not able to complete their education because they become pregnant while in primary or secondary school. Consequently, these girls are not able to fully exploit their opportunities for social advancement, and valuable public educational resources are wasted. Because schoolgirl pregnancy has such a large cost both for the individual schoolgirl and for society, governments are trying to reduce the incidence of schoolgirl pregnancy by incorporating family life education in the school curriculum.

In order to ensure a continued commitment to enhancing the quality of these programs, it is important to demonstrate the impact of existing family life education efforts on pregnancy-related school dropouts. In this paper, we used data from the Botswana Family Health Survey in conjunction with focus

group interview data in order to get a better understanding of the factors that affect levels of schoolgirl pregnancy, and of the factors that help young mothers return to school.

In Botswana, the progress in terms of female primary and secondary school enrollment has been nothing short of spectacular. In this paper, we used life table analyses to study grade progression. The results confirm that there is a high wastage after primary, junior secondary, and senior secondary school. However, comparison of different birth cohorts shows that there has been a substantial improvement in grade progression for female students in Standards 1 through 6, but not for higher classes. For higher classes, grade progression has declined somewhat. The latter finding is not surprising given the increase in the standard of education and the ongoing expansion of the educational infrastructure. A large number of students who previously would only have attended primary school are now able to stay in school until they complete junior secondary school, or even senior secondary school. The rapid expansion of primary and secondary school enrollment has created a need to increase the number of schools, particularly secondary schools, that has not been fully met (see Ramatsui 1993). Because of the limited number of places in senior secondary school, not all junior secondary school graduates are able to gain admission to senior secondary school. The same problem exists for senior secondary school graduates. In other words, improvements in primary school progression have increased pressures on secondary school resources. Indeed, because of these improvements, 75 percent of a cohort of female Standard 1 students will now complete Standard 7, and 30 percent of that cohort will complete junior secondary school.

This educational progress implies that women stay in school at later ages, and that sexuality and reproduction will increasingly interfere with

women's education. Schoolgirl pregnancies are one of the main obstacles to further improvements in women's education. In Botswana, primary and secondary schoolgirls who become pregnant are required to drop out of school until their child is one year of age. Although the published annual pregnancy-related dropout rates appear to be quite low, life table analyses show a very different picture. Because schoolgirls are at risk of pregnancy as long as they stay in school, the risk of dropping out due to pregnancy is cumulative. Our findings show that among young women, 10 percent of a cohort of female Standard 1 students dropped out due to pregnancy before completing primary school, over 25 percent before completing junior secondary school, and over 40 percent before completing senior secondary school. Although these figures imply a substantial improvement over the situation for older women, it is evident that schoolgirl pregnancy is a major problem.

While there is an increasing recognition that family life education is needed to resolve this problem, there has been much uncertainty and disagreement (in Botswana as well as in other African countries) about the issue of who should be responsible for providing such information. School authorities have been reluctant to provide family life education because they feared parental opposition, parents have been reluctant to take responsibility because they were not allowed to do so traditionally and because they lack the necessary knowledge, and religious organizations have been reluctant to go beyond moral teachings. This paper has demonstrated that parents are unlikely to be efficient in preventing pregnancy-related school dropouts. Communication between parents and their children is poor, and because of traditional rules prohibiting children from talking about sexual issues with their parents, this is unlikely to improve in the near future. Moreover, even in those rare

instances where parents do talk to their children about family life issues, it has no effect on the incidence of pregnancy-related school dropouts.

Providing family life education in schools appears to have much more potential. The most important factor reducing pregnancy-related dropouts is whether an adolescent used contraceptives at first intercourse. Primary and secondary schoolgirls who used contraceptives when they became sexually active are only half as likely as other girls to drop out of school due to pregnancy. This finding demonstrates that fears that knowledge of family planning methods will only perpetuate the schoolgirl pregnancy problem are unfounded.

