

Guatemala: Eduque a la Niña: Girls' Scholarship

May 14, 1996

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We thank Gabriela Núñez of the USAID Guatemala office, Paula Gubbins of the Academy of Education Development, and Carlos Rojas of the World Bank for providing us with key information on the project and for their helpful comments.

Abstract

To date, educational policies have tended to emphasize the supply side overwhelmingly. This resulted in a sufficient number of schools in many countries. But it is now understood that having enough schools does not guarantee full enrollment. Not enrolling in readily accessible schools tends to be especially prevalent among girls.

One possible strategy for increasing female participation is to reduce the costs for girls more than for boys, using special scholarships only for girls. This case study focuses on such a scholarship intervention package. The scholarship package is one element of the pilot *Eduque a la Niña* under the Girls' Education Program of Basic Education Strengthening Project (BEST) in Guatemala. While the pilot also makes use of parent committees and community outreach workers, the most innovative tool in the package is a small scholarship --equivalent to US\$4.00-- that is provided to girls enrolled in grades one, two and three in 12 rural communities.

The scholarship pilot is couched in a broader set of experimental alternatives, including two other interventions that have no scholarship and a group of comparison communities which did not receive any program. After reviewing problems related to program design, impact, cost and benefits, this paper draws the tentative conclusion that the scholarship program has been effective in raising attendance rates and in reducing the dropout rate. However, the selection of rural communities with the lowest female enrollment rate for program intervention and the absence of baseline information have made it difficult to assess the magnitude of program impact. Moreover, since the pilot only started in 1994, further evaluation efforts are needed before drawing any definitive conclusions.

Background

Human capital levels are low in Guatemala. Overall enrollments have increased in recent decades, but coverage is still lower in Guatemala than in all other Latin American and Caribbean countries except Haiti. As of 1995, Guatemala's primary enrollment rates amounted to a net enrollment rate of 68 percent, and a gross enrollment rate of 82 percent. These rates compare unfavorably to the nearly 85 percent net and 113 percent gross enrollment average for the Latin American and Caribbean region. The illiteracy rate for the total population is 44 percent in Guatemala, compared to the 15 percent average in the region (World Bank 1995).

The problem of low participation rates in the elementary education system is particularly severe in rural areas, and especially among girls. In rural Guatemala, half of all children who enroll in school never reach the fourth grade. Girls attend school less than boys and drop out more (Table 1). Female enrollment in primary education, as a percentage of male enrollment, is only 85 percent. Sixty-six percent of girls who begin primary school have already dropped out by the third grade (Núñez and de Coti 1995). Fewer than one of every eight girls that starts primary school completes it. Illiteracy among rural women, who make up over 32 percent of the total population, is over 59 percent (Núñez *et al.* 1991).

Significant discrepancies also exist in access to education and in the distribution of educational

quality by ethnicity. More than one-third of the Guatemalan population is indigenous, most of these being of Mayan origin (ENSD 1989). Yet on average, indigenous people have only 1.3 years of schooling compared to 4.2 years for non-indigenous people. Indigenous females receive an average of 0.9 years of education. Nearly 70 percent of indigenous women never completed primary school (Table 1).

Table 1: Distribution of Schooling by Gender and Ethnicity (percent)

| Gender and Schooling | Indigenous | Non-indigenous |
|----------------------------|------------|----------------|
| Males (Aged 15 and Over) | 100.0 | 100.0 |
| Incomplete Primary | 51.3 | 23.2 |
| Primary | 23.7 | 30.6 |
| Secondary | 21.1 | 35.0 |
| University | 3.9 | 11.2 |
| Females (Aged 15 and Over) | 100.0 | 100.0 |
| Incomplete Primary | 69.2 | 32.1 |
| Primary | 14.8 | 29.6 |
| Secondary | 14.6 | 35.5 |
| University | 1.4 | 3.8 |

Source: Psacharopoulos and Patrinos 1995

To boost girls' primary enrollment, an experimental girls' scholarship program was first initiated by the government of Guatemala in 1986 in 13 rural highland communities. Several studies were conducted in the late 1980s, supported by qualitative research on the results of the girls' scholarship program, along with analyses of worldwide research and literature reviews. These confirmed the strong relationship between girls' education and socioeconomic development indicators. In order to further encourage commitment to girls' education, USAID, UNDP and the National Office of Women of the Ministry of Labor sponsored a national conference in 1991 for policy-makers and key leaders in the public and private sectors. Participants examined national and international evidence on the impact of girls' education in such areas as health, fertility, infant and child mortality, as well as directly on agricultural, industrial and domestic productivity.

The positive evidence that primary school education for girls produces significant improvement in a country's social and economic well-being, combined with the Guatemalan evidence of low primary participation among girls and subsequently high illiteracy among women, motivated conference participants to take immediate action to promote the education of girls in the country. Emphasis was to be placed not only on the role played by the Ministry of Education (The Ministry of Education is implementing a girls' scholarship program as part of a five-year policy to educate rural, indigenous, primary school girls in eight departments of Guatemala), but also by other ministries (economy, finance, agriculture, development, labor, roads, defense) and by the private sector (Núñez *et al.* 1991). A National Commission on Girls' Education, known as *Asociación Eduquemos a la Niña* (Guatemala Association for Girls' Education), was established in order to raise awareness throughout the country and to develop a National Needs Assessment and Plan of Action for girls' education.

Asociación Eduquemos a la Niña has since launched several activities based on the National Needs Assessment and Plan of Action to improve primary education for girls. Examples include development of research, communications, advocacy projects and education materials (Núñez and de Coti 1995). The association is a unique example of productive cooperation between the

public and private sectors. The Plan of Action laid out profiles of 40 projects, all of which address barriers to girls' attendance and completion of primary school. One of the projects is called *Eduque a la Niña* (Educate Girls).

