



Effects of  
**Secondary Stipend Program**  
on the  
Reproductive Behavior of  
Women in Bangladesh



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## Acronyms

CCT	Conditional Cash Transfer
FSSSP	Female Secondary School Stipend Program
FSSP	Female School Stipend Program
TFR	Total Fertility Rate
ADB	Asian Development Bank
BDHS	Bangladesh Demographic and Health Surveys
CPR	Contraceptive Prevalence Rate
IUD	Intrauterine Devices
DiD	Difference-in-difference
RD	Regression discontinuity
IDIs	In-depth Interviews
KIIs	Key Informant Interviews
FGDs	Focus Group Discussions
RA	Research Assistant

## Executive Summary

Early in the 1990s, the Government of Bangladesh (GOB) introduced conditional cash transfers through the Female School Stipend Program (FSSP) firstly, to boost the number of rural girls enrolled in secondary education, secondly to improve the secondary schooling completion rate for girls and lastly to increase female age at marriage. In many ways, the program has achieved its primary objectives, which are connected to ensuring the continuation of girls' education after the primary level and it is evident in many literature. However, the effect of FSSP on the the reproductive behavior of women yet to be discovered in the context of Bangladesh. In this context, this study assess the impact of FSSP on the resproductive health outcome including women's age at first marriage, age at first /early childbearing, children ever born, son preference, use of contraception, and women empowerment utilizing a mixed-methods research strategy. Seven waves of Bangladesh Demographic and Health Surveys (BDHS) between 1993 to 2018 were used as the quantitative data. Qualitative data were collected from girl students (studying in classes 9-12), married and unmarried women, parents, teachers, and stakeholders (e.g., government officials).

### Background characteristics of the respondents

- The majority of the sample population was born before 1980 (57%) and was followed by the 1983 and later birth cohort (34.3%).
- The majority of the sample population came from the BDHS 2017 survey (18.8%) and were not exposed to FSSSP in the majority (68.2%). The majority of the sample population was Muslim (89.8%) and primarily rural (77%). Nearly all of the sample population had an equal wealth distribution from the lowest to the richest, and 45.5% of people used a modern technique of family planning.
- The respondent's birth cohort, the survey year, age groups, the types of residences they occupied, their divisional living status, their highest level of schooling, their religion (Muslim), and the wealth index are all statistically substantially ( $p < 0.05$ ) related to their exposure to FSSSP.
- The majority of respondents (73.6%) who were born in 1983 or after were fully exposed to FSSSP, while the majority (75.1%) of those who were born in the 1980s and 1982 were only somewhat exposed.

### Years of Schooling

- Respondents who received complete exposure to the FSSSP had greater secondary or higher education (59%) than those who belonged to the cohort of 1983 or later.
- The respondent who was in the 15–19 age range, was non–Muslim, wealthy, married as an adult, gave birth to their first child as an adult rather than during adolescence, and had up to two living children had more secondary or higher education than the other respondents.
- People who had received all of the benefits of the FSSSP had 0.267 unit more educational years ( $\beta = 0.267$ ,  $p < 0.001$ ) than those who had not received all of the benefits.
- In comparison to persons born in previous periods, those born between 1980–1982 and 1983 and after had less schooling years ( $\beta = -0.019$  and  $-0.025$ ,  $p < 0.05$  and  $p < 0.001$ , respectively).
- In comparison to respondents who were not exposed to FSSSP at all, those who were completely exposed had a higher likelihood of having a secondary or higher education (OR = 2.711,  $p < 0.001$ ). Similar to this, respondents who were partially exposed to the FSSSP are more likely to have completed their secondary education or have a higher degree than respondents who were not exposed (OR = 1.672,  $p < 0.001$ ).

### **Age at First Marriage**

- Child marriage was more common among respondents who had some exposure to the FSSSP (82.90%) and among those who were born in the cohort before 1980 (83.60%) than among other respondents.
- In comparison to those who were not totally exposed, those who were fully exposed had 0.074 unit more age at first cohabitation ( $\beta=0.074$ ,  $p<0.001$ ). In comparison to those born in previous periods, those who were born between 1980–1982 and 1983 or later had younger average ages at first cohabitation ( $=\beta -0.038, -0.119$ ,  $p<0.001$ ).
- Compared to persons living in urban areas or other areas other than rural areas, people who lived in rural areas had a -0.078 unit lower age at first cohabitation ( $\beta =-0.078$ ,  $p0.001$ ).
- In comparison to respondents in other categories, those who received complete exposure to the FSSSP had a higher likelihood of being in a child marriage (OR = 0.714,  $p<0.001$ ). Compared to respondents born in earlier periods, those born between 1980 and 1982 and 1983 or later have a lower likelihood of being in a child marriage.

### **Age at First Birth**

- A third to a fourth of the population had their first birth when they were still adolescents (78.1%). All respondents in the 15–19 age range had their first child as an adolescent pregnancies, followed by those in the 20–24 age range (82.60%).
- In comparison to those who were not totally exposed, those who were fully exposed to FSSSP had a -0.065 unit lower age at first birth ( $\beta=-0.065$ ,  $p<0.001$ ). Compared to persons born in earlier periods, those born between 1980–1982 and 1983 or later had younger average ages at first birth ( $\beta = -0.030, -0.086$ ,  $p<0.001$ ).
- In comparison to respondents in other categories, those who were partially exposed to the FSSSP were more likely to become pregnant as adolescents and give birth to their first child (OR = 1.198,  $p<0.050$ ).
- The findings also indicate that non-Muslims are more likely than followers of the Muslim religion to become parents for the first time as adults, as opposed to doing so during adolescent pregnancy (OR=0.552,  $p<0.001$ ). People who live in rural areas are more likely than those who live in urban areas to have their first child during adolescence (OR=1.398,  $p0.001$ ).

### **Children Ever Born**

- Around 59% of the respondents in this study stated that they had two or fewer living children. However, data reveal that 73.7% of the respondents believe one should not have more than two children.
- According to the observed results, women who were fully exposed to FSSSP reported having two or fewer children mostly (85.4%). Besides, a significant association was observed between the respondents' education level and fertility outcomes.
- Respondents' place of residence and religion are strong predictors of the number of their children as respondents living in rural areas and practitioners of Islam are more likely to have more than two living offspring.
- In addition, women who do not have exposure to information related to family planning through media are more likely to have more children.

### **Son Preference**

- More than 80% of the total respondents did not have a preference for sons in this study. Almost 90% of the participants who were fully exposed to FSSSP indicated that they had not any son preference.

- Respondents who studied up to the secondary level or more than that reported not having any desire for sons (more than 90%). Besides, most respondents (91.1%) residing in the Rangpur division provided similar responses.
- In terms of age groups, a decreasing pattern for son preference was observed as women of younger age groups seemed to have less preference for a son compared to the women of older age groups.
- While investigating the predictors of son preference, the respondents' divisional variations were encountered as a significant factor. Findings reveal that the residents of Chittagong are most likely to have so preference compared to the residents of other regions.

### **Use of Contraception**

- The partially exposed respondents to FSSSP were mostly (51%) using modern contraceptive methods. The prevalence was slightly lower among the unexposed and fully exposed groups. Similarly, respondents from the oldest birth cohort (58.5%) and the oldest age group (75%) reported the lowest usage of modern methods.
- Almost half of the participants who live in urban areas and are highly qualified, indicated using contemporary contraceptives.
- Division is an important determinant of women's modern contraception usage. The respondents from Rangpur (57.5%) mostly reported using the latest contraceptive techniques. However, 70% of the residents of Sylhet said they were not using any kind of modern methods.
- More than 50% of the respondents who were exposed to family planning through newspapers revealed that they had been using modern contraceptives.
- However, all of the predictor variables were found significantly associated with respondents' use of modern contraception methods while performing binary logistic regression analysis.

### **Women Empowerment**

- Most of the unexposed women to FSSSP reported themselves as empowered and revealed that they have more engagement in decisions related to their health care, major household purchases and visits to their family or relatives.
- In terms of all three decision autonomy variables, the respondents of the Chittagong division and urban areas assessed themselves as empowered compared to their other counter groups.
- The regression analysis results of women's empowerment and its predictors show that respondents' full exposure to FSSSP is positively associated with their decision autonomy or empowerment status.
- Additionally results suggest that residing in rural areas decreases the likelihood of women being empowered.

### **Recommendations**

- The government should create and announce an incentive scheme for higher education beginning with the HSC to lower dropout rates after the secondary level.
- The female secondary stipend program should be expanded to encompass disadvantaged female students in urban areas.
- Female education should be given greater attention in order to attain desirable fertility outcomes and long-term positive effects on women's empowerment and labor force participation.
- The promotion of family planning through various media such as radio, television, and periodicals should be increased so that females have more opportunities to learn about the latest contraceptive methods and are encouraged to use them.
- Initiatives should be taken to eliminate poverty and regional and cultural differences to accomplish positive social changes throughout the nation.

# Chapter One: Introduction

## 1.1 Statement of the Problem

Developing countries have observed a significant increase in conditional cash transfer programs (CCTs). The CCTs were initially created and implemented in Latin America to halt the transmission of poverty across generations (Stampini & Tornarolli, 2012). But these programs were later frequently utilized as social safety net programs in South Asia, Sub-Saharan Africa, and the Caribbean regions (Paes-Sousa et al., 2013). In addition, developing countries like Bangladesh are frequently using female stipend programs as a part of conditional cash transfer programs as these incentives were found to be a 'safe', 'uncontroversial', and 'doable' first step toward women's empowerment and poverty reduction (Shehabuddin, 2008).

Early in the 1990s, the Government of Bangladesh (GOB) introduced conditional cash transfers through the Female School Stipend Program (FSSP) firstly, to boost the number of rural girls enrolled in secondary education, secondly to improve the secondary schooling completion rate for girls and lastly to increase female age at marriage (Khandker et al., 2003). In many ways, the program has achieved its primary objectives, which are connected to ensuring the continuation of girls' education after the primary level. As a result, girls' secondary education enrollment in Bangladesh has significantly increased. In 2021, the country's total enrolment in secondary education was 10.19 million; among them, 5.57 million, almost 54.67 percent, were female students, which was 46.97 percent in 1995 (Bangladesh Bureau of Educational Information and Statistics, 2022). Moreover, in 2008, the completion rate of secondary education was 43.39 percent for boys and 34.31 percent for girls, which is now 67.50 percent for boys and 59.71 percent for girls in 2021 (Bangladesh Bureau of Educational Information and Statistics, 2022). Female secondary school stipend program has helped in this regard to support the interconnected goals of universal access to education, reducing dropout rates, and gender equality in the context of Bangladesh (Mahmud, 2003; Khandker et al., 2021).

Female stipend programs create the opportunity for the parents of female students to confidently make decisions about their children's education, which positively impacts school participation (Bastagli et al., 2016). Studies conducted in different country contexts have shown that the female stipend program not only improves school attendance and achievement but also significantly improves women's health outcomes, delays child marriage, and also prevents child labor and dowry (Gertler, 2000; Behrman et al., 2001; de Janvry et al., 2006; Veras Soares et al., 2008; Khandker et al., 2021). In addition, additional time spent in school and enhanced knowledge lead to altered decisions in marriage, sexual behavior, and fertility choices by increasing the overall knowledge level, bargaining power, and decision-making ability (Baird et al., 2010; Behrman et al., 2005; Ahmed et al., 2007; Gulemetova-Swan, 2009).