The data do not yet show a significant impact of access to mass media on schoolgirl pregnancy. However, it should not be overlooked that there were no formal family life education programs on either radio or television when the Botswana Family Health Survey was conducted. Nevertheless, focus group participants did indicate that the media, particularly radio stations, are becoming an important source of information for adolescents. Considering the rapid increases in the number of households who own a radio and/or television, we agree with previous studies (see Dynowski-Smith 1989; National Institute for Development Research and Documentation 1988) that the potential of mass media information has not yet been fully exploited.

The negative implications of schoolgirl pregnancy can be mediated if young mothers are able to return to school. Scattered studies indicate that few of the girls who drop out of school due to pregnancy return. That is also the case for Botswana. In Botswana, girls are not allowed to re-apply for admission to school until their child is one year of age, and they are not allowed to return to their former school. Information from both the survey data and the focus group interviews indicate that parental support is a crucial factor in enabling girls to return to school. Parents who are angry

about their daughter's pregnancy are more likely to encourage her to find a job during the mandatory leave period, which then reduces her chances of returning to school subsequently. Parental resources could also be an important factor in whether or not girls who dropped out of school due to pregnancy will continue with their job or return to school, and this issue merits further investigation.

For most countries, there is no information on the educational progress of those girls who do return to school after dropping out due to pregnancy. Our study indicates that in Botswana most returnees are quite successful. Only about one in four returnees did not make any progress. Most returnees stayed in school until they completed either primary, junior secondary, or senior secondary school. Although it may or may not be true that good students are more likely to return, it is reassuring to observe that those who do return are able to perform well even though they have been out of school for at least one year.

To sum up, this paper has shown that although female education has improved dramatically in Botswana, the problem of schoolgirl pregnancy may be much more severe than is commonly assumed. While there is evidence that recent family life education efforts are starting to have the desired effect, there is a continued need to strive for more comprehensive and higher quality family life education programs, as well as a need for policies that encourage and facilitate the return to school of girls who dropped out because of pregnancy.

References

- Ahmed, G. 1993. Sex Ratio Imbalance as One of the Factors of Fertility Decline in Botswana. Paper presented at the IUSSP International Population Conference, held in Montreal, August-September 1993.
- Ahmed, G. 1996. Sex Ratio Imbalance as a Major Factor in the Unprecedented Fertility Decline in the Late 1980s and Beyond. Department of Demography Working Paper. Gaborone, Botswana: University of Botswana.
- Belbase, Krishna P. and Samuel Kimani. 1995. Variations in Socio-Economic Indicators in Botswana: A Second-Stage Analysis of 1991 Census Data. Paper presented at the 1991 Census Dissemination Seminar, held in Gaborone, 1-4 May 1995.
- Brown, Barbara. 1980. Women, Migrant Labor and Social Change in Botswana. *African Studies Working Paper* 41. Boston: Boston University.
- Central Statistics Office. 1995. *Education Statistics 1993*. Gaborone: Central Statistics Office.
- Cherlin, Andrew and Nancy Riley. 1986. *Adolescent Fertility: An Emerging Issue in Sub-Saharan Africa*. PHN Technical Note 86-23. Washington, D. C.: The World Bank.
- Chernichovski, Dov. 1985. Socioeconomic and Demographic Aspects of School Enrollment and Attendance in Rural Botswana. *Economic Development and Cultural Change* 33(3): 319-32.
- Church, C.A. and Geller, J. 1989. Lights! Camera! Action! Promoting Family Planning with TV, Video, and Film. *Population Reports, Series J, No.38*. Baltimore: Johns Hopkins University, Population Information Program.
- Demographic and Health Surveys, Macro Int. s.d. *A Profile of Teenage and Young Adult Women in Botswana. Findings from the 1988 Botswana Demographic and Health Survey*. Columbia, MD: Demographic and Health Surveys, Macro Int.
- Division of Family Health, GTZ Support Unit. 1988. *Schoolgirl Pregnancy in Kenya. Report of a Study of Discontinuation Rates and Associated Factors*. Second Edition. Nairobi: Ministry of Health.
- Duncan, W. 1988. School Dropout in Botswana: Gender Differences at Secondary Level. University of Stockholm: Institute of International Education.
- Dynowski-Smith, Monica. 1989. *Profile of Youth in Botswana*. Gaborone, Botswana: Intersectoral Committee on Family Life Education.
- Ferguson, A., Gitonga, J. and D. Kabira. 1988. *Family Planning Needs in Colleges of Education. Report of a Study of 20 Colleges in Kenya*. Nairobi: Ministry of Health, Division of Family Health - GTZ Support Unit.