Eduque a la Niña

Launched in January 1993, *Eduque a la Niña* is a three year pilot project designed to test the effectiveness of three packages of interventions. Each package of interventions is being implemented in 12 rural communities, amounting to a total of 36 communities being selected. These 36 communities were chosen because they exhibit the highest differentials between girls' and boys' school attendance and graduation rates. The aim of the pilot is to see which type of intervention has the greatest impact on the school attendance, school retention and achievement of girls, and to find the most cost-effective strategies for promoting girls' participation in and completion of primary school. The findings will be examined by the *Asociación Eduquemos a la Niña* for expansion and replication in other parts of the country.

Eduque a la Niña is supported by several donor organizations, including USAID as the main funding source (with AED as main contractor and subcontractor Juarez and Associates) and several other public and private sector entities including the Ministry of Education. The project is being implemented by Fundazucar (the Foundation of Sugar Producers), a local non-governmental organization. The Fundazucar specializes in community development, housing and education mainly in sugar plantation areas along the south coast of Guatemala.

Three packages of interventions (combination of educational actions) are being tested in the *Eduque* program. The actions include: a) a small scholarship of about US\$4 per month for 11 months every year; b) parent committees that select girls to receive the scholarships and monitor the activities of the program in their community; c) support for community outreach workers to help organize parents' committees and provide tutoring and support to the girls; d) and educational materials which are for students and teachers, offered in Spanish and in the four major Mayan languages, and focus on the education of girls. Table 2 describes the educational actions included in each of the three intervention packages.

Table 2: *Eduque* Intervention Packages

| Packages | Outreach Worker | Educational Materials | Small Scholarships | Parent Committees |
|----------|-----------------|-----------------------|--------------------|-------------------|
| 1 | X | | X | X |
| 2 | X | | | X |
| 3 | | X | | |

Source: Chesterfield and Rubio 1995

While *Eduque a la Niña* is a three-tiered project, the scholarship intervention constitutes the main focus of this case study. The scholarships are part of intervention package #1 and are being piloted in 12 of the 36 selected communities. The communities selected for scholarship intervention also have outreach workers and parent committees besides receiving scholarships for girls.

The amount of scholarship for each eligible girl is \$4 per month for 11 months a year. The monthly stipend is about one quarter of the average monthly income for women with less than 1 year of schooling in Guatemala (\$18) (Núñez *et al.* 1991). The roots of the scholarship program lie partly in the earlier girls' scholarship program implemented by the *Asociación Guatemalteca de Educación Sexual* (AGES), a Guatemala non-governmental organization. The original AGES program conducted a family income survey in the communities where scholarships were to be distributed. They first established about US\$2/month stipend and after 3 years they increased it to

US\$3/month and finally to US\$4/month (\$4). The rationale for the stipend is that: a:) it would not be greater than the family's income; a) it would be less than the capability of the girl to generate income through her own work; c) it would cover minimum needs to compensate a girl's family for her lost labor income and the cost of school supplies without establishing a dependency on the stipend. In other words, AGES tried to determine a sum that would entice parents to send their daughters to school, but would not completely cover the opportunity cost. In 1995, a total of 478 girls were receiving such scholarships through the *Eduque* project.

Administration

The girls' scholarship pilot in *Eduque a la Niña* has three main features: (a) the use of parent committees and community outreach workers as well as monetary incentive; (b) it is one of three packages of interventions being tested to determine which intervention has the greatest impact on keeping girls in school; and (c) ensuring that the stipend is given directly to the girl or her family to cover school-related costs.

Fundazucar, the implementing agency of the project, provides scholarship funds to the outreach workers assigned to the communities that were chosen for the scholarship intervention package. The community outreach workers then organize a meeting with the parent scholarship committee to distribute the stipend. The stipend is distributed every month for 11 months to the girls receiving scholarships.

In order to be eligible as a scholarship recipient, girls must satisfy a number of criteria (Núñez 1995):

- be enrolled in one of the public primary schools in the 12 rural communities where the scholarship intervention package is being implemented;
- be 7 to 14 years old;
- (preferably) be in the first to third grade;
- have limited economic resources;
- have the interest and consent of their parents.

Girls between 7 to 14 years of age enrolled in the first to third grade are first identified by the parent committee and school teachers in the 12 participating communities. Following the nomination is a socio-economic survey of each candidates' parents by the parent committee to verify the economic conditions. The most needy girls are then selected to receive scholarships. Scholarships are assigned to at most 40 percent of girls enrolled in a school. To continue receiving the stipend for a second year, girls must be promoted to the following grade.

Impact

Project implementation began in February 1994. Therefore, interventions were in place for only the last five months of the school year. The pilot programs are funded by USAID through the end of 1996. It is therefore still very early in the life of the project for a full assessment. Comments in this section on the impact of this project are based on a formal evaluation of first year (5 months) impact and on information gathered from USAID personnel.

Ray Chesterfield and Fernando Rubio (Juarez Associates) recently completed a first impact evaluation of the *Eduque a la Niña* pilot. A second evaluation reviewing the first two years is still underway and a draft should be available in later in the year. Their first evaluation is based on a survey of a representative sample of nine rural schools which use the three incentive packages and a comparison group of rural public schools with similar characteristics but not receiving any of the packages. The nine participating schools were obtained using a random, stratified sample

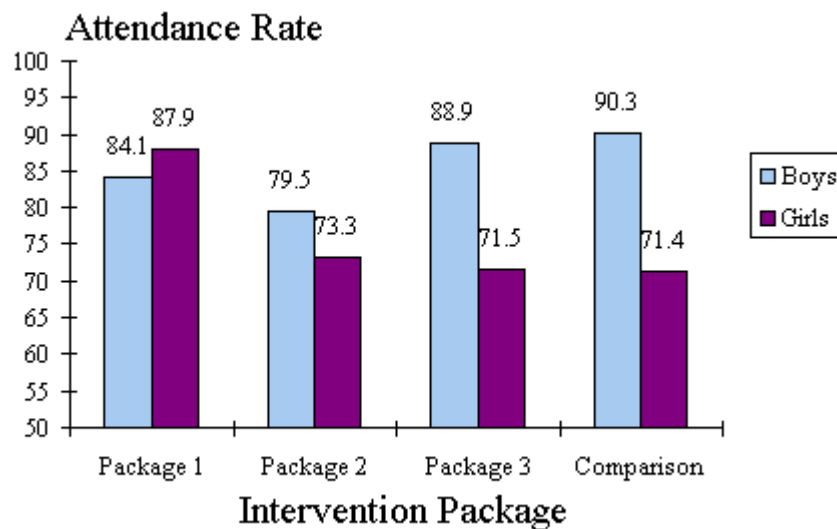
with strata defined according to each of the different policy-tool packages in the *Eduque* project. However, caution needs to be exercised while making judgments about program impact. Since the 12 communities receiving scholarships were chosen because they exhibit the highest differentials between girls' and boys' school attendance and graduation rates, the comparison schools are not exactly similar to the experimental schools. Also, in the absence of baseline data it becomes difficult to distinguish project impact from sample selection effects.