Though the girls' school enrollment has increased due to the female stipend program, the program contributed little to increasing the female age at marriage. Child marriage, defined as the percentage of girls aged between 20 to 24 years and married before the age of 18, has declined very slowly over the last 25 years. The rate of child marriage was 73.3 percent in 1993, reaching 58.9 percent in 2017. Bangladesh is still ranked fourth in the world and first in southern Asia in the prevalence of child marriage.

However, on the other hand, continued female education through schooling was found to be a significant determinant of the use of traditional and modern contraceptives in Bangladesh. Teenage girls with no education had 2.76 times higher odds of becoming mother as adolescents in Bangladesh than girls with more than a secondary education (Islam et al., 2017). Besides, for both employed and unemployed women, education was always a significant positive predictor of contraceptive use. A sharp rise in contraceptive prevalence from 1993-94 (44 percent) to 2004 (58 percent) and 2014 (62

percent) was seen in Bangladesh when different policy-level initiatives to ensure the increased girls' school enrollment were also taking place and being implemented.

A steep decline of TFR was experienced at the same time by Bangladesh from a Total Fertility Rate (TFR) of 3.4 in 1993-94, to 3.0 in 2004 to 2.3 in 2014. Though this steep decline is often considered as a product of the strengthened family planning programs in Bangladesh in different periods, it was also visible that the increase in the educational attainment of the women of reproductive age and the decline in the birth rate occurred roughly in parallel. Most importantly, the pathway analysis approach used in previous studies in the context of Bangladesh found that women's education would more significantly affect the decline in fertility desires in Bangladesh compared to other family planning and empowering indicators (Bora et al., 2022).

On this background, we searched the literature on PubMed, JSTOR, and Google Scholar using the following keywords: (Female Secondary Stipend Program) OR (Conditional Cash Transfer) AND (Age at first marriage) OR (Child marriage) OR contraception OR (Number of children) OR (Children ever born) OR (Fertility) AND (Bangladesh). We found that only a few studies have been conducted to examine the effects of continued education as an outcome of female stipend programs on fertility and age at marriage (Field & Ambrus, 2006; Schurmann, 2009; Yeasmin, 2016; Khandker et al., 2021). However, we found that these studies have been carried out in Bangladesh using quantitative research. Therefore, an in-depth exploration of different critical relevant issues using qualitative research is hardly visible (details justification is available in Matrix 1). There are also some other limitations of previously conducted studies, such as these studies were conducted on a single geographical area (Field & Ambrus, 2006); used very old datasets which necessitated the reinvestigation of the issues (Schurmann, 2009), used combined repeated cross-sectional BDHS data of 1993-94, 1999-2000 and 2011 (Yeasmin, 2016) which had its limitation regarding variables, and used panel data which had certain shortcomings (Khandker et al., 2021). In this context, it is essential to carry on extended mixed-methods research based on both primary and secondary data to know how the stipend program is a mediator in fertility and child marriage reduction.

**Matrix 1: Comparison of the Key Methodology and Objectives Used in Different Female Stipends Related Research in Bangladesh**

Key Issues	Fuwa (2001)	Khandker et al (2003)	Ullah (2013)	Sayed (2016)	Hahn et. at (2015, 16,17)	Hahn et. at (2018), Dale (2020)	Tanaka et. al (2020)	Khandker et al (2021)	Our study
<b>Type of Stipend</b>									
Primary level	No		Yes			No			No
Secondary level	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Representativeness</b>									
National	Yes		Yes	Yes	Yes	Yes	Yes		Yes
Divisional	No		No						Yes
<b>Data Collection Method</b>									
<b>Quantitative: Secondary Data</b>									
BDHS 1993-94	Yes			Yes					Yes
BDHS 1996-97				Yes					Yes
BDHS 1999-00									Yes
BDHS 2004					Yes				Yes
BDHS 2007					Yes	Yes			Yes
BDHS 2011				Yes	Yes	Yes			Yes
BDHS 2014						Yes			Yes
BDHS 2017-18									Yes
HIES 2005-2010			Yes						No
<b>Quantitative: Primary Data</b>	Yes	Yes					Yes	Yes	No
<b>Qualitative</b>									
IDI	No		No						Yes
FGD	No		No						Yes
KII	No		No						Yes
<b>Study Population</b>									
Unmarried girls	Yes	Yes	Yes						Yes
Married girls	No		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parents	No		No						Yes
Teachers	No		No						Yes
Stakeholders (e.g., Government officials)	No		No						Yes
Boys	No	Yes	Yes					Yes	No

Key Issues	Fuwa (2001)	Khandker et al (2003)	Ullah (2013)	Sayeed (2016)	Hahn et. at (2015, 16,17)	Hahn et. at (2018), Dale (2020)	Tanaka et. al (2020)	Khandker et al (2021)	Our study
<b>Data Analysis</b>									
<b>Descriptive statistics</b>	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
<b>Inferential Statistics</b>									
Ordinary Least Square (OLS)	No		Yes	Yes		Yes	Yes		Yes
Logistic regression	No		Yes						Yes
The Difference in Difference (DID)	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Intent-to-Treat Effects								Yes	No
Treatment-on-the-Treated Effects								Yes	No
Regression Discontinuity (RD)	No		No	Yes			Yes		Yes
Propensity Score Matching	No		Yes						No
<b>Multivariate Analysis</b>									
Mediation analysis	No		No						Yes
<b>Thematic qualitative analysis</b>	No		No						Yes

## 1.2 Evolution of the Female Secondary Stipend Program in Bangladesh

The FSS has changed over time while maintaining the three primary qualifying requirements of school attendance, a minimum grade in examinations, and postponing marriage. For instance, as gender equity in access to education increases in Bangladesh, the focus of the stipend program has gradually changed from gender to poverty. Previously, the mechanism for disbursing stipends was a direct cash transfer, but it is now possible to use bank accounts and mobile banking (Khandker et al., 2021).

**During 1982–1994:** The United States Agency for International Development launched a modest cash transfer program for girls in 1982. After that, in 1987, the Norwegian Agency for Development Cooperation financed a stipend program through various nongovernmental organizations in one Upazila in Bangladesh. Every year, the scope of this stipend program was extended by one Upazila until it eventually encompassed six Upazila by 1992. Female education up to grade 8 was made available in rural areas in 1990s, and there was a need to boost female school enrollments (Raynor & Wesson 2006). In 1993-94, the stipend number was set without thoroughly researching the actual cost of secondary schooling, and an arbitrary stipend sum was supplied as an inducement for the girls' families (Khandker et al., 2021).

**During 1994–2008:** Based on the success of these pilot interventions, the Government of Bangladesh launched the FSSSP in 1993 with funding from the World Bank, covering 59 Upazila. The FSSAP was originally intended to run for five years, with all girls in rural areas attending secondary schools eligible for a monthly stipend ranging from 25 Taka in grade 6 to 6=0 Taka in grade 10. In addition, females in grade 9 may receive new books and exam expenses in grade 10. (Raynor & Wesson 2006). The FSSSP was expanded as the nationwide female secondary stipend program in all rural Upazila through four separate projects: (i) the Female Secondary School Assistance Project funded by the Government of Bangladesh and the World Bank (ii) the Female Secondary Stipend Project funded by the government, (iii) the Secondary Education Development Project funded by the government and the Asian Development Bank (ADB), and (iv) the Female Education Stipend Project funded by the government and the Asian Development Bank (ADB) (iv) the Female Education Stipend Project. The National Female Secondary Stipend Program was deemed fairly successful in expanding female secondary students' access to school. However, difficulties were identified, like female enrolment outpacing male enrolment and a lack of focus on the disadvantaged (Khandker et al., 2021).

**During 2008–2018:** In light of this, the government launched pro-poor stipend initiatives in 2008. The stipend programs aimed to increase retention and provide low-income secondary school students (grades 6–12) with fair access. The government of Bangladesh, along with the ADB and the World Bank, is responsible for funding the Secondary Education Quality and Access Enhancement Project, the Secondary Education Stipend Project, the Higher Secondary Stipend Project, and the Secondary Education Sector Investment Program. All projects involved male and female secondary students, and about 30% of all enrolled secondary students were included (Khandker et al., 2021). The four different projects that made up the stipend programs had no Upazila or grade overlap.

**During 2018–2023:** The necessity to create a single harmonized stipend program for the poor is acknowledged in the road map for the ADB-funded Secondary Education Sector Investment Program, and the Harmonized Stipend Program was introduced in 2018. The involvement of head teachers and an Upazila secondary education officer verified the combined proxy means testing with poverty-targeted criterion. Because females no longer lagged behind males in access to secondary school, gender preference was excluded (Khandker et al., 2021). Currently, Girls ages 11 to 16 typically receive a uniform stipend and tuition subsidy of up to 3,500 Taka (USD 40) each year from the government to counter the threat of child marriage and incentivize their families to keep them in school. Every female student receives a monthly stipend and is not required to pay tuition or examination fees. However, to qualify for benefits, every female student must complete some requirements, such as regular attendance, passing exam, and marriage requirements.

### **1.3 Stipend Program and Reproductive Behavior: What is Known?**

Female education is a crucial development objective, as expressed in the Sustainable Development Goals of the United Nations. Motivated by the potential long-term benefits of boosting education levels, several developing nations have scrapped school tuition costs, experimented with compulsory education laws, and implemented stipend programs to increase educational attainment, especially among girls (Hahn et al., 2018). Bangladesh has achieved a lot of socio-economic and demographic benefits, especially in the reproductive behavior of women, which refers to the behavior related to the production of offspring and includes all aspects from the establishment of mating systems, marriage, courtship, sexual behavior, and parturition to the care of young (Snoeren, 2019). This section has focused on the relevant literature addressing how reproductive behavior is influenced by the female stipend program across the countries.

#### **1.3.1 Investment towards Education**

Theoretically, education has a detrimental impact on a person's propensity to have children. Economic theory provides a fundamental explanation for this: while a better income may boost the desire for children, it is believed that the higher opportunity cost of having another child would outweigh this income benefit (Kamal et al., 2012). Age at marriage is directly connected with early/late childbirth since the primary goal of marriage, particularly in the developing world, is to produce children. Early pregnancy carries significant health hazards for both the mother and the newborn. Young women are more prone to have pregnancy difficulties and are less prepared to deal with them, which usually results in maternal death (Zabin & Kiragu, 1998). Education-driven delayed marriage directly reduces completed fertility by limiting the years available for childbearing. Late marriage helps women to finish their education, get labor-force skills, and pursue career interests that compete with motherhood within marriage. These occupational goals may inspire women to reduce family size and space their children more widely (Jensen & Thornton, 2003; Kamal et al., 2012; Marphatia et al., 2020). Since participating in FSSP, girls in Bangladesh now have more time to spend in school, which improves their knowledge regarding the dangers of child marriage and their careers; they are now less likely to engage in early marriage (Yeasmin, 2016; Hahn et al., 2018).

In addition, strong social norms typically discourage students from getting married or creating co-residential arrangements, which are also changing in Bangladesh due to women's empowerment (Blossfeld & Jaenichen, 1992; Thornton et al., 1995; Kamal, 2012). Education increases women's life prospects and options by introducing girls to non-traditional roles and empowering them with the skills to build viable alternatives to child marriage. Thus, the impact of schooling on the time of marriage may be related to the formation of value orientations and aspirations that give personal fulfillment and career growth precedence or preference over traditional roles or early marriage and motherhood. When marriage is incompatible with achieving one's personal objectives and aspirations, it is likely to be delayed or postponed (Bracher & Santow, 1998; Marchetta & Sahn, 2016).