- Ferguson, A.G. 1989. Schoolgirl pregnancy in Kenya: The continuing saga. *Journal of Obstetrics and Gynaecology of Eastern and Central Africa* 8(1):35-37.
- Gyepi-Garbrah, Benjamin. 1985. *Adolescent Fertility in Sub-Sahara Africa: An Overview*. Boston and Nairobi: The Pathfinder Fund.
- Kalogosho, Demetria. 1995. Household Headship and Educational Status by Gender. Paper presented at the 1991 Census Dissemination Seminar, held in Gaborone, 1-4 May 1995.
- Leburu-Sianga, Felicity Malebogo. 1995. Review of Educational Achievements in Botswana Education, 1971-1991. Paper presented at the 1991 Census Dissemination Seminar, held in Gaborone, 1-4 May 1995.
- Lekhela, E. P., W. M. Kgware, T. Vorster, and E. Roussouw. 1972. *A Survey of the Development of Education among the Batswana of Bophuthatswana*. Mafeking: Mafeking Mail.
- Lesetedi, L.T., Mompoti, G.D., Khulumani, P., Lesetedi, G.N., and Rutenberg, N. 1989. *Botswana Family Health Survey II, 1988*. Gaborone, Botswana: Central Statistics Office and Family Health Division, Ministry of Health, and Columbia, MD: Institute for Resource Development.
- Manyeneng, W. G., P. Khulumani, M. K. Larson, and A. A. Way. 1985. *Botswana Family Health Survey 1984*. Gaborone: Family Health Division, Ministry of Health.
- Meekers, Dominique, Anastasia Gage and Li Zhan. 1995. Preparing Adolescents for Adulthood: Family Life Education and School Expulsion in Kenya. *Population Research and Policy Review* 14(1): 91-110.
- Meekers, Dominique. 1994. Education and Adolescent Fertility in Sub-Saharan Africa. *International Review of Modern Sociology* 24(1): 35-54.
- Molosi, P. O. 1993. Current Government Policy on Education and Analysis of the Implementation of the White Paper No.1 of 1977. Pp.41-54 in S. Seisa and F. Youngman, eds., *Education for All in Botswana*. Gaborone: Ministry of Education and Macmillan Botswana Publishing.
- Moremi, T. C. 1993. Basic Education and Rural Development. Pp.62-72 in S. Seisa and F. Youngman, eds., *Education for All in Botswana*. Gaborone: Ministry of Education and Macmillan Botswana Publishing.
- Mwabeta, R., Paxman, J.M. and D. Cooper Weil. 1988. Confronting the Consequences of Schoolgirl Pregnancy in Tanzania: Lessons from the Multidisciplinary Approach of the Dar-es-Salaam Youth Centre. Paper presented at the Annual Meeting of the American Public Health Association.
- National Institute of Development Research and Documentation, University of Botswana. 1988. *Teenage Pregnancies in Botswana. How Big is the Problem and What Are the Implications*. Gaborone, Botswana: National Institute of Development Research and Documentation, University of Botswana.