A multi-method design consisting of inventories, checklists, classroom observation forms and focused interviews was employed to measure the increased participation of girls in the first year. Aspects of impact evaluated include daily attendance, dropouts, completion, promotion, failure and classroom interaction (see Appendix for operational definitions of these indicators). Teacher's attendance is also assessed.

Attendance

The first year impact evaluation found that schools enrolling *Eduque* participants had higher observed attendance among girls (79 percent) than the comparison group (71 percent) on any given school day. When broken down by type of intervention package, this effect was found to be attributable primarily to intervention package #1, the one which combines scholarships with community outreach and parent committees. The scholarship program not only resulted in higher girl attendance rates than the other two packages, but Figure 1 shows it actually led to girl attendance rates that were higher than those measured for boys. Under policy-packages 2 and 3, girls attended with the same frequency as in the comparison group. In both the comparison group and in experimental groups 2 and 3, the attendance rate for girls was much lower than it was for boys.

Figure 1. Attendance Rate by Intervention Package



(percent)

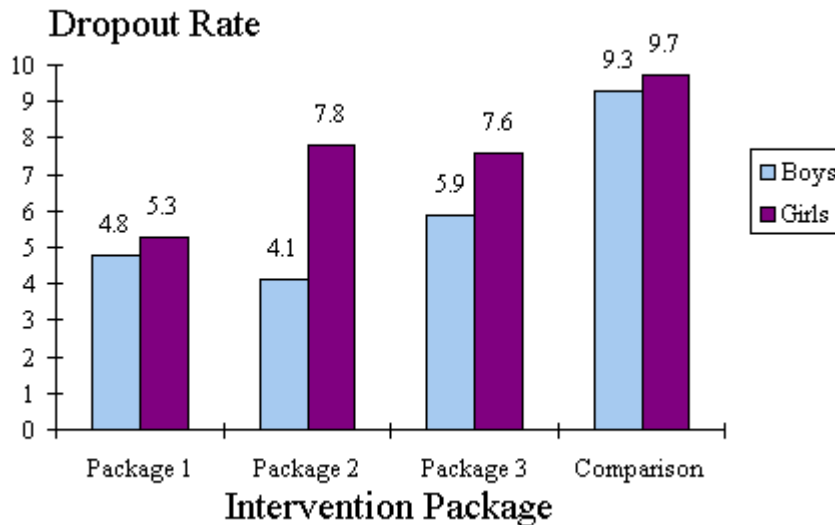
Source: Chesterfield and Rubio 1995

Dropout

The Juarez and Associates study defines dropouts as those children identified by their teachers as having left school at the time of data collection in August 1994 and at the end of the school year. Even though this measure of dropouts only reflects three months of project implementation, the evaluation found evidence which indicates that children participating in schools with any of the incentive packages were at least two percentage points lower in dropout rates than those of children in the comparison group. Consistent with the attendance findings, the scholarship

intervention package #1 resulted in the lowest dropout rate of the four groups compared in Figure 2. Only 5 percent of the girls in scholarship program schools dropped out, compared to nearly twice that (10 percent) in the comparison group.

Figure 2. Dropout Rate by Intervention Package (percent)

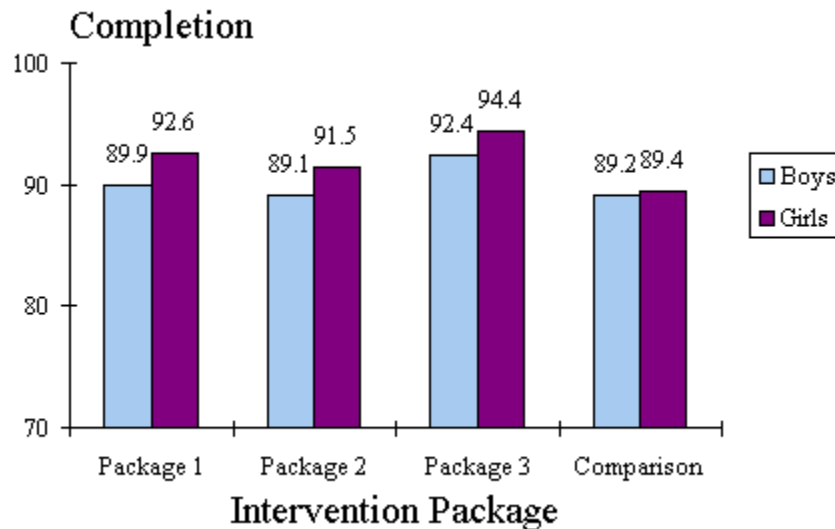


Source: Chesterfield and Rubio 1995

Completion

Completion was calculated by subtracting the number of children enrolled at the end of the year from the number of children enrolled at the beginning of the year. While the scholarships appear to have affected the attendance and dropout rates, it does not appear to do any better than the alternatives when it comes to completion rates. While schools receiving any of the three intervention packages had slightly higher completion rates for girls than comparison schools, there is no discernible difference across packages (Chesterfield and Rubio 1995).