The level of education significantly affects the age at marriage. Education provides literacy skills that enable people to digest information and trigger cognitive changes that influence how people interact with their surroundings (Martin & Juarez, 1995). In developing countries, educated women are more likely to utilize different methods of contraception. Education helps them understand modern contraceptive methods and their function in regulating fertility. As Bangladesh is going through a rapid socio-cultural transformation, this could also be possible for the country. However, the relationship between education and age at marriage may not be a simple trade-off. Different variables play a significant role along with schooling in determining the age at marriage of a woman (Marphatia et al., 2020). In Bangladesh, poverty, higher education costs, insecurity, transportation issues, and patriarchal norms toward girls (Khandker et al., 2003; Kamal, 2012; Das, 2017).

### **1.3.2 Investment towards Marriage and Fertility Issues**

In a developing country like Bangladesh, with increasing paid labor force participation of women, their household economic responsibilities have also increased. Most of the time, household heads control and take advantage of their daughter's earnings. Therefore, households often view women's income as a potential source of wealth gain (Chowdhury, 2010). Participating in FSSP can thus increase the girls' schooling years delaying marriage in Bangladesh by providing monetary support. However, economically precarious households may employ a cash transfer in dowry situations to save money or acquire credit to pay for the dowry and other wedding expenses, enabling marriage to occur sooner, which is visible in Bangladesh (Chowdhury, 2010, Flores & Nómada,2021).

On the other hand, women's additional years of schooling enhances the likelihood that she will marry a man with greater educational credentials and financial means. As the couple has both knowledge and financial solvency, this will result in proper family planning method utilization and fewer children in their reproductive span (Hahn et al., 2018). Moreover, educated women are more likely to learn their children's "quality-quantity trade-off" through education. Most of these women are probably aware of the value of their education, and they could have higher expectations for their children's education. That's why to keep the balance between family resources and their investment in children; they try to limit the number of children (Ayoub, 2004; Kamal et al., 2012).

### **1.3.3 Investment toward Household Financial Security**

Female secondary stipend programs can ease pressure on families to transfer financial responsibility for a girl to her husband's household by enhancing a household's capacity to satisfy their basic needs, particularly when a bride price is anticipated. However, they may also lessen girls' desire for financial stability through marriage or high-risk sexual relationships (Flores & Nómada,2021). In Bangladesh, FSSSP-driven attending school can help to increase girl's empowerment in the family context and exposes them to new ideas and ideals that may compete with traditional rituals, attitudes, and beliefs that support early marriage (Westoff, 1992; Kamal, 2012; Marchetta & Sahn, 2016). On the other hand, by increasing enrollment in education, FSSSP participation increases the bargaining power of the parents for girls, provides monetary support and confidence regarding the career aspiration of their daughters, and also reduces the desired number of sons. Son preference in Bangladesh indicates a need for household security because social norms expect sons to care for and fulfill the household's economic necessities. The decreased son preference in the country demonstrates the significance of FSSP on the society's and household perspective regarding women's education (Hossain & Sarker, 2020; Khandker et al.,2021).

### **1.3.4 Complementary Interventions**

The FSSSP or conditional cash transfer (CCT) programs have a more significant impact on reproductive behavior if combined with additional interventions and strategies. Improved access to services, strategies that include working with households and communities to alter cultural norms, knowledge, and perspective and providing girls with more opportunities to get an education, health care, and economic security (Flores & Nómada,2021). Girls' participation in FSSSP or CCT programs influences the norms, beliefs, and perceptions of society, parents, and individual girls toward women's education and empowerment. A delay in marriage also encourages girls to advance in their career objectives, become independent, and raise their voices against dowry (Ferdous et al., 2019; Hossain & Sarker, 2020).

### **1.3.5 Program Design and Implementation related issues**

National policies, laws, program design, and implementation are crucial to all spheres, which can moderate the impact of cash transfers in Bangladesh (Kamal et al.,2012). However, some problems with targeting and planning for the future arose due to the agreement between domestic and foreign parties. International donors needed to see outcomes or proof of behavior change during renewal

conversations. Thus, they pushed for more targeted approaches, while the government pushed for greater access and coverage.

Since the 1990s, the female stipend program has been credited with the dramatic increase in the number of girls enrolled in secondary school in Bangladesh. The program was expanded to a national level in 1993 to achieve some objectives from a policy perspective to influence women's reproductive behavior. Priority was given to the secondary school enrollment of adolescent girls due to their disadvantage in obtaining an education due to distinct cultural norms and financial obstacles.

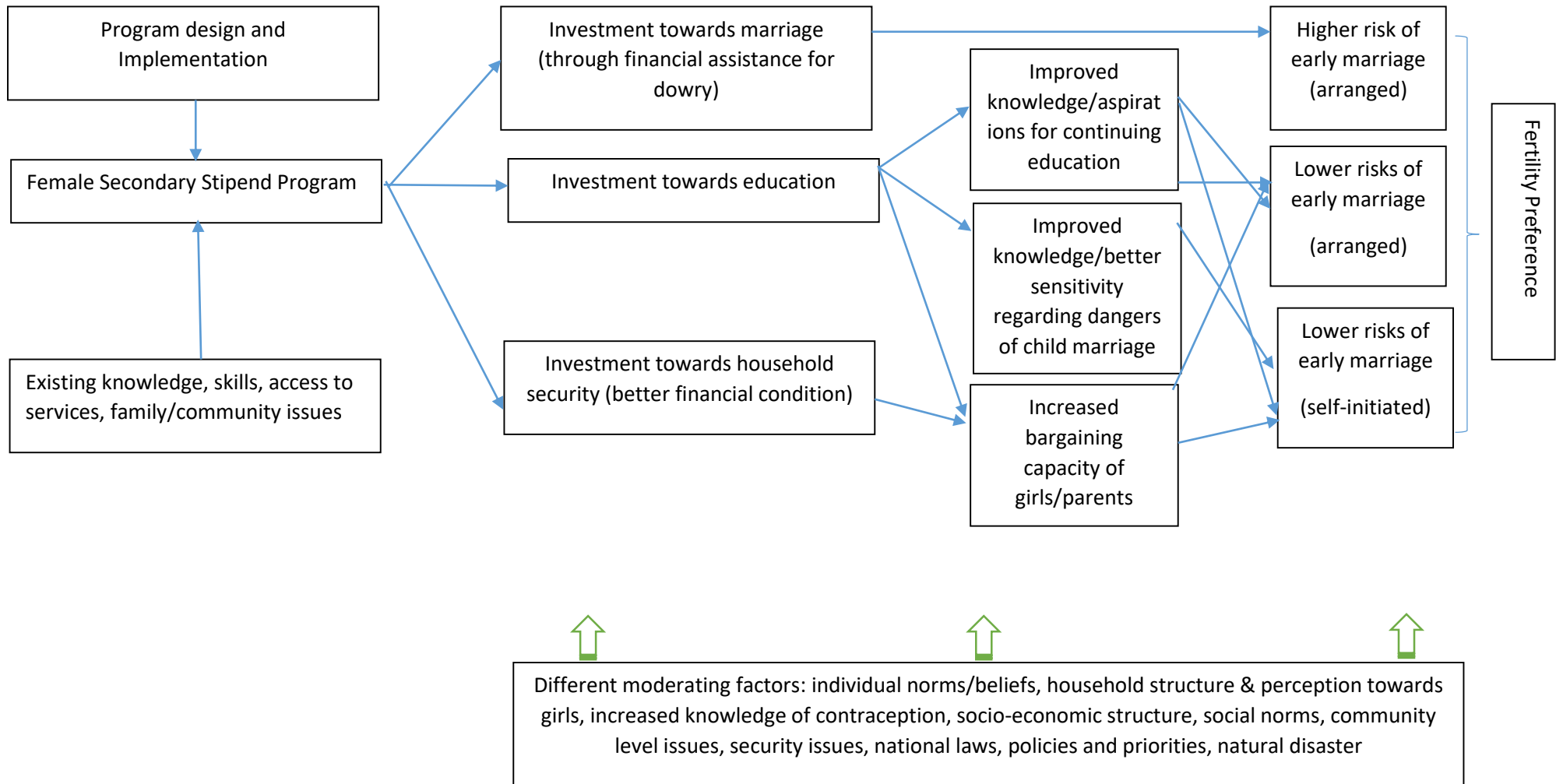
In addition to the rise in enrolment, several favorable short- and long-term results were noted in the impact reports, such as an increase in the age at marriage and birth spacing, improvements in family health, and effects on employment and earnings. Eventually, gender parity in education was attained in the country. However, in a natural disaster-prone country like Bangladesh, climate change also significantly impacts the age at marriage of girls in Bangladesh.

Evidence in the national context showed that child marriage appears to be a coping strategy households use to reduce their vulnerability to natural disasters (Asadullah et al., 2021). As gender equity in access to education increases in Bangladesh, the stipend program's objective has gradually switched from gender to poverty (Khandker et al., 2021). This shift may impact the years of schooling and age at marriage of climate-induced vulnerable groups. Still, there are some concerns about FSSP in the country. According to a study, the number of females who benefit from prospective FSSSP-related delayed marriage is likely modest because only girls who complete primary education are eligible for the secondary stipend, leaving many in danger of early marriage. Females in secondary school include girls from urban areas and mostly from middle-class families who generally do not get married in an early age (World Bank, 2003).

## **1.4 Organization of the Report**

The first chapter deals with the introduction and presents what has already been known about Stipend Programs and Reproductive Behavior from existing literature and discusses the conceptual framework. The second chapter discusses the methodology, and the third to nine chapter articulates the findings—chapter ten with recommendations, limitations, and a conclusion.

**Figure 1. 1: Conceptual Framework to Examine the Effects of Female Secondary Stipend Program on Reproductive Behavior**



## Chapter Two: Data and Methods

### 2.0 Introduction

This chapter presents the data sources used in this study for quantitative analysis (secondary data), qualitative analysis (primary data along with collection technique), and different analysis techniques used in this study. Study variables are defined in the beginning as per research questions; hence, necessary variables are also described with the definition of the study population.

### 2.1 Research Questions

The research has three main research questions, and each main research questions have several specific research questions.

#### First General Research Question:

- What is the effect of the female secondary stipend program on child marriage?

#### Specific research questions are:

- What is the female secondary stipend program's effect on women's empowerment in Bangladesh?
- How does the female secondary stipend program affect the mate selection process of the girls/women in Bangladesh?
- What are the effects of the female secondary stipend program on the age at entry into the marriage of the girls/women in Bangladesh?
- How can the female stipend program work as a marriage incentive or disincentive in Bangladesh? (Here, we can focus on FSSSP's connection with dowry practice, reduction in adolescent labor, the continuation of education, improved household economic security, knowledge, etc.)

#### Second General Research Question:

- What is the effect of the female secondary stipend program the fertility preference in Bangladesh?

#### Specific research questions are:

- What is the effect of the female secondary stipend program on contraceptive use among married females in Bangladesh?
- What is the effect of the female secondary stipend programs on early childbearing among married females in Bangladesh?
- What is the effect of the female secondary stipend program on gender preference (son/daughter) among married females in Bangladesh?
- What is the female secondary stipend program's effect on the children born among married females in Bangladesh?
- What is the effect of the female secondary stipend program on unintended pregnancy among married females in Bangladesh?

#### Third General Research Question:

- How does the year of schooling mediate the relationship between the female secondary stipend program and women's reproductive behavior (age at marriage/ contraception/ fertility) in Bangladesh?

**Specific research questions are:**

- What is the role of the year of schooling in mediating the relationship between the female secondary stipend program and age at marriage in Bangladesh?
- What is the role of the year of schooling in mediating the relationship between female secondary stipend programs and contraception in Bangladesh?
- What is the role of the year of schooling in mediating the relationship between the female secondary stipend program and children ever born in Bangladesh?