- Ramatsui, P. T. 1993. The Relationship of Basic Education to Other Levels of the Education System. Pp.141-157 in S. Seisa and F. Youngman, eds., *Education for All in Botswana*. Gaborone: Ministry of Education and Macmillan Botswana Publishing.
- République de Côte d'Ivoire. 1990. *Fécondité des Adolescentes en Côte d'Ivoire*. Rapport Principal, Volume 1. Abidjan: Ministère de l'Industrie et du Plan, Direction de la Statistique et de la Comptabilité Nationale.
- Rutenberg, Naomi and Ian Diamond. 1993. Fertility in Botswana: The Recent Decline and Future Prospects. *Demography* 30(2).
- Schapera, Isaac. 1933. Premarital Pregnancy and Native Opinion: A Note on Social Change. *Africa* 6: 59-89.
- Schapera, Isaac. 1940. *Married Life in an African Tribe*. London: Penguin.
- Seisa, Segakweng and Frank Youngman. Eds. 1993. *Education for All in Botswana*. Proceedings of the National Conference on Education for All, Gaborone, June 17-21, 1991. Gaborone: Ministry of Education and Macmillan Botswana Publishing.
- Seisa, Segakweng and Frank Youngman. 1993. Introduction. Pp. 4-8 in S. Seisa and F. Youngman, eds., *Education for All in Botswana*. Gaborone: Ministry of Education and Macmillan Botswana Publishing.
- Timaeus, I. and W. Graham. 1989. Labor Circulation, Marriage and Fertility in Southern Africa. Pp.365-400 in R. Lesthaeghe, ed., *Production and Reproduction in Sub-Saharan Africa*. Berkeley: University of California Press.
- Tournas, Stephen A. 1996. From Sacred Initiation to Bureaucratic Apostasy: Junior Secondary School-Leavers and the Secularization of Education in Southern Africa. *Comparative Education* 32(1): 27-43.
- Ukaegbu, A. 1990. Population Education in Africa: Problems and Prospects. Paper presented at the UNESCO/NERDC Training Workshop in Population Education for Selected Lecturers, University of Lagos, Nigeria, 23-25 April, 1990.
- Youngman, Frank. 1993. Issues and Trends in Education for All in Botswana. Pp.188-199 in S. Seisa and F. Youngman, eds., *Education for All in Botswana*. Gaborone: Ministry of Education and Macmillan Botswana Publishing.
- Weeks, Sheldon G. 1993. Reforming the Reform: Education in Botswana. *Africa Today* 40(1): 49-60.
- White, Bob W. 1996. Talk About School: Education and the Colonial Project in French and British Africa (1860-1960). *Comparative Education* 32(1): 9-25.