Figure 3: Completion Rate by Intervention Package (percent)

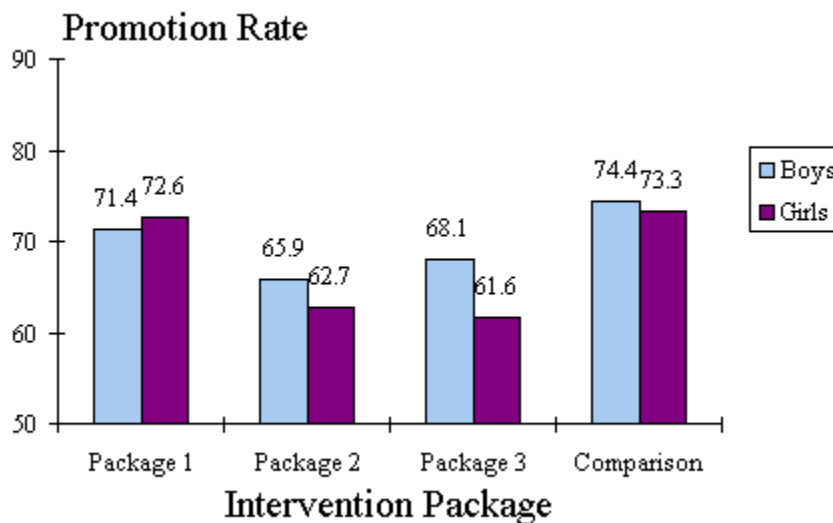


Source: Chesterfield and Rubio 1995

However, this way of calculating completion rate is rather doubtful in the given setting. Related work in Latin American found that there are many new enrollments at odd times during the year including transfer students (Edwards *et al.* 1995). Perhaps the complex pattern of student flows may partially explain the seemingly odd result that the scholarship program substantially lowers the dropout rate, but did not succeed in increasing the completion rate. If thwarted dropouts are "worse" students, then it is possible that reducing the dropout rate can lower other measures of performance, including completion rates. It is one thing to keep a girl in school, and another to make her do well.

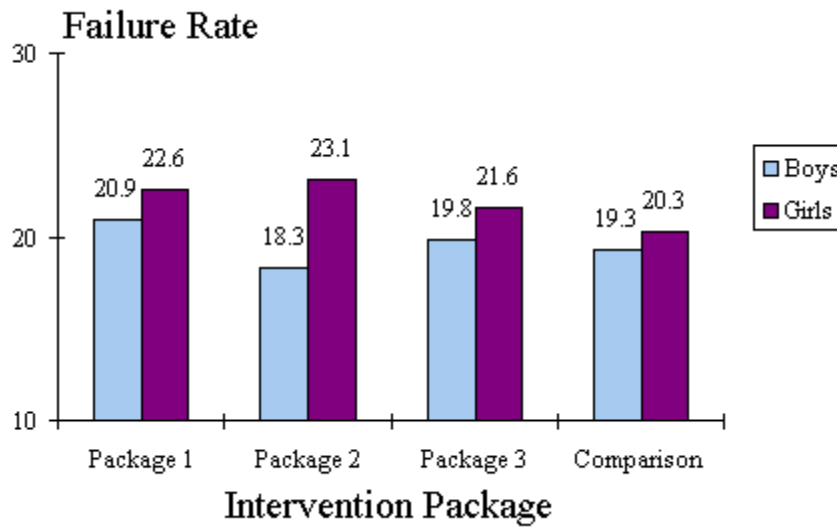
This interpretation appears to be reinforced by measured impact on promotion and failure rates. The general promotion (Figure 4) and failure rates (Figure 5) exhibit similar patterns in the different interventions. As shown, there are no discernible differences between any of them. Even worse, it appears that both girls and boys actually have lower promotion rates in the all of the intervention groups than in the comparison group. Again, while it may be arithmetically true that these rates are lower, this does not mean that the interventions made things worse. All of these impact measures are *rates*. The interventions will affect both numerator and denominator.

Figure 4: Promotion Rate by Intervention Package (percent)



Source: Chesterfield and Rubio 1995

Figure 5: Failure Rate by Intervention Package (percent)



Source: Chesterfield and Rubio 1995

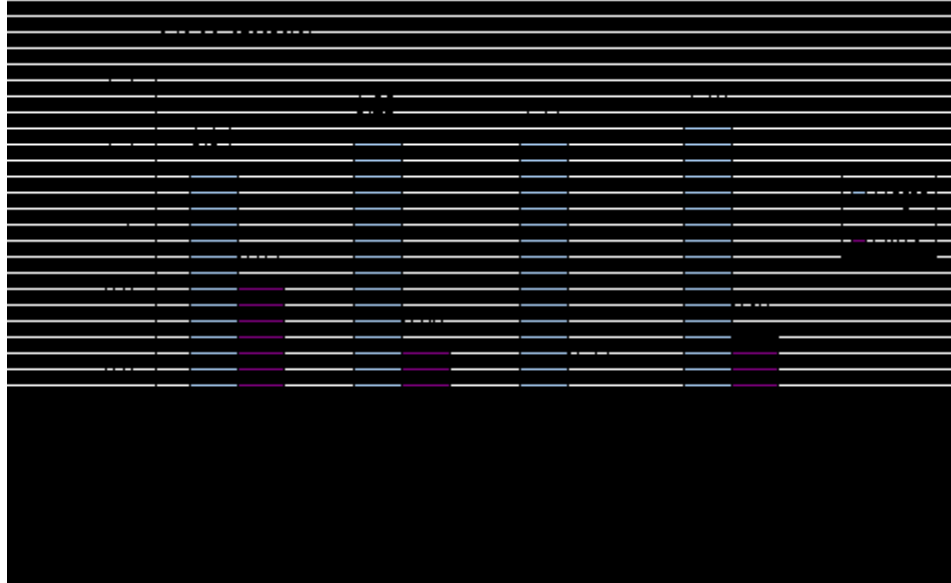
An alternative, statistical interpretation of the result is that the "comparison group" and the targeted schools are not random draws from the same population. This is likely due to the selection of intervention schools on the basis of low enrollment. In fact Chesterfield and Rubio (1995) report that the *Eduque a la Niña* schools had the worst conditions in the whole country, but this is not taken into account in the impact analysis.