**2.2 Research Strategy and Data Sources**

This research adopted a mixed-methods research strategy to answer the identified research questions. The quantitative data were taken from secondary sources, and the qualitative data were collected from primary sources (details about the research question-wise data source and data collection methods can be found in Appendix I). The conceptual framework of the study is sketched in Figure-1.

**2.2.1 Quantitative Data: Secondary**

We used data from Bangladesh Demographic and Health Surveys (BDHS) for this research. The BDHS data are cross-sectional, containing all the study variables we need for current research. Besides, the BDHS data are easily available and can be used to estimate effect of FSSSP on Bangladeshi rural women. The BDHS data also allows for estimating the effect of the FSSSP on reproductive behavior in Bangladesh. A total of eight rounds of BDHS occurred in Bangladesh between 1993-94 and 2017-18, and we utilized them in the current study.

The FSSSP was first introduced in 1994 to the rural girl students of classes 6-10 across the country. However, the program coverage was not identical all over the country as the population distribution was also not identical. The girls enrolled in classes 6-10 were the target recipients of the stipend. However, at the beginning (in 1994), only the girls residing in rural areas and enrolled in classes 6 and 9 received the stipend. In 1995, girls enrolled in all classes, except class 8, received the stipend, and since 1996 girls residing in rural areas in all classes started receiving the stipend. Thus, girls who were enrolled in secondary school in classes 7-9 in 1994 received a stipend for two years only. Thus, some girls received the full stipend for five years, whereas some received a partial stipend for two years and the rest, who were in class 10 and above in 1994, did not receive any stipend. Therefore, no cohorts are exposed to the program for more than two years until 1996. From this change in policy in the past, we define three age cohorts based on their eligibility for receiving the stipend:

- Cohort 1: Girls born in 1983 or later were eligible to receive a stipend for the full five years of their secondary school education (classes 6 to 10). They were 6-11 years old and enrolled in primary school and class 6 of secondary school in 1994;
- Cohort 2: Girls born between 1980 and 1982 were eligible to receive a stipend for two years of secondary school education (classes 9 and 10). They were 12-14 years old and enrolled in classes 7 to 9 in 1994. Therefore, women born in 1980 or later are assumed to have received the stipend for at least one year of their secondary education;
- Cohort 3: Girls who were born between 1944 and 1979. They were 15-49 years old and enrolled in grade 10 and above in 1994, and thus they were not eligible to receive the stipend. The cohorts are presented in the following table (Table 1). We are starting this cohort from 1944 considering the women who were 49 years old during the BDHS-1993-94.

This research adopted a quasi-experimental design to examine the effects of the FSSSP program on the reproductive behaviors of women in Bangladesh. Thus, we allocated the total respondents of the

eight rounds of BDHS to a control and treatment group. The operational definition of the control and treatment groups are as follows:

- Treatment Group 1: Girls born between 1980 and 1982 living in rural areas.
- Treatment Group 2: Girls born in 1983 or later and living in rural areas.
- Control Group: Girls born between 1944 and 1979 living in either a rural or an urban area, and girls born since 1980 but living in an urban area.

**Table 2. 1: Eligibility of Respondents for Attaining FSSSP by Birth Year**

Birth cohort (Year of Birth)	Grade of respondents in survey year (BHDS)			Cohort (considering birth cohort and exposure to FSSSP)
	1994	1996	1999	
1988			6	Cohort 1 (fully exposed)
1987			7	
... ..				
1983	6	8		Cohort 2 (partially exposed)
1982	7	9		
1981	8	10		
1980	9			
1979	10			Cohort 3 (unexposed)
1978				
... ..				
1944				

\*We assumed a respondent would be in grade 6 (first academic year in secondary level) at around 11 years of age, considering starting school (grade 1) at age 6.

### 2.2.1.1 Outcome Variables

The following variables were utilized as the dependent variables in the study: women’s age at first marriage, age at first birth/early childbearing, children ever born, son preference, use of contraception, and women empowerment. Women’s age at first marriage indicates exact age of the respondents’ when they first got married or started cohabitation. Similarly, women’s age at first birth indicates women’s exact age at the time of her first child was born. Children ever born denotes the total number of births from the respondent till the date of the survey.

Son preference was measured using the information regarding the ideal number of children. The ideal number of children is an indicator of fertility preferences that shows the number of children a woman would want in total if she could start afresh. In BDHS, there are two separate questions for knowing respondent’s view regarding ideal number of son and daughter respectively. Each of these questions has a possible response of either a specific number of sons/ daughters or other responses like ‘does not know’, ‘fatalistic’, and so on. Son preference was constructed by subtracting the ideal number of boys from the expected number of girls the women wanted (if any). If the ideal number of boys was higher than the ideal number of girls, it was categorized as son preference and the rest as others (daughter preference, balanced preference, and so on).

The contraceptive prevalence rate (CPR) measures the use of contraception. The CPR is defined as the percentage of married women aged 15-49 years (or their husbands) currently using a contraceptive method to limit or space the number of children they have. The BDHS collected information on contraceptive use from the respondents and grouped them into three categories: (1) using modern methods of contraception, e.g., pills, injectables, male condoms, female and male sterilization, intrauterine devices (IUD), implants, and lactational amenorrhea method (LAM); (2) using traditional methods of contraception, e.g., periodic abstinence, withdrawal, other traditional methods; and (3) not using any method of contraception. It is often combined both modern and traditional methods of contraception into one group in reporting CPR. In this context, the use of contraceptive method was

coded into two categories: yes (the use of any modern or traditional method) and no. Nevertheless, there are ample differences between modern and traditional methods of contraception in terms of effectiveness. Therefore, we also created the utilization of modern methods of contraception (yes or no) as another outcome variable of contraceptive use.

In this study, we considered only the decision-making autonomies as an indicator of women empowerment because it is the actual performance of women. In BDHSs, participation in household decision was measured using person who usually makes decisions about three issues: the respondent's health care, major household purchases, and visits to family or relatives. All these variables have six types of responses: (i) respondent alone, (ii) respondent and husband/partner, (iii) respondent and someone else, (iv) only husband, (v) someone else and (vi) other. Like BDHS, to measure empowerment, the response options were categorized to '1' as empowerment if the decision was made by the respondent alone or jointly with husband/ partner. All other responses were categorized as, '0', indicating absence of autonomy. As a measure of reliability, we estimated Cronbach's alpha value of these three empowerment indicators. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items is as a group. A higher value for Cronbach's alpha means that response values for each participant across a set of questions are consistent (Taber, 2018). The estimated Cronbach's alpha was 0.785 for these indicators, which suggests good internal consistency.

### **2.2.1.2 Independent Variable**

The key predictor of this study was the exposure to the FSSSP, categorized as fully exposed, partially exposed, and not exposed/ control group (Table 1). Direct measures of exposure to FSSSP were not available in the BDHS datasets, and we used year of birth and place of residence to make a proxy measurement. If the girls were born between 1983 and 1990 and living in rural areas, they were considered as fully exposed to FSSSP (Cohort 1/ Treatment Group 1). If the girls were born between 1980 and 1982 and living in rural areas were categorized as partially exposed to FSSSP (Cohort 2/ Treatment Group 2). If the girls were born between 1944 and 1979 living in either a rural or an urban area, and girls born since 1980 but living in an urban area were considered as not exposed to FSSSP (Cohort 3/ Control Group).

### **2.2.1.3 Control Variables**

After reviewing the existing literature, the following variables were utilized as the control variables in the study (Appendix II): age the respondents, education, employment status, religion, wealth, place of residence, division, and survey year. Age represented the current age of respondents during survey, whereas education indicated the respondents' the highest years of schooling. The employment status was measured whether the respondents were working during the survey categorized as yes/no. Religion was categorized in Muslim and non-Muslim (Hindu, Buddhist, or Christian) due to majority of Muslim in Bangladesh. Wealth index, which is used to assess socioeconomic status of the household, was constructed from data of household possessions using the first component of principal component analysis (Rutstein & Johnson, 2004). The household wealth index was categorized into 5 groups: poorest, poorer, middle, richer, and richest. Place of residence indicated whether the respondent was living in an urban or rural area. Division contains information regarding respondents' division of living during survey which includes Barishal, Chattogram, Dhaka, Khulna, Mymensingh, Rajshahi, Rangpur, and Sylhet. It should be noted that all the surveys do not include same divisions (Barishal, Chattogram, Dhaka, Khulna, and Rajshahi from 1993-94; Sylhet from 1996-97; Rangpur from 2011; Mymensingh in 2017-18).

#### 2.2.1.4 Analytical Approach

We performed univariate analysis to check the distributions of the study variables along with explanatory variables. In addition, we performed Chi-square tests and estimated Pearson's correlation coefficients to check the bivariate relationship between exposure to FSSSP and other variables. Different analysis strategies were used in this study (both for quantitative and qualitative research) to measure the impact of FSSSP on the outcome variables, which are presented in the following subsections.

**Difference-in-difference (DID):** Difference-in-difference (DiD) is a commonly used statistical technique to identify the causal effect of any intervention in social research using a quasi-experimental design. We considered this technique in this study as we measured the impact of FSSSP on the outcome variables. We needed this approach in our study because there are two major challenges in directly estimating the effects of the female stipend program on the outcome variables. First, we cannot observe the later life outcomes for the same individual who had received the scholarship or not (exposed to FSSSP or not) as all the data sources are cross-sectional. Second, FSSSP may be a single determinant to explain the respondents' age at marriage or the first birth. For example, parents' positive attitudes toward girls' education supposed to have strong positive correlation with year of schooling of the respondents which cannot be observed from most of the available cross-sectional data. These sorts of omitted variables are likely to lead to biased OLS estimates.

Moreover, selection bias may also arise since the targeted rural areas would have been chosen due to lower enrolment by girls and a higher incidence of early marriage. Therefore, comparing young and old cohorts of girls in rural and urban areas will not reveal the causal effects on the outcomes of interest. Because of these shortcomings, we could not apply an Ordinary Least Square (OLS) to evaluate a direct causal relation between FSSSP and the outcome of interests. Therefore, we applied the DiD approach to quantify the effect of FSSSP on the outcome variables. We performed DiD in the first-stage specification for the respondent's year of schooling, age at first marriage, and age at first birth. The DiD approach to measuring the effect of FSSSP on the year of schooling (number of academic study years) of the respondent is as follows:

$$Edu_i = \alpha_0 + \delta Rural_i + \sum_{j=1}^2 \beta_j Cohort_{ji} + \lambda X_i + v_i. \quad (1)$$

Here,  $Edu_i$  is the year of schooling of respondent  $i$ . To measure the impact of FSSSP on the year of schooling, we considered two dummy variables in the DiD approach. The first one,  $Rural$ , is a dummy variable constructed to indicate whether the  $i$ -th observation's current place of residence is rural or not (0 for urban, 1 for rural). It should be noted that urban-to-rural migration is almost negligible in Bangladesh. Therefore, the proportion of rural women is supposed to stay almost the same during the survey period and time of studying secondary education. The second variable is  $Cohort_{ji}$ , the dummy indicator for two cohorts of interest.  $Cohort_{1i}$  is a dummy for whether the  $i$ -th participant belongs to the fully exposed cohort (rural respondents who belong to birth cohort 1983 and later) or not, and  $Cohort_{2i}$  is a dummy for the partially exposed cohort.  $X$  is the other independent variable considered in the model. Besides the year of schooling, we also considered the age at first marriage and age at first birth in (1) to see whether any difference occurred for the exposed and partially exposed cohorts. It should be noted that birth cohorts are also considered in the regression analysis, so, we used the term "treatment" for exposure status to FSSSP.