Fig.1: Proportion of Female Students Not Completing the Next Grade

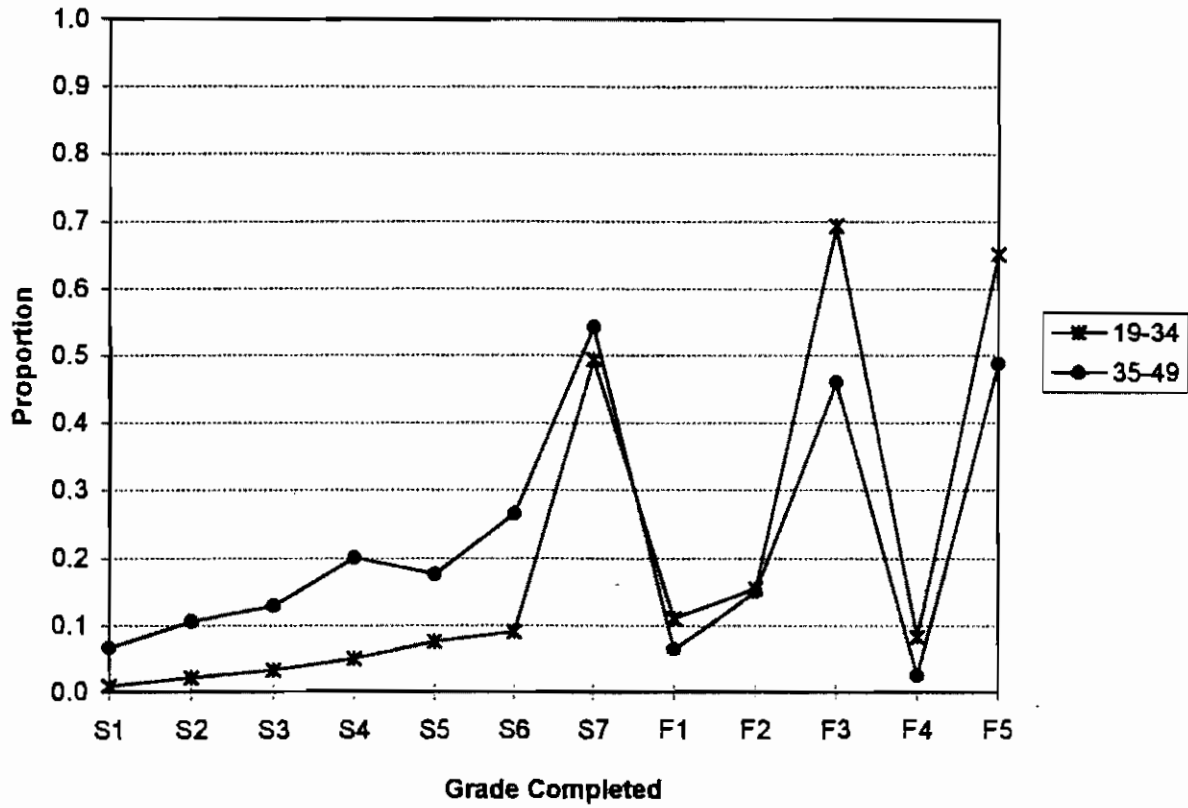


Fig. 2: Proportion of a Cohort of Female Standard 1 Graduates Completing Various Grades