Classroom Interaction

Besides the quantitative indicators of internal efficiency, Chesterfield and Rubio (1995) also report on student-teacher interaction data collected through observations of naturally occurring classroom activities. Two indices of classroom interaction were created, based on two different types of classroom behavior: interaction initiated by the child, the index of active participation (IAP) and interaction initiated by the teacher, index of responsive participation (IRP). The IAP is intended to represent how "open" a classroom is by measuring the relative ease with which girls and boys can access the teacher. The IRP indicates flows in the opposite direction, by measuring the relative distribution of attention given to children, by gender. Each index is weighted by attendance in such a way that in an equitable classroom, the indices should approach 1.

IAP results show that active participation of girls in the classroom was significantly higher in schools covered by the scholarship package, indicating that teachers in participating schools have a heightened awareness and are offering girls more opportunities to interact with them. While improved relative to other schools, however, girls continue to have less access than boys even in the scholarship schools (Figure 6). Girls in schools with the scholarship incentive package had an index of active participation at least 20 percent higher than what was found in other interventions or in the comparison (0.83 in scholarship schools compared to 0.68 in comparison schools).

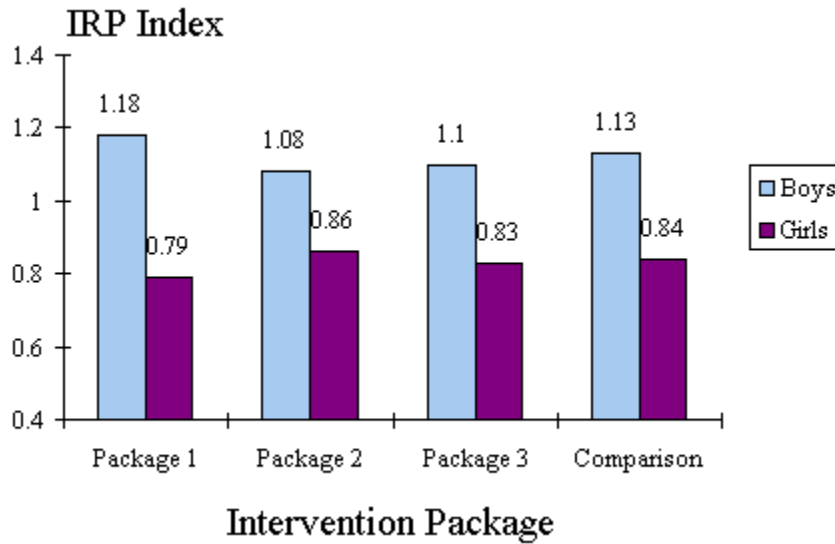
Figure 6: Index of Active Participation by Intervention Package



Source: Chesterfield and Rubio 1995

In contrast, IRP results show no differences in impact across intervention packages and none with respect to the comparison group (Figure 7). On both indicators, boys still have higher participation than girls, reflecting that males are more favored in these surveyed schools.

Figure 7: Index of Receptive Participation by Intervention Package



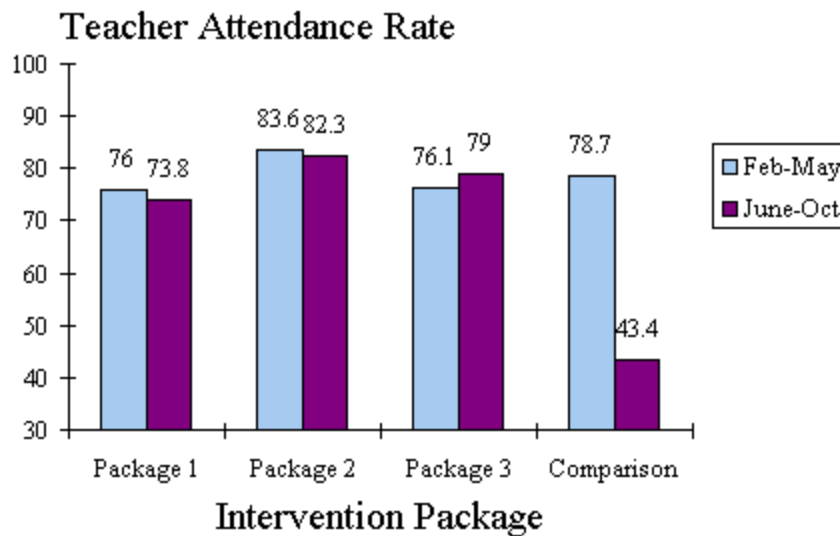
Source: Chesterfield and Rubio 1995

Problems arising from a biased selection of the beneficiary sample and from not having baseline data are evident. Schools were targeted for participation on the basis of presumed worse treatment of girls. If post-intervention measures show that targeted schools are doing as well as the comparison group, this could be evidence of positive impact. Without baseline data it is not possible to establish this as an impact.

Teacher Attendance

The first-year impact evaluation also reports that teacher attendance increased for all interventions, which may also explain the higher attendance of students in project schools. The attendance of teachers in schools with all of the interventions remained constant throughout the school year, whereas that of teachers in comparison schools decreased in the second half of the year (June-October), a time of inclement weather and an increased number of official and unofficial holidays (Figure 8). Teachers' attendance rate in the scholarship program from June to October reached 73.8 percent, a 40 percent increase over that of the comparison group (43.4 percent). But again, the study reports no significant differences across interventions. Caution should also be exercised in interpreting differences with the control group. Teachers would know that their schools have been selected for a pilot project and that this would make it likely that they would be visited frequently by Ministry of Education and USAID officials. But 43 percent of teacher attendance in comparison schools is still very low.

Figure 8: Teacher Attendance by Intervention Package



Source: Chesterfield and Rubio 1995

Cost

The cost information of *Eduque* project was provided by the USAID Guatemala office. Table 3 details the actual cost from 1994 to 1995 and the estimated cost for 1996. It includes costs for *Eduque's* three packages, rather than on the scholarship package alone. While reading Table 3, it is important to note that the cost tabulated here reflects only direct costs born by the administering agency as a result of operating the project.