**Regression analysis (OLS and binary logistic regression):** After fitting the DID, in the second stage, we used both OLS (where the response outcome variable is continuous) and logistic regression using the instrumental variable approach to estimate the causal effect of FSSSP on later life outcomes (age at first marriage, age at first birth, family planning, sex preference, empowerment, etc.). The second-stage equation for OLS is specified as follows:

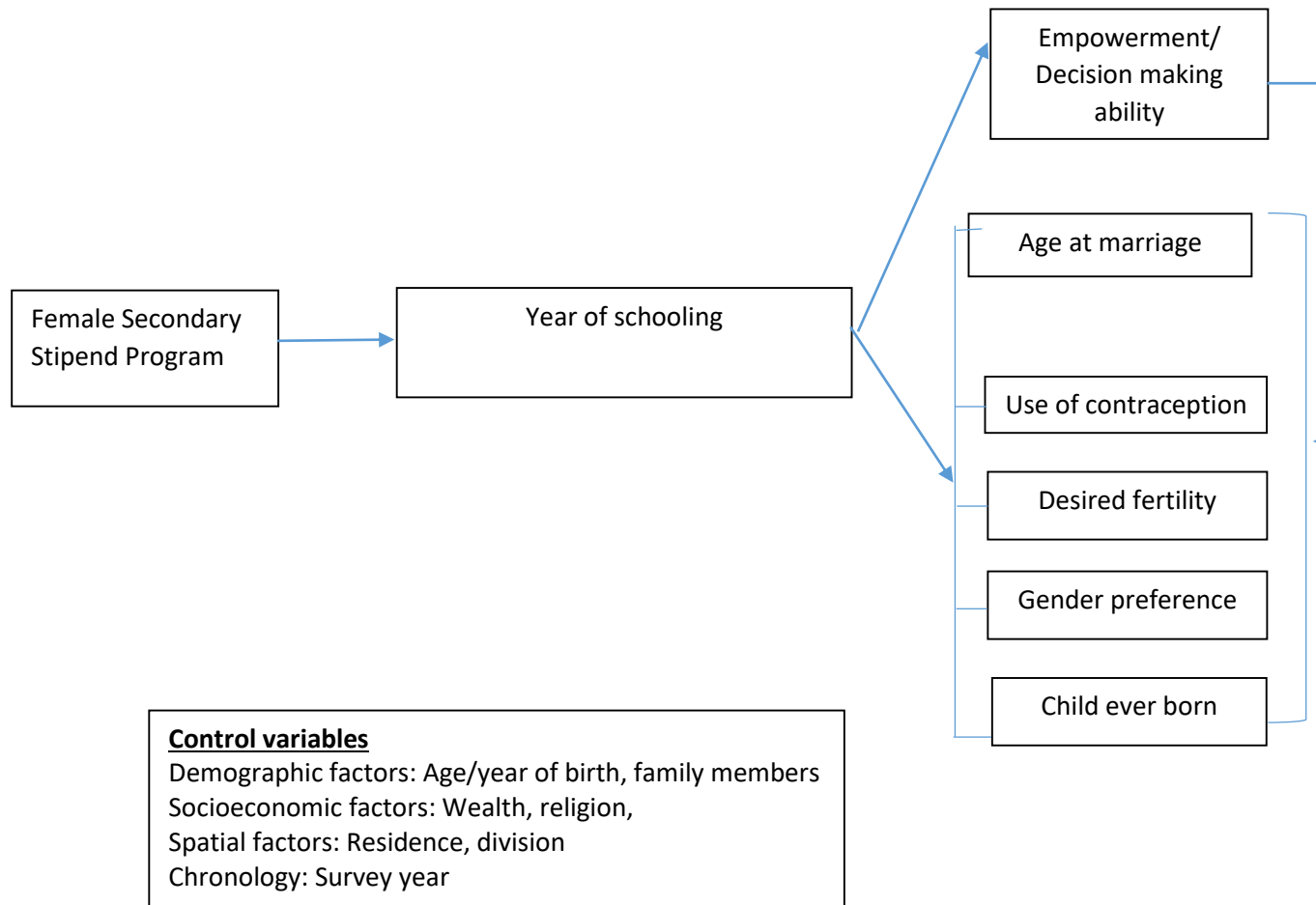
$$Y_i = \sigma_0 + \sum_{j=1}^2 \eta_j Cohort_{ji} + \rho Rural_i + \sigma X_i + \mu_i, \quad (2)$$

where  $Y_i$  is the later life outcome variable/s, and *Rural* and *Cohort* are the same as we used in DID approach. For logistic regression, we used the same model mentioned in equation 2. However, all the dependent variables (later life outcomes of interest) are categorized into dichotomous outcome variables for logistic regression. We used the logistic regression model for some specific cases to check the impact of FSSSP. For example, considering the legal age of marriage in Bangladesh, we reconstructed the age at first marriage of respondents in two categories: before and after the age of 18. The same happens for gender preference of the child and usage of family planning methods.

**Regression discontinuity (RD):** The idea of the regression discontinuity (RD) design is to exploit an observable discontinuity in the level of treatment related to an assignment variable (e.g., year of schooling, age at marriage, age at birth, etc.). For example, a distinct change is supposed to be observed in the trend of the years of schooling for rural respondents as a benefit of FSSSP sometimes after the inauguration of the program in 1994. This sort of threshold point in time (calendar year) can be obtained using the regression discontinuity approach, where this sudden jump from a steady trend can be attributed to the change in the level of treatment or exposure due to some intervention.

**Mediation analyses:** The mediation analysis is the intermediary variable/s (e.g., year of schooling) between an independent (e.g., exposure to FSSSP) and a dependent variable (e.g., age at first marriage). In this study, it is assumed that the independent variable (exposure to FSSSP) affects the dependent variable (age at marriage or number of children born) with the (hypothesized) mediator variable (year of schooling) that is supposed to transmit the causal effect of FSSSP to children ever born (sketched in Figure 2).

Figure 2. 1: Effect of female secondary stipend program on Reproductive Behavior through Year of Schooling



**Life Table Technique:** Besides all the regression analyses, Life Table Technique has been applied to analyze the marriage to the first birth interval. The objective of using the Life table technique was to examine the extent to which the observed variations in the timing of first birth concerning exposure to FSSSP in Bangladesh could be explained in terms of the proportion of married women regarding the timing of the first birth. To summarize the findings of the life table approach, a few indicators are used in the study. We estimated the cumulative probabilities of having the first birth within 20, 40, and 60 months of marriage. In addition, Tukey’s trimean was computed along with the Median and spread to summarize the observed first birth intervals.

## 2.2.2 Qualitative Primary Data

### 2.2.2.1 Study Population and Geographic Area

There are many outcome variables in this study, and we used TFR, early childbearing, and CPR to select the study areas (Table 2). Because among several objectives of FSSSP, increasing CPR and age at first childbearing and reducing TFR has been considered the immediate effect of FSSSP through continuing education. We selected low, moderate, and high-performance districts regarding TFR, early childbearing, and CPR for heterogeneity.

**Table 2. 2: Prevalence of child marriage by districts.**

Total fertility rate (TFR)		Early childbearing (Before age 18)		Contraceptive prevalence rate (CPR)	
Highest 3		Highest 3	%	Highest 3	%
Bhola	3.2	Chapa Nawabganj	53.6	Dinajpur	82.4
Bandarban	3.2	Narail	41.6	Nilphamari	79.8
Moderate		Moderate		Moderate	
Faridpur	2.3	Rajbari	24.7	Kishoreganj	62.7
Tangail	2.3	Khulna	24.5	Pabna	6.7
Lowest 3		Lowest 3		Lowest 3	
Naogaon	1.4	Sylhet	10.0	Cox’s Bazar	49.4
Joypurhat	1.6	Madaripur	11.1	Brahmanbaria	50.6

Source: MICS 2019 District Summary Findings Report.

### 2.2.2.2 Sample Size and Sampling

Table 3 presents the sample size for qualitative data. Qualitative data were collected from girl students (studying in classes 9-12), married and unmarried women, parents, teachers, and stakeholders (e.g., government officials). A total of 18 in-depth interviews (IDIs), key informant interviews (KIIs), and Focus Group Discussions (FGDs) were conducted. There were 18 districts, and the total sample size for the qualitative stood at 324.

**Table 2. 3: Sample size for different groups.**

Types of Participants (with selection criteria)	Category	Sub-category	Methods of Data collection	Unit (per district)	Total (for all districts)
<b>Unmarried Girls</b>	Girls who received/receives stipends	Urban	FGD	1	1*18=18
		Rural	FGD	1	1*18=18
	Girls who did/do not receive stipend	Urban	FGD	1	1*18=18
		Rural	FGD	1	1*18=18
<b>Total Number of FGDs to be conducted with unmarried girls per district</b>				<b>4</b>	<b>4*18=72</b>
<b>Married Women</b> (Married women of <b>15-49</b> will be generally approached; under 15 married women will also be approached if found)	Married women who received a stipend	Urban	IDI	1	1*18=18
		Rural	IDI	1	1*18=18
	Married women who did not receive stipend	Urban	IDI	1	1*18=18
		Rural	IDI	1	1*18=18
<b>Total Married Women Participants for IDI per district</b>				<b>4</b>	<b>4*18=72</b>
<b>Parents</b> (Parents having daughters aged <b>10 and above</b> ; daughters can be both married or unmarried)	Parents of currently unmarried girls ( <b>10-40</b> years of age)	Parents of currently unmarried girls who receive/received stipend	IDI	1	1*18=18
		Parents of currently unmarried girls who did/do not receive a stipend	IDI	1	1*18=18
	Parents of currently married women ( <b>10-40</b> years of age)	Parents of currently married women who receive/received stipend	IDI	1	1*18=18
		Parents of currently married women who did/do not receive a stipend	IDI	1	1*18=18
<b>Total Parents Participants for IDI per district</b>				<b>4</b>	<b>4*18=72</b>
<b>Teacher</b>	Secondary Educational Institution	Teachers of SSC curriculum	KII	1	1*18=18
		Other teachers out of SSC curriculum (If eligible)	KII	1	1*18=18
<b>Total Teacher Participants for KII per district</b>				<b>2</b>	<b>2*18=36</b>
<b>Relevant government officials</b>	Ministry of Health and Family Welfare		KII	1	1*18=18
	Ministry of Women and Child Affairs		KII	1	1*18=18
	Department of Social Services (Union Social Workers, etc.)		KII	1	1*18=18
	Ministry of Education (District and Upazila Education Officer)		KII	1	1*18=18
<b>Total relevant government official participants for KII</b>				<b>4</b>	<b>4*18=72</b>
<b>Total</b>				<b>18</b>	<b>18*18=324</b>

### **2.2.2.3 Data Collection Methods and Tools**

Qualitative data were collected using in-depth interviews (IDIs), focus group discussions (FGDs), and key informant interviews (KIIs). In addition, relevant topic guides were used to maintain the continuity of the theme. Before starting an interview, the interviewee was informed about the objectives and purpose of the study. Then, with proper consent from the respondents, the interview session was started. Appendix III shows the data collection tools.

### **2.2.2.4 Data Analysis**

Thematic analysis was used for analyzing qualitative data in this study. From the recordings and documents of the In-Depth Interviews (IDIs), Focus Group Discussions (FGDs), and Key Informant Interviews (KIIs), transcription was done. First, codes were generated from transcribed data. Codes were then combined into overarching themes that accurately depicted the data.