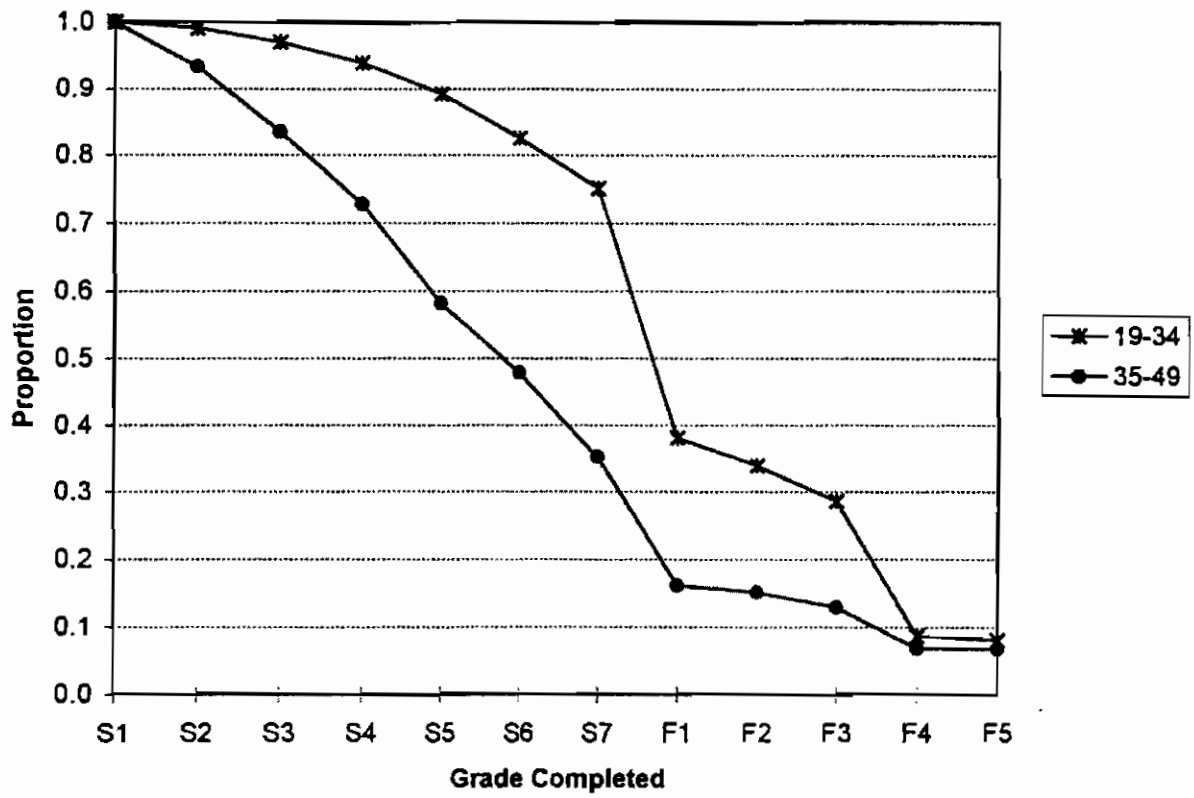


Fig.3: Proportion of Female Students Experiencing a Pregnancy-Related Dropout

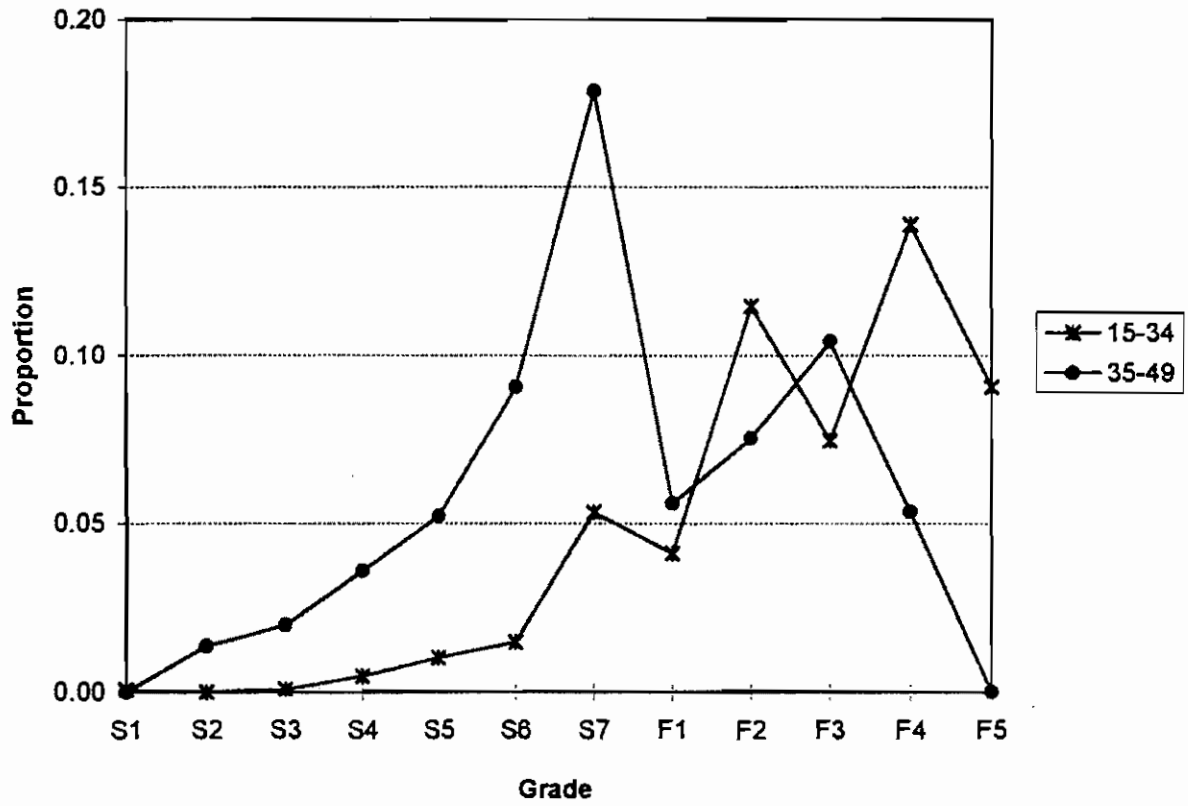


Fig.4: Cumulative Proportion of Female Students Experiencing a Pregnancy-Related Dropout