Table 3: Cost of *Eduque a la Niña*, 1994-96 (in current US\$)

| | 1994 | 1995 | 1996 (estimated) |
|---------------------------|------|------|---------------------|
| Program Parameters | | | |
| Number of recipients | 349 | 442 | 442 |
| Monthly stipend | \$4 | \$4 | \$4 |
| Number of months per year | 11 | 11 | 11 |

| Cost | | | |
|--|----------|----------|----------|
| Stipend | \$15,995 | \$20,258 | \$20,258 |
| Salaries for 6 outreach workers | \$5,800 | \$4,921 | \$6,216 |
| Training for 6 outreach workers | \$465 | 0 | 0 |
| Supplies for department offices | \$167 | \$620 | \$366 |
| Training, MOE authorities, supervisors | 0 | \$11,634 | \$19,170 |
| Total cost | \$22,432 | \$37,464 | \$46,011 |
| Cost per girl per year | \$64 | \$85 | \$104 |
| Cost per girl per month | \$5 | \$7 | \$8.5 |

Source: Information provided to the World Bank for this case study by USAID Guatemala office

Table 3 indicates that 349 girls received scholarship in 1994. The direct cost of the project was about \$22,432 in 1994, averaging \$64 per scholarship girl. The program was expanded slightly in 1995 to cover a total of 442 girls. The estimated direct cost is \$37,464 in 1995, averaging about \$85 per scholarship girl per year, including the administrative cost. Most of the increase from 1994 to 1995 is due to the training of Ministry of Education personnel.

Costs for each of the three intervention packages has not been separately tabulated. Nevertheless, the scholarship program which includes an outreach worker, a small scholarship and a parent committee costs more than package #2 which entails only an outreach worker and a parent committee. Also certain is that cost per girl in the scholarship program exceeds that of package #3 which only provides educational materials. Therefore, the scholarship intervention is the most expensive of all three experimental packages.

Benefits

The Juarez Associates' study finds that, five months into the program, the scholarship program had increased girls' attendance by about 20 percent, reduced the dropout rate by half and increased girls' active participation in the classroom. In addition, it is found to increase the commitment of teachers in terms of attendance, which will in turn result in more instructional time for both girls and boys.

Subject to the reservations expressed below with respect to project design, available evidence suggests that changes in girls' primary school participation will likely lead to a positive impact on Guatemala's social and economic development across sectors and for generations to come. In education, increased participation and lower dropouts appear to be the clearest benefits of the program. While this should increase the total number of years of schooling produced in the country, as well as the total number of degrees produced, impact on reducing years of schooling *per degree produced* and *per year of attainment* is a more complex issue. It is made complex by the fact that those who are induced to stay in school by the program are likely to be below average performers in school.

Society will also benefit from the increased productivity of more educated women. For instance, the rate of return to education for Guatemalan females is as high as 16 percent (World Bank 1995). Women with less than one year of education earn US\$220 on average in 1989 (World Bank 1995). Thus per year of average increased attainment, scholarship participants could expect to earn an additional US\$35 over what they would have earned in the labor market without the scholarship incentives. This figure can be seen as a lower limit for the benefit accruing to women who chose not to participate in the labor market, but who receive other benefits, including reduced fertility and child mortality, healthy childrearing practices and heightened awareness of

the importance of educating the next generation. Table 4 summarizes the itemized benefits due to the *Eduque* project.

Table 4: Benefits Attributed to the Scholarship Intervention

| | |
|--|--|
| Itemized Benefits | |
| Attendance | 20 percent increase |
| Dropout rate | 50 percent decrease |
| Active Participation | 18 percent increase |
| Teacher attendance in second half year | 40 percent increase |
| Future earnings | minimum increase of US\$35/year per additional year of schooling |
| External benefits | reduced fertility and mortality, promote healthier childrearing practices, emphasis on education |

Evaluation

On the cost side, the scholarship program seems to be the most expensive one to implement compared to the other two intervention packages. The estimated cost per scholarship girl in 1995 amounts to US\$85. Further, this is only the cost for communities located in rural isolated areas where the average income and female employment rate is relatively lower. The opportunity cost for girls to go to school in such areas is not as high as it would be in other parts of the country. When considering expanding program coverage to a larger population, with higher average opportunity costs, the amount of scholarship stipend may have to be raised to achieve the same effect. This will bring up the cost per girl even higher.

On the other hand, if the schools which participated in the pilot project are among the worst ones in the country, it is conceivable that the other project costs would actually fall if program coverage is extended. The level of training and supplies required to bring them up to the desired standards may not be as high when in schools with better initial conditions.

It is even more difficult to be precise about impact on the benefit side. The *Eduque* project has only been under implementation for less than two years. Like most social interventions, it would not be surprising if it took years or even generations for the desired impact to surface. The evaluation carried out five months after program initiation nevertheless gives us a glimpse of the benefits of the scholarships. Compared to the other two interventions, the scholarship program appears to be the only one that had produced a discernible effect on girls' attendance, dropout rate, active class participation and higher teacher attendance in the participating rural schools with high differential between girls' and boys' attendance. The other two programs do not seem to have positively affected any of the surveyed indicators at the time of the survey. However, this does not exclude the possibility that given more time the picture may change.

Given that on the one hand the scholarship program is the most expensive program of the three intervention programs tested and, on the other hand, that it is the only program that appears to have any discernible effect on attendance and dropout among targeted girls, if the government's objective is to change the current status of education and improve the educational opportunities for girls who have been historically underserved, such investments do appear to have a positive impact.

Fiscal Impacts

The scholarship's fiscal impact on the government or donor agency has two aspects: costs and potential savings. On the cost side are the scholarships for girls, training and salaries for outreach workers, supplies and administrative costs. The 1995 estimated cost for that is \$37,464. The pilot thus constitutes only 0.02 percent of the total Ministry of Education budget (US\$189,252,410 in 1993) (World Bank 1995). Currently 424,569 girls are enrolled in the first to third grade (World Bank 1995). At the same cost per girl, it would cost the Ministry of Education only 2 percent of the total MOE budget (\$4,415,424) for every 10 percentage point increase in program coverage (Table 5).