## **2.3 Recruitment and Training of the Enumerators**

Along with the core research team members, data were also collected by the Research Assistants (RA). A total of eight (8) RA (male and female) and four (4) Field supervisors (FS) (all male) were invited to join for a three-day training session. The team leader and the other study team members provided training on how to carry out the data collection process. The recruitment criteria for RA and FS were that they had at least graduate-level education and prior experience in similar research projects. The training included approaching the selected respondents, conducting interviews, orientation on the data collection tools, and mock interviews. A total of four (4) RA and two (2) FS were finally selected after the end of the training session based on their performance. Each data collection team consisted of two RA and one FS.

## **2.4 Quality Control of Quantitative Data Collection**

The two recruited data collection teams were primarily responsible for collecting data from the family planning and maternal health users by visiting the respondents' houses from two districts. On the other hand, the core research team of the Department of Population Sciences collected data from the service providers, upazila and district-level managers, and directorate-level policy planners. In addition, the recruited data collection team submitted recorded audio files and interview notes in Google Drive at the end of each day, which the Team Leader and members of the Core Research Team reviewed. The necessary feedback was then given to the RA and FS, and if necessary, a repeated interview was conducted with the same respondent.

## Chapter 3: Background characteristics of the respondents

### 3.0 Introduction

This chapter comprises findings regarding the respondents' background characteristics. On the basis of respondents' exposure to the female secondary school stipend program (FSSSP) findings regarding their socioeconomic status and demographic characteristics are presented.

### 3.1 Summary Statistics of Respondents Background Characteristics

**Table 3.1** shows the frequency distribution of the background characteristics of BDHS sample population. Among sample population, majority were from before 1980 birth cohort (57%) followed by 1983 and later birth cohort (34.3%). Most of the sample population were unexposed (68.2%) to FSSSP followed by one fourth population exposed (25.2%) to FSSSP, and most of the sample population were from BDHS 2017 survey (18.8%).

Majority of the sample population were from rural (77%) and Muslim (89.8%). The divisional distribution of the sample population shows that, most of them from Dhaka region (30.9%) followed by Rajshahi and Chittagong (19.1%), Khulna (11.8%), and lowest from Mymensingh division (1.4%). Almost all of the sample population were equally distributed in wealth index from poorest to richest and 45.5% population were using modern family planning method.

**Table 3. 1: Summary Statistics of respondent's background characteristics**

Variables	Frequency	Percent
<b>Birth Cohort</b>		
1983 and later	36607	34.3
1980-1982	9357	8.8
Before 1980	60896	57
<b>Exposure level to FSSSP</b>		
Fully exposed	26957	25.2
Partially exposed cohort	7029	6.6
Unexposed	72874	68.2
<b>Year of survey</b>		
1994	9495	8.9
1996	8982	8.4
1999	10358	9.7
2004	11290	10.6
2007	10996	10.3
2011	17749	16.6
2014	17863	16.7
2017	20127	18.8
<b>Age in 5-year groups</b>		
15-19	13169	12.3
20-24	20366	19.1
25-29	20198	18.9
30-34	17103	16
35-39	14122	13.2
40-44	11771	11
45-49	10132	9.5
<b>Type of place of residence</b>		

Urban	24628	23
Rural	82232	77
<b>Division of respondents</b>		
Barisal	6477	6.1
Chittagong	20447	19.1
Dhaka	32984	30.9
Khulna	12624	11.8
Mymensingh	1546	1.4
Rajshahi	20374	19.1
Rangpur	6475	6.1
Sylhet	5934	5.6
<b>Muslim</b>		
No	10929	10.2
Yes	95931	89.8
<b>Wealth index</b>		
Poorest	20571	19.5
Poorer	21030	19.9
Middle	20803	19.7
Richer	21063	20
Richest	22024	20.9
<b>Current use of modern method</b>		
No	58261	54.5
Yes	48599	45.5

### 3.2 Effect of the Female Secondary Stipend Program on the Exposure Level to FSSSP among Married Females

**Table 3.2** depicts the percentage distribution of BDHS sample respondent's background characteristics by their exposure to FSSP. Exposure level to FSSSP is statistically significantly ( $p < 0.05$ ) associated with birth cohort of the respondent, year of survey, age groups, types of place of residence, divisional living status, highest level of education, religion (Muslim), and wealth index. Majority of the respondent (73.60%) belong to birth cohort 1983 and later were fully exposed to FSSSP, while majority (75.1%) people belong to birth cohort 1980-1982 were partially exposed to FSSSP. Most of the people 15-19 years (56.90%) of age were fully exposed to FSSSP, while majority of the adult were unexposed to FSSSP. Almost one-third of the people living in rural area were fully exposed to FSSSP, while all of the urban people were unexposed. Mymensingh division people were highest fully exposed (53.20%) to FSSSP followed by Rangpur (47.40%), Sylhet (31.70%), and lowest in Dhaka (20.3%). People with secondary and higher education were more fully exposed, while people with no education and primary education were mostly unexposed to FSSSP. In terms of wealth index, almost all of the people had lower fully exposure to FSSSP.

**Table 3. 2: Percentage distribution of respondent's background characteristics by their exposure to FSSP**

Variables	Exposure level to FSSSP			P-value
	Fully Exposed	Partially Exposed	Unexposed	
<b>Birth cohort of respondents</b>				P<0.001
1983 and later	26957(73.60)	0(0.00)	9650(26.40)	
1980-1982	0(0.00)	7029(75.10)	2328(24.90)	
Before 1980	0(0.00)	0(0.00)	60896(100.00)	
<b>Year of survey</b>				P<0.001

1994	0(0.00)	0(0.00)	9495(100.00)	
1996	0(0.00)	485(5.40)	8497(94.60)	
1999	444(4.30)	845(8.20)	9069(87.60)	
2004	1759(15.60)	983(8.70)	8549(75.70)	
2007	2624(23.90)	945(8.60)	7427(67.50)	
2011	6069(34.20)	1302(7.30)	10379(58.50)	
2014	7068(39.60)	1213(6.80)	9581(53.60)	
2017	8994(44.70)	1256(6.20)	9878(49.10)	
<b>Age in 5-year groups</b>				P<0.001
15-19	7495(56.90)	1307(9.90)	4367(33.20)	
20-24	9322(45.80)	1234(6.10)	9810(48.20)	
25-29	6866(34.00)	1268(6.30)	12064(59.70)	
30-34	3247(19.00)	1978(11.60)	11878(69.40)	
35-39	27(0.20)	1243(8.80)	12852(91.00)	
40-44	0(0.00)	0(0.00)	11771(100.00)	
45-49	0(0.00)	0(0.00)	10132(100.00)	
<b>Type of place of residence</b>				P<0.001
Urban	0(0.00)	0(0.00)	24628(100.00)	
Rural	26957(32.80)	7029(8.50)	48247(58.70)	
<b>Division of respondents</b>				P<0.001
Barisal	1653(25.50)	429(6.60)	4395(67.90)	
Chittagong	5073(24.80)	1265(6.20)	14109(69.00)	
Dhaka	6685(20.30)	1819(5.50)	24479(74.20)	
Khulna	3098(24.50)	875(6.90)	8651(68.50)	
Mymensingh	822(53.20)	115(7.40)	609(39.40)	
Rajshahi	4658(22.90)	1554(7.60)	14161(69.50)	
Rangpur	3086(47.70)	511(7.90)	2878(44.40)	
Sylhet	1881(31.70)	460(7.80)	3593(60.50)	
<b>Highest educational level</b>				P<0.001
No education	3028(8.30)	2159(5.90)	31206(85.70)	
Primary	8036(25.70)	2344(7.50)	20875(66.80)	
Secondary	13625(43.00)	2141(6.70)	15955(50.30)	
Higher	2268(30.30)	384(5.10)	4836(64.60)	
<b>Muslim</b>				P<0.001
No	2347(21.50)	683(6.20)	7899(72.30)	
Yes	24610(25.70)	6346(6.60)	64975(67.70)	
<b>Wealth index</b>				P<0.001
Poorest	6332(30.80)	1753(8.50)	12487(60.70)	
Poorer	6482(30.80)	1553(7.40)	12995(61.80)	
Middle	6365(30.60)	1501(7.20)	12936(62.20)	
Richer	5085(24.10)	1338(6.40)	14641(69.50)	
Richest	2672(12.10)	844(3.80)	18508(84.00)	

## Chapter 4: Years of Schooling

### 4.0 Introduction

This chapter comprises findings regarding the respondents' highest level of education. On the basis of respondents' exposure to the female secondary school stipend program (FSSSP) and their socioeconomic and demographic characteristics, findings regarding their highest level of education and education in single years are presented.

### 4.1 Summary Statistics of Highest Level of Education

**Table 4.1** shows the frequency distribution of highest educational level of BDHS sample population. Majority of the population had no education (34.1%) followed by primary and secondary education (about 29%) and only 7% had higher education.

**Table 4. 1: Summary Statistics of highest level of education**

Variables	Frequency	Percent
<b>Highest educational level</b>		
No education	36393	34.1
Primary	31255	29.2
Secondary	31722	29.7
Higher	7489	7

### 4.2 Effect of the Female Secondary Stipend Program on the Highest Level of Education among Married Females

**Table 4.2** depicts percentage distribution of selected variables by respondents' highest level of education of BDHS sample population. Highest level of education is statistically significantly ( $p < 0.05$ ) associated with exposure to FSSSP, birth cohort of the respondent, year of survey, age groups, types of place of residence, divisional living status, religion (Muslim), wealth index, age at first marriage and birth, using modern method, number of living children, ideal number of children and boys.

Respondents who were fully exposed to FSSSP had more secondary or higher education (59%) and people belong to the cohort 1983 or late had more secondary or higher education. Respondent in 15-19 years of age group, living in urban area, non-Muslim, richest, who married as adult, had first birth as adult other than adolescent pregnancy, and whose number of living children were upto 2 had more secondary or higher education than others.