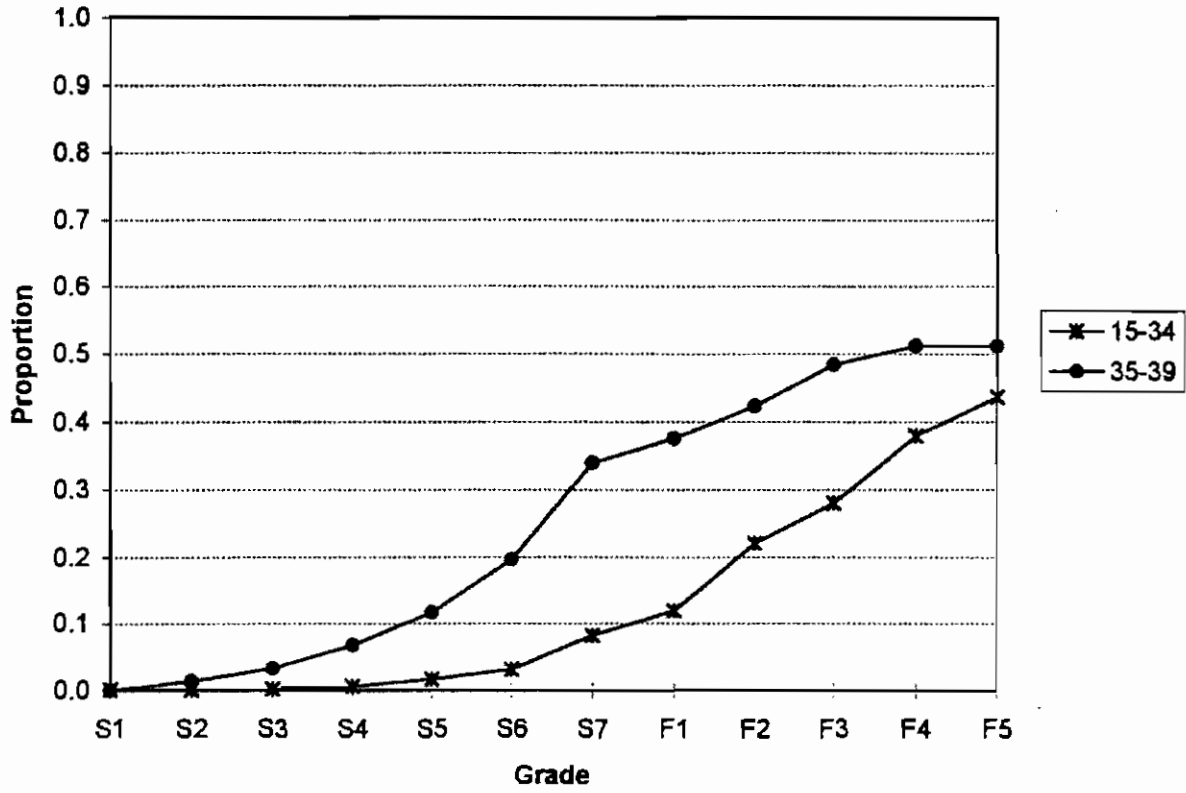


Table 1: Percentage of Women Who Dropped Out of Primary or Secondary School Due to Pregnancy

		Dropped Out at		Dropped Out at	
		Primary Level		Secondary Level	
		%	N	%	N
Has Radio	No	13.5	498	40.0	115
	Yes	11.2	1475	31.0	535
Has Television	No	12.2	1816	34.2	558
	Yes	7.1	156	22.8	92
Christian	No	12.6	1285	37.4	342
	Yes	10.2	687	27.3	308
Discussed Preg. & FP	No	11.8	1744	32.6	559
	Yes	12.0	226	33.7	89
Lived w/ parents	No	5.8	377	28.0	186
	Yes	13.2	1596	34.5	464
Contraception at	No	12.3	1819	34.9	565
First Sex	Yes	5.2	153	17.7	85
Urban	No	12.7	859	35.5	234
	Yes	11.0	1114	31.0	416
Age 35+	No	9.3	1584	32.8	598
	Yes	21.9	389	30.8	52
Total		11.8	1973	32.6	650

Table 2: Logistic Regression Coefficients of the Effect of Exposure to Family Life Education on the Likelihood of Dropping out of Primary or Secondary School Due to Pregnancy