Table 5: Fiscal Impact of the Scholarship Program

| | No of girls | Cost | Percent of MOE budget |
|------------------------------------|-------------|-------------|-----------------------|
| Coverage | | | |
| Pilot (1995) | 442 | \$37,464 | 0.02 percent |
| 10 percent of female 1-3rd graders | 42,456 | \$4,415,424 | 2.00 percent |

On the other hand, the increased internal efficiency in the primary system for girls will result in less wastage as fewer years of schooling are required per degree. Currently, the Guatemalan primary education cycle has to offer 10.8 years of instruction to produce a sixth grade graduate and its annual per primary student expenditure amounts to \$54 (World Bank 1995), so the unit cost for one primary graduate is approximately \$583 ($\54×10.8). Taking the 50 percent reduction in dropout rate (10 percent dropout rate in comparison group compared to 5 percent in the scholarship group) and assuming that these girls who would have dropped out of the program without the scholarship actually stay in school until completion, the unit cost per primary graduate will be reduced by \$5.8, or about 1 percent. $\text{Cost per primary graduate} = (\text{no of school years} \times \text{no of students} \times \text{annual per student expenditure}) / \text{no of graduates}$. Substantial savings will thus occur over the long run to the government.

Sustainability

The USAID, the main donor of the *Eduque a la Niña*, is ending all its educational investments in Guatemala. The *Eduque a la Niña* project will come to an end in December 31, 1996. The National Commission is currently raising funds within Guatemala, the United States and Europe, so that the program can be continued in similar fashion or even expanded to reach all girls in Guatemala. The success of fundraising and negotiation with potential donors will determine whether the *Eduque* program will continue and, if so, what the scope of future programs will be. The World Bank is proposing to help cover some areas of basic education in Guatemala, taking into consideration female bilingual education and education for the indigenous population after the USAID withdrawal.

In terms of implementation, the *Eduque a la Niña* is currently facing a difficulty. The implementing NGO, Fundazucar, is active only in sugar plantation areas along the south coast of Guatemala. Yet the rural communities selected to participate in the *Eduque* project are mainly located in Guatemala highland areas. This creates a practical difficulty in implementation for Fundazucar. An interview with the USAID Guatemala official confirmed that the new board of directors of Fundazucar which took position in February 1996 is not very interested in keeping the scholarship project in remote highland areas. This has created an impasse between Fundazucar, the USAID Guatemala office, and the Ministry of Education. Currently, the USAID Guatemala office is providing technical training to the Ministry in all areas hoping this will build sufficient capacity within the ministry to run the project in case Fundazucar withdraws. It is also possible that some other organization or institution will be found to replace the Fundazucar.

Despite the temporary difficulty, the *Eduque a la Niña* project is expected to make a lasting change in parental and community attitudes toward girls' education. With parents and communities having greater appreciation of the value of educating girls, efficiency levels are not expected to revert to the ex-ante situation after stipends cease.

Issues and Implications

This study suggests that the strategy of targeting girls who are generally underserved in the Guatemalan primary school system with a small monetary incentive, together with outreach workers and parent committees, can be effective. Thus greater efforts should be made to continue to refine programs. While it is important to keep faith in such programs, it will not hurt to bear in mind several important issues.

Sample Selection

The first evaluation, based on five months of implementation, showed evidence of a positive impact on girls' attendance and dropout rates. However, little effect was found in grade completion and promotion. On the one hand, this implies that more than five school months are needed to obtain reliable data on improvement in promotion and completion. On the other hand, it may suggest a more complex relation between lowering dropout rates and other measures of project impact than what has been envisioned both by project designers and the only evaluation study to date.

The design of the program itself may also play a role. Given its pilot nature, there is room to improve the project design. Specifically, the *Eduque* program is being implemented in communities where the gap between girls' and boys' primary school enrollment is greatest. All of the schools participating in *Eduque* were rural schools outside of local municipal centers. The conditions of most *Eduque* schools were somewhat precarious. Also, conditions in the comparison sample were known to be slightly better to start with (Chesterfield and Rubio 1995)

Such targeted, non-random selection is certainly consistent with the program's objective of reaching those populations that have generally been least favored by the Guatemalan education system. However, it does not make it easy to evaluate the impact of various interventions on the participation rates of girls for future replication and expansion. Having selected the experimental group on the basis of character we want to influence will induce sample selection bias. This sample selection effect, which is clearly reflected in the evaluation finding that the comparison group performed better in some indicators, will bias the evaluation estimates and make it difficult to extrapolate outcomes to the population in general.

First of all, it makes it harder to discern any real effect of the program. This is especially true in the absence of baseline, pre-intervention data. We do not know what the schools were like before, nor can we use the comparison schools as proxy because they clearly are not from the same school population as the experimental ones. Nevertheless, if there is a bias, the bias would appear in the direction of invalidating the experiment. Any results that suggest validation of the intervention can be believed to the extent that the bias is systematically in the direction of invalidating the experiment.

Second, even if a program effect is found, caution needs to be exercised before attempting to replicate the program on a large scale with a different population. Even though one might believe the direction of the impact, these same design problems mean one cannot accurately predict the magnitude of the impact to be expected should the results be extrapolated to a larger population. Since the targeted girls are from the worst schools in the country, it is possible that the current scholarship programs get the biggest impact by giving the resources to the worst students. So if that is true, then even if the measured impact is correct, it would be upwardly biased when it comes to trying to project the impact of expanding the program to the general population. On the other hand, if the control group was drawn from a better population, then this will bias the

measured impact in the opposite direction.