**Table 4. 2: Percentage distribution of selected variables by respondents' highest level of education**

Variables	Highest level of Education		P-value
	Primary or Lower	Secondary or Higher	
<b>Exposure level to FSSSP</b>			$P < 0.001$
Fully exposed	11064(41.00)	15893(59.00)	
Partially exposed cohort	4504(64.10)	2525(35.90)	
Unexposed	52081(71.50)	20792(28.50)	
<b>Birth cohort of respondents</b>			$P < 0.001$
1983 and later	14484(39.60)	22123(60.40)	
1980-1982	5596(59.80)	3760(40.20)	

Before 1980	47569(78.10)	13327(21.90)	
<b>Year of survey</b>			P<0.001
1994	8070(85.00)	1425(15.00)	
1996	7344(81.80)	1638(18.20)	
1999	7706(74.40)	2652(25.60)	
2004	7995(70.80)	3296(29.20)	
2007	7008(63.70)	3986(36.30)	
2011	10239(57.70)	7510(42.30)	
2014	9664(54.10)	8199(45.90)	
2017	9623(47.80)	10504(52.20)	
<b>Age in 5-year groups</b>			P<0.001
15-19	6142(46.60)	7027(53.40)	
20-24	10074(49.50)	10291(50.50)	
25-29	11703(57.90)	8495(42.10)	
30-34	11270(65.90)	5833(34.10)	
35-39	10435(73.90)	3687(26.10)	
40-44	9469(80.40)	2302(19.60)	
45-49	8557(84.50)	1575(15.50)	
<b>Type of place of residence</b>			P<0.001
Urban	11962(48.60)	12664(51.40)	
Rural	55686(67.70)	26546(32.30)	
<b>Division of respondents</b>			P<0.001
Barisal	3989(61.60)	2488(38.40)	
Chittagong	12186(59.60)	8260(40.40)	
Dhaka	21003(63.70)	11981(36.30)	
Khulna	7563(59.90)	5061(40.10)	
Mymensingh	859(55.60)	687(44.40)	
Rajshahi	14108(69.20)	6265(30.80)	
Rangpur	3651(56.40)	2824(43.60)	
Sylhet	4289(72.30)	1645(27.70)	
<b>Muslim</b>			P<0.001
No	6487(59.40)	4442(40.60)	
Yes	61162(63.80)	34768(36.20)	
<b>Wealth index</b>			P<0.001
Poorest	17019(82.70)	3552(17.30)	
Poorer	15489(73.70)	5541(26.30)	
Middle	13269(63.80)	7534(36.20)	
Richer	11678(55.40)	9386(44.60)	
Richest	9078(41.20)	12945(58.80)	
<b>Age at first marriage</b>			P<0.001
No	7727(38.40)	12379(61.60)	
Child marriage	59922(69.10)	26832(30.90)	
<b>Age at first birth</b>			P<0.001
No	16094(52.70)	14455(47.30)	
Adolescent pregnancy	47268(71.90)	18476(28.10)	
<b>Current use of modern method</b>			P<0.001
No	38458(66.00)	58261(34.00)	
Yes	29191(60.10)	48599(39.90)	

<b>Number of living children</b>			P<0.001
more than 2	35932(81.10)	8353(18.90)	
upto 2	31716(50.70)	30858(49.30)	
<b>Ideal number of children</b>			P<0.001
more than 2	21380(78.40)	5875(21.60)	
upto 2	43552(56.90)	32971(43.10)	
<b>Ideal number of boys</b>			P<0.001
None	9842(51.90)	9108(48.10)	
Yes	55214(65.00)	29737(35.00)	

### 4.3 Predictors of Education in Single Years

Multiple linear regression was calculated using DID estimation using different control groups and models to estimate the education in single years among BDHS sample population, as **table 4.3** showed. The first column reports baseline results without including control variables and fixed effects. The last column adds a full set of controls including religion, wealth index, survey year and division fixed effects. A significant regression equation was found in **model 1** [ $F(2, 105422) = 3927.357, p < 0.001$ , with adjusted R<sup>2</sup> of 0.069], in **model 2** [ $F(7, 105415) = 6681.572, p < 0.001$ , with adjusted R<sup>2</sup> of 0.355], and in **model 3** [ $F(7, 105408) = 275.716, p < 0.001$ , with adjusted R<sup>2</sup> of 0.367] respectively.

Results show that the selected predictors collectively can account for 6.9% of the variance in education in single years in **model 1**, 35.5% in **model 2**, and 36.7% in **model 3** respectively.

In **model 1**, exposure to FSSSP is a significant predictor of education in single years. People who were fully exposed to FSSSP had 0.267 unit more education years ( $\beta=0.267, p<0.001$ ) than who were not fully exposed. Similarly, people with partially exposed to FSSSP had 0.037 unit more education years ( $\beta=0.037, p<0.001$ ) than who were not partially exposed. Similarly, exposure to FSSSP is a significant positive predictor for both model 2 and 3 for education in single years.

In **model 2**, People born between 1980-82 and 1983 and later had lower education years ( $\beta=-0.019$  and  $-0.025, p<0.05$  and  $p<0.001$  respectively) than people born in another period. Respondents current age was significant negative predictor of education in single years ( $\beta=-0.208, p<0.001$ ). Wealth index is a significant positive predictor of education in single years ( $\beta=0.429, p<0.001$ ).

In **model 3**, Similar to model 2 birth cohort and current age are significant negative predictors here as well. People living in rural area had -0.074 unit lower single education years ( $\beta=-0.074, p<0.001$ ) than people living in urban or other than rural area. Besides, Muslim people had -0.052 unit lower single education years ( $\beta=-0.052, p<0.001$ ) than non-Muslim. Divisional living status had positive impact on education in single years.

**Table 4. 3: Education in single years test of DID estimation using different control groups and model**

Independent Variables	Model I		Model II		Model III	
	Beta (S.Error)	P-Value	Beta (S.Error)	P-Value	Beta (S.Error)	P-Value
Fully exposed (treatment1)	0.267(0.028)	<0.001	0.219(0.051)	<0.001	0.219(0.051)	<0.001
Partially exposed (treatment2)	0.037(0.049)	<0.001	0.068(0.085)	<0.001	0.069(0.085)	<0.001
1983 and later (cohort1)			- 0.019(0.055)	<0.003	- 0.017(0.054)	<0.006

1980-1982 (cohort2)			- 0.025(0.076)	<0.001	- 0.025(0.076)	<0.001
Respondent's current age			- 0.208(0.002)	<0.001	- 0.208(0.002)	<0.001
Year of survey			0.207(0.006)	<0.001	0.203(0.007)	<0.001
Wealth index			0.429(0.000)	<0.001	0.44(0.000)	<0.001
Rural			- 0.074(0.035)	<0.001	-0.08(0.035)	<0.001
Muslim			- 0.052(0.034)	<0.001	- 0.048(0.033)	<0.001
Barishal					0.117(0.059)	<0.001
Chittagong					0.095(0.049)	<0.001
Dhaka					0.049(0.047)	<0.001
Khulna					0.09(0.052)	<0.001
Mymensingh					0.03(0.094)	<0.001
Rajshahi					0.075(0.049)	<0.001
Rangpur					0.074(0.060)	<0.001
<b>Model Summary</b>						
<b>R-squared</b>	0.069		0.355		0.367	
<b>Adjusted R-squared</b>	0.069		0.355		0.367	
<b>F Change</b>	3927.357		6681.572		275.716	
<b>df</b>	(2, 105422)		(7, 105415)		(7, 105408)	
<b>Significance of F Change</b>	P<0.001		P<0.001		P<0.001	

#### 4.4 Predictors of Respondents' Highest Level of Education

A binary logistic regression was performed (**table 4.4**) to create a model of the relationship between the predictor variables and highest level of education to test the hypotheses. The dependent variable 'highest level of education' was divided into two categories – primary or lower and secondary or higher.

According to this model, respondents who were fully exposed to FSSSP are more likely to have secondary or higher education than unexposed respondents (OR = 2.711, p<0.001). Similarly, respondents who were partially exposed to FSSSP are more likely to have secondary or higher education than unexposed respondents (OR = 1.672, p<0.001). Respondents of cohort1 (born in 1983 or later) and cohort2 (born in the period 1980-1982) are less likely to have secondary or higher education compared to those born prior to 1980. Result indicating that as the respondents' year of birth increases, they are more likely to have secondary or higher education (OR=1.065, p<0.001).

The results also show that those who live in rural areas (OR=0.291, p<0.001) are less likely to have secondary or higher education than those who do not reside in rural areas. On the other hand, non-Muslim people are more likely to have secondary or higher education (OR=1.504, p<0.001) than Muslim people. In contrast, respondents in Dhaka, Rajshahi, Rangpur, Mymensingh, and Sylhet are less likely to have secondary or higher education than respondents in Barisal division.

The model summary indicates that this model is accurate in predicting 71.2% of cases. The fit between the model containing only the intercept and data improved with the addition of the predictor variables, Nagelkerke R<sup>2</sup> = .254, p < 0.001. As the Nagelkerke R-Square shows that, selected predictors collectively explain 25.4% of the variation of the dependent variable of highest level of education of the respondents.

**Table 4. 4: Factors affecting highest level of education among BDHS sample population in Bangladesh using binary logistic regression**

Variables	Odds Ratio (95% C.I)	P-value
<b>Exposure level to FSSSP</b>		
Unexposed	<b>RC</b>	
Fully exposed cohort	2.711(2.537, 2.896)	<0.001
Partially exposed	1.672(1.505, 1.858)	<0.001
<b>Birth cohort of the respondents</b>		
Before 1980	<b>RC</b>	
1983 and later	0.779(0.724, 0.839)	<0.001
1980-1982	0.811(0.738, 0.890)	<0.001
<b>Year of the Survey</b>		
1994	<b>RC</b>	
1996	1.066(0.983, 1.156)	0.121
1999	1.252(1.161, 1.351)	<0.001
2004	1.056(0.979, 1.138)	0.156
2007	1.212(1.125, 1.306)	<0.001
2011	1.129(1.051, 1.213)	<0.001
2014	1.071(0.995, 1.152)	<0.066
2017	1.184(1.099, 1.275)	<0.001
<b>Year of birth</b>	1.065(1.062, 1.068)	<0.001
<b>Division of the Respondents</b>		
Barisal	<b>RC</b>	
Chittagong	1.009(0.946, 1.076)	0.791
Dhaka	0.734(0.690, 0.781)	<0.001
Khulna	1.044(0.974, 1.118)	0.225
Mymensingh	0.583(0.515, 0.661)	<0.001
Rajshahi	0.752(0.704, 0.802)	<0.001
Rangpur	0.718(0.664, 0.777)	<0.001
Sylhet	0.47(0.433, 0.512)	<0.001
<b>Type of place of residence</b>		
Urban	<b>RC</b>	
Rural	0.291(0.278, 0.305)	<0.001
<b>Religion of the respondents (Muslim)</b>		
Yes	<b>RC</b>	
No	1.504(1.437, 1.575)	<0.001
<b>Model Summary</b>		
<b>Omnibus Tests of Model Coefficients</b>		P<0.001
<b>Nagelkarke R<sup>2</sup></b>		0.254
<b>Predicted correct percentage (%)</b>		71.2

## Chapter 5: Age at First Marriage

### 5.0 Introduction

This chapter comprises findings regarding the respondents' age at first marriage. On the basis of respondents' exposure to the female secondary school stipend program (FSSSP) and their socioeconomic and demographic characteristics, findings regarding their age at first marriage and age at first cohabitation are presented.

### 5.1 Summary Statistics of Age at First Marriage

**Table 5.1** shows the child marriage prevalence among BDHS sample population. Majority of the population's age at first marriage were child marriage (81.2%).

**Table 5. 1: Summary Statistics of age at first marriage**

Variables	Frequency	Percent
<b>Age at first marriage</b>		
No	20106	18.8
Child marriage	86755	81.2

### 5.2 Effect of the Female Secondary Stipend Program on the Age at First Marriage among Married Females

**Table 5.2** depicts percentage distribution of selected variables by respondents' age at first marriage of BDHS sample population. Age at first marriage is statistically significantly ( $p < 0.05$ ) associated with exposure to FSSSP, birth cohort of the respondent, year of survey, age groups, types of place of residence, divisional living status, religion (Muslim), wealth index, and highest level of education.

Respondents who were partially exposed to FSSSP had more child marriage (82.90%) and people belong to the cohort before 1980 (83.60%) had more child marriage than others. The prevalence of child marriage was higher among 15-19 years of age group, who living in rural area, Muslim people, who were poorest, who had no education.

**Table 5. 2: Percentage distribution of selected variables by respondents age at first marriage**

Variables	Age at first marriage		P-value
	No	Yes (Child Marriage)	
<b>Exposure level to FSSSP</b>			P<0.001
Fully exposed	5438(20.20)	21519(79.80)	
Partially exposed cohort	1203(17.10)	5826(82.90)	
Unexposed	13464(18.50)	59410(81.50)	
<b>Birth cohort of respondents</b>			P<0.001
1983 and later	8242(22.50)	28365(77.50)	
1980-1982	1902(20.30)	7454(79.70)	
Before 1980	9961(16.40)	50935(83.60)	
<b>Year of survey</b>			P<0.001
1994	1146(12.10)	8349(87.90)	
1996	1054(11.70)	7928(88.30)	
1999	1597(15.40)	8761(84.60)	

2004	1552(13.70)	9739(86.30)	
2007	1839(16.70)	9157(83.30)	
2011	3750(21.10)	13999(78.90)	
2014	4206(23.50)	13657(76.50)	
2017	4962(24.70)	15165(75.30)	
<b>Age in 5-year groups</b>			P<0.001
15-19	935(7.10)	12234(92.90)	
20-24	4905(24.10)	15461(75.90)	
25-29	4762(23.60)	15436(76.40)	
30-34	3646(21.30)	13456(78.70)	
35-39	2592(18.40)	11531(81.60)	
40-44	1813(15.40)	9958(84.60)	
45-49	1453(14.30)	8679(85.70)	
<b>Type of place of residence</b>			P<0.001
Urban	6908(28.10)	17719(71.90)	
Rural	13197(16.00)	69035(84.00)	
<b>Division of respondents</b>			P<0.001
Barisal	1065(16.40)	5412(83.60)	
Chittagong	4856(23.70)	15591(76.30)	
Dhaka	6653(20.20)	26331(79.80)	
Khulna	1816(14.40)	10808(85.60)	
Mymensingh	326(21.10)	1220(78.90)	
Rajshahi	2436(12.00)	17937(88.00)	
Rangpur	994(15.40)	5480(84.60)	
Sylhet	1959(33.00)	3975(67.00)	
<b>Muslim</b>			P<0.001
No	3297(30.20)	7632(69.80)	
Yes	16809(17.50)	79123(82.50)	
<b>Wealth index</b>			P<0.001
Poorest	2525(12.30)	18047(87.70)	
Poorer	3033(14.40)	17997(85.60)	
Middle	3270(15.70)	17533(84.30)	
Richer	4291(20.40)	16772(79.60)	
Richest	6730(30.60)	15294(69.40)	
<b>Highest level of education</b>			P<0.001
No education	3603(9.90)	32791(90.10)	
Primary	4124(13.20)	27131(86.80)	
Secondary	7274(22.90)	24447(77.10)	
Higher	5104(68.20)	2384(31.80)	

### 5.3 Predictors of Age at first Cohabitation

Multiple linear regression was calculated using DID estimation using different control groups and models to estimate the age at first cohabitation among BDHS sample population, as **table 5.3** showed. The first column reports baseline results without including control variables and fixed effects. The last column adds a full set of controls including religion, wealth index, survey year and division fixed effects. A significant regression equation was found in **model 1** [ $F(2, 105489) = 287.090, p < 0.001$ ], with

adjusted R2 of 0.005], in **model 2** [F(7, 105482) = 2049.320, p< 0.001, with adjusted R2 of 0.124], and in **model 3** [F(7, 105475) = 305.541, p< 0.001, with adjusted R2 of 0.142] respectively.

Results show that the selected predictors collectively can account for 0.5% of the variance in age at first cohabitation in **model 1**, 12.4% in **model 2**, and 14.2% in **model 3** respectively.

**In model 1**, Exposure to FSSSP is a significant predictor of age at first cohabitation. People who were fully exposed to FSSSP had 0.074 unit more age at first cohabitation ( $\beta=0.074$ ,  $p<0.001$ ) than who were not fully exposed. Similarly, people with partially exposed to FSSSP had 0.010 unit more first cohabitation years ( $\beta=0.010$ ,  $p<0.05$ ) than who were not partially exposed. Similarly, exposure to FSSSP is a significant positive predictor for both model 2 and 3 for age at first cohabitation.

**In model 2**, People who born between 1980-82 and 1983 or later had lower age at first cohabitation ( $\beta= -0.038$ ,  $-0.119$ ,  $p<0.001$ ) than people born in another period. Respondents current age was significant negative predictor of age at first cohabitation ( $\beta=-0.103$ ,  $p<0.001$ ). Wealth index is a significant positive predictor of age at first cohabitation ( $\beta=0.224$ ,  $p<0.001$ ).

**In model 3**, Similar to model 2 birth cohort and current age are significant negative predictors here as well. People living in rural area had -0.078 unit lower age at first cohabitation ( $\beta=-0.078$ ,  $p<0.001$ ) than people living in urban or other than rural area. Besides, Muslim people had -0.119 unit lower age at first cohabitation ( $\beta=-0.119$ ,  $p<0.001$ ) than non-Muslim. Divisional living status had negative impact on age at first cohabitation.

**Table 5. 3: Age at first Cohabitation test of DID estimation using different control groups and model**

Independent Variable	Model I		Model II		Model III	
	Beta (S.Error)	P-Value	Beta (S.Error)	P-Value	Beta (S.Error)	P-Value
Fully exposed (treatment1)	0.074(0.021)	<0.001	0.106(0.043)	<0.001	0.105(0.042)	<0.001
Partially exposed (treatment2)	0.010(0.037)	<0.001	0.037(0.072)	<0.001	0.037(0.071)	<0.001
1983 and later (cohort1)			- 0.119(0.046)	<0.001	- 0.122(0.045)	<0.001
1980-1982 (cohort2)			- 0.038(0.064)	<0.001	- 0.038(0.063)	<0.001
Respondent's current age			- 0.103(0.001)	<0.001	- 0.104(0.001)	<0.001
Year of survey			0.232(0.005)	<0.001	0.23(0.005)	<0.001
Wealth index			0.224(0.000)	<0.001	0.214(0.000)	<0.001
Rural			- 0.078(0.029)	<0.001	- 0.082(0.029)	<0.001
Muslim			- 0.119(0.028)	<0.001	- 0.114(0.028)	<0.001
Barishal					- 0.081(0.050)	<0.001
Chittagong					- 0.089(0.041)	<0.001
Dhaka					- 0.184(0.040)	<0.001
Khulna					- 0.163(0.044)	<0.001

Mymensingh					- 0.046(0.079)	<0.001
Rajshahi					- 0.196(0.041)	<0.001
Rangpur					- 0.118(0.050)	<0.001
<b>Model Summary</b>						
<b>R-squared</b>	0.005		0.124		0.142	
<b>Adjusted R-squared</b>	0.005		0.124		0.142	
<b>F Change</b>	287.090		2049.320		305.541	
<b>df</b>	(2, 105489)		(7, 105482)		(7, 105475)	
<b>Significance of F Change</b>	P<0.001		P<0.001		P<0.001	

## 5.4 Predictors of Respondents' Age at First Marriage

A binary logistic regression was performed (table 5.4) to create a model of the relationship between the predictor variables and age at first marriage to test the hypotheses. The dependent variable 'age at first marriage' was divided into two categories – child marriage and not child marriage.

According to this model, respondents who were fully exposed to FSSSP are more likely to be in child marriage than respondents in other categories (OR = 0.714,  $p < 0.001$ ). Respondents who born between 1980-1982 and 1983 or later are less likely to be in child marriage compared to those born in another period. Result indicates that as the respondents' year of birth increases, they are more likely to be in child marriage (OR=0.991,  $p < 0.001$ ).

The results also show that those who are non-Muslim (OR=0.463,  $p < 0.001$ ) are less likely to be in adult marriage. On the other hand, people live in rural areas (OR=2.149,  $p < 0.001$ ) are more likely to be in adult marriage than those of who do not reside in rural areas. In contrast, respondents living in Khulna, Rajshahi, and Rangpur are more likely to be in adult marriage than who living in Barisal, while respondents living in Chittagong, Dhaka, and Sylhet are less likely to be in adult marriage than respondents in Barishal division.

The model summary indicates that this model is accurate in predicting 81.3% of cases. The fit between the model containing only the intercept and data improved with the addition of the predictor variables, Nagelkerke  $R^2 = .086$ ,  $p < 0.001$ . As the Nagelkerke R-Square shows that, selected predictors collectively explain 8.6% of the variation of the dependent variable of age at first marriage of the respondents.

**Table 5. 4: Factors affecting age at first marriage among BDHS sample population in Bangladesh using binary logistic regression**

Variables	Odds Ratio (95% C.I)	P-value
<b>Exposure level to FSSSP</b>		
Unexposed	RC	
Fully exposed cohort	0.714(0.664, 0.767)	<0.001
Partially exposed	0.902(0.799, 1.017)	0.093
<b>Birth cohort of the respondents</b>		
Before 1980	RC	
1983 and later	1.343(1.240, 1.454)	<0.001

1980-1982	1.052(0.949, 1.167)	0.334
<b>Year of the Survey</b>		
1994	<b>RC</b>	
1996	1.087(0.993, 1.191)	0.071
1999	0.872(0.802, 0.949)	<0.002
2004	1.038(0.953, 1.131)	0.393
2007	0.823(0.757, 0.896)	<0.001
2011	0.632(0.584, 0.684)	<0.001
2014	0.583(0.538, 0.632)	<0.001
2017	0.534(0.492, 0.580)	<0.001
<b>Year of Birth</b>	0.991(0.988, 0.994)	<0.001
<b>Division of the respondents</b>		
Barisal	<b>RC</b>	
Chittagong	0.650(0.603, 0.701)	<0.001
Dhaka	0.851(0.791, 0.916)	<0.001
Khulna	1.23(1.131, 1.338)	<0.001
Mymensingh	1(0.866, 1.154)	0.999
Rajshahi	1.306(1.205, 1.414)	<0.001
Rangpur	1.473(1.337, 1.623)	<0.001
Sylhet	0.421(0.386, 0.459)	<0.001
<b>Type of place of residence</b>		
Urban	<b>RC</b>	
Rural	2.149(2.046, 2.258)	<0.001
<b>Religion of the respondents (Muslim)</b>		
Yes	<b>RC</b>	
No	0.463(0.443, 0.485)	<0.001
<b>Model Summary</b>		
<b>Omnibus Tests of Model Coefficients</b>		P<0.001
<b>Nagelkarke R<sup>2</sup></b>		0.086
<b>Predicted correct percentage (%)</b>		81.3

## Chapter 6: Age at First Birth

### 6.0 Introduction

This chapter comprises findings regarding the respondents' age at first birth. On the basis of respondents' exposure to the female secondary school stipend program (FSSSP) and their socioeconomic and demographic characteristics, findings regarding their age at first birth are presented.

### 6.1 Summary Statistics of Women's Early Child Bearing

**Table 6.1** shows the prevalence of adolescent pregnancy among BDHS sample population. Around third-fourth of the population's first birth was at adolescent age (78.1%).

**Table 6. 1: Summary statistics of women's early child bearing**

Variables	Frequency	Percent
<b>Age at first birth</b>		
No	21120	21.9
Yes (Adolescent pregnancy)	75175	78.1

### 6.2 Effect of the Female Secondary Stipend Program on the Age at First Birth among Married Females

**Table 6.2** depicts percentage distribution of selected variables by respondents' age at first birth of BDHS sample population. Age at first birth is statistically significantly ( $p < 0.05$ ) associated with year of survey, age groups, types of place of residence, divisional living status, religion (Muslim), wealth index, highest level of education, and age at first birth.

All respondent in 15-19 years of age group had first birth as adolescent pregnancy, followed by 20-24 years age group (82.60%). People living in rural area (80.40%) had higher adolescent pregnancy than urban (70.1%) people. The prevalence of adolescent pregnancy were higher among Muslim people, who are poorest, who had primary education, and had child marriage than others.

**Table 6. 2: Percentage