	Primary Level		Secondary Level	
	Model 1	Model 2	Model 3	Model 4
Radio	.8102	.8704	.6748*	.8838
Television	.5475*	.6547	.5683**	1.0184
Christian	.7865	.7799	.6270***	.7256*
Discussed Preg. & FP	1.0186	1.2396	1.0533	1.2120
Lived w/ parents	2.4449***	2.2396***	1.3563	1.1429
Used Contraception at First Sex	.3939**	.5110*	.4003***	.4880**
Urban	.8540	.9722	.8177	.8531
Years at this Level	.8919***	1.0272	.4433***	.4590***
Age 35+	2.7333***	2.2937***	.9116	.9578
N of Cases	1970	1967	648	648
Log Likelihood	(varies)	-679.4838	(varies)	-354.9708

Table 3: Percentage of Women Who Returned to School After a Pregnancy-Related Dropout

		Dropped Out at Primary Level		Dropped Out at Secondary Level	
		%	N	%	N
Has Radio	No	9.1	66	10.9	46
	Yes	15.3	163	19.4	165
Has Television	No	12.8	218	16.3	190
	Yes	27.3	11	28.6	21
Christian	No	13.1	160	14.8	128
	Yes	14.5	69	21.7	83
Lived w/ parents	No	18.2	22	23.1	52
	Yes	13.0	207	15.7	159
Parents Angry	No	15.2	66	28.1	57
	Yes	12.9	163	13.6	154
Urban	No	8.4	107	18.1	83
	Yes	18.0	122	17.2	128
Age 35+	No	13.8	145	17.4	195
	Yes	13.1	84	18.8	16
Total		13.5	229	17.5	211

Table 4: Logistic Regression Coefficients of the Effect of Exposure to Family Life Education on the Likelihood of Returning to School After Dropping out Due to Pregnancy

	Dropped Out at Primary Level		Dropped Out at Secondary Level	
	Model 1	Model 2	Model 3	Model 4
Radio	1.8116	1.6694	1.9729	1.6757
Television	2.5446	1.7524	2.0516	2.0539
Christian	1.1219	.9423	1.5887	1.3439
Lived w/ parents	.6750	.5814	.6219	.6675
Parents Angry	.8282	.8994	.4046**	.4260**
Years at this Level	.9740	.8999	1.1852	1.1037
Urban	2.3956**	2.3800*	.8561	.8415
Age 35+	.9418	.9257	.7728	.7818
N of Cases	229	229	211	211
Log Likelihood	(varies)	-86.9159	(varies)	-92.3661

Table 5: Distribution of Returnees, by Dropout Grade and Additional Years of Schooling Completed

Dropout Grade	Additional Years of Schooling Completed							No Progress
	Completed Grade	One	Two	Three	Four	Five	Six +	
Standard 1	0	0	0	0	0	0	1	0
Standard 2	0	0	1	0	0	0	0	0
Standard 3	0	0	0	0	0	0	0	0
Standard 4	0	2	1	0	0	0	0	0
Standard 5	1	1	2	0	0	1	0	1
Standard 6	0	5	0	0	0	0	1	2
Standard 7	6	1	1	6	0	1	0	4
Form 1	2	0	4	0	1	0	2	0
Form 2	0	11	0	1	1	0	0	7
Form 3	3	0	3	0	0	0	0	4
Form 4	0	3	0	1	1	0	0	1
Form 5	1	0	1	1	0	1	0	1
Total	13	23	13	9	3	3	4	20

Note: Additional years completed are calculated by subtracting the dropout grade from the highest grade completed.

Table 6: Percentage of respondents who completed primary, junior secondary, and senior secondary school, by whether or not they had a pregnancy-related dropout

	Percentage Who Completed			N of Cases
	Primary	Junior Secondary	Senior Secondary	
No Pregnancy-Related Dropout	68.1	23.4	6.8	1520
Did not Return	54.4	8.2	0.3	353
Returnee, Unsuccessful	65.0	10.0	0.0	20
Returnee, Successful	91.4	65.7	30.0	70
Total	66.4	22.1	6.4	1963

Note: Unsuccessful returnees are defined as respondents who returned to school after a pregnancy-related dropout, but who never completed their dropout grade; successful returnees are those who at least completed their dropout grade.