What Gets Lost during Implementation

Greater efforts must also be made to ensure that those schools which are implementing activities to encourage participation of girls have adequate infrastructure to effectively carry out the programs. As it stands now, only 50 percent of the teachers who are implementing *Eduque a la Niña* stated that they had received training in the implementation of the curriculum innovation. Only 25.8 percent of teachers of *Eduque a La Niña* were able to mention 50 percent or more of the key elements in the program. More than half of all these teachers had a positive attitude toward the innovation, but just over a third of them feel at ease applying it. In intervention package # 3, which requires 100 percent availability of classroom materials, availability actually ranges from 37.5 percent to 60 percent (Chesterfield and Rubio 1995). Where basic classroom materials are lacking, it is unlikely that the effect of programs or activities encouraging the participation of girls will be maximized. On the other hand, perhaps such distribution difficulties in a small scale pilot program should be taken as a serious warning of larger difficulties looming before full-scale implementation.

Discrimination against boys

While the overwhelming response to the Guatemalan initiative for girls' education has been positive, some people ask if such a program discriminates against boys. After all, while boys' performance may be *better* than girls', it is hardly exemplary in its own right (see Figures 1 through 7). The program supporters answer that when education for girls improves, it also improves for boys, since the awareness-raising, training, facilities improvement and other inputs benefit boys as well. Communities whose consciousness about girls' education is raised will also have a heightened consciousness about the value of education for all children.

Why are the girls not going to school?

While gender disparities are common to almost all developing countries, their determinants may vary in some measure. Each country needs to examine the circumstances of girls' education and determine and prioritize its own set of constraints. The preliminary evidence from *Eduque* appears to suggest that the scholarship program is changing the behavior of families and girls. However, through what mechanism it is working, how successful they will be when applied to less rural settings and to what extent this effect will be sustained after interventions end remain unanswered questions.

There is a multitude of reasons for lower female attendance in Guatemala. Although primary schooling in Guatemala may be tuition-free, the cost of school supplies, clothing and lost labor can be significant enough to low-cash income families to keep girls' enrollment low. Demand for schooling is also partly shaped by expectations of long-term gains in income and enhanced employment opportunities. The opportunity structures in rural Guatemalan communities are limited, thus the perceived benefit of education is low. In a rural survey carried out by USAID, only 11 percent of the respondents cited specific instances of sixth grade graduates obtaining salaried employment. Also, taking the current female labor force participation rate in the country (only 30 percent of women who received between 4-6 years of education are in the labor force) as a measure of the probability that a daughter will work for wages as an adult, the expected pecuniary payoff of school attendance for girls is lowered even further. US\$4 has increased girl's attendance by at least 23 percent and reduced the dropout rate at least by half in the pilot project. But it will not attract families whose cost to send girls to school is higher than US\$4. This is something that needs to be taken into account before any large-scale implementation.

Proximity of a school is also a factor, as parents are reluctant to send their daughters to a school which is not near the home (Clay 1992). This is likely to be a more important consideration in rural areas where the road to school is longer, more isolated and fraught with special perils for teenage girls. The indigenous people in Guatemala tend to live in the least accessible,

mountainous regions (Psacharopoulos and Patrinos, 1994). In such isolated rural areas, ensuring that schools are built nearby is as important as providing monetary incentives. Other school characteristics including pedagogical quality and relevance, free lunch provision, safety of school building and proper facilities also play an important role in parental decision about girls' enrollment. Evidence from Pakistan shows that parents are more likely to enroll their girls if they perceive that the school is of good quality and safe (World Bank 1995).

Further, besides the economic and geographical constraints that are common to most developing countries, deeply ingrained structural factors of rural life play an important role. Social resources and demands pressed on daughters contribute significantly to female school participation and achievement rates (Fuller and Liang 1996). In Guatemala, girls contribute substantially to the household in terms of chores and caring for their younger siblings. The amount of household chores and other work after school leave little time for homework and studies. Where parents' own schooling levels are low (average years of schooling is 4.2 years) (Psacharopoulos and Patrinos 1994), where parents have different educational expectations for their sons and daughters, encouraging daughters to stay in school will be especially challenging. Lack of parental support and involvement in studies reinforces students' lack of interest and motivation, and does not create a home environment conducive to studying (Nieves *et al.* 1994). Translated into program design, the force suggests that in many rural areas and with most ethnic groups, demand-side interventions such as scholarship program must not neglect promotional activities to increase parental awareness, while providing economic incentives.

Conclusion

The preliminary evidence from Guatemala's experience seems to indicate that providing monetary incentives to encourage girls' participation in primary school is a promising idea. It appears to confirm that scholarships can play a significant role in incentive packages that seek to change rural classroom participation. The observed higher attendance, lower dropout and higher participation of girls in participating classrooms with this package suggest that scholarships, either because of recognition given by teachers to the scholarship program or because of greater willingness to participate among scholarship girls, will involve girls more actively in such schools. The current pilot should at least be continued in its current scale within the participating communities so that initial positive impact can be consolidated and other benefits may surface.

Yet we need to be cautious about extending the pilot project to the un-targeted population at large. The experimental group is clearly different from the comparison group. When expanded, the potential impact of scholarship program may not turn out to be as great as during the pilot stage for reasons stated above.

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Annex A: Operational Definitions Used in First Evaluation Study

| Indicators | Operational Definitions |
|---|---|
| Attendance | Number of children of each sex observed to be present on a given day of research compared to the total enrollment of children of that sex. The same statistic was used to examine the attendance of children over the school year, as measured by the records gathered by the outreach workers, |
| Completion | Number of children completing the year compared to the initial enrollment of children (assumes enrollment of children during the year to be random in study schools). |
| Dropouts | Number of children of each sex identified by individual teachers as having left school at the time of data collection in August and at the end of the school year. |
| Enrollment | Number of children enrolled as reported by the director in the school records. |
| Failure | Number of children of each sex designated by their teachers to repeat the same grade. |
| Promotion | Number of children of each sex advanced to the next grade by their teachers at the end of the school year. |
| Index of Active Participation (IAP) | The ratio of the percent of interactions initiated by target children and the relative frequency of attendance of these children. |
| Index of Responsive Participation (IRP) | The ratio of the percent of interactions initiated by the teacher and the relative frequency of attendance of these children. |

Source: Chesterfield and Rubio 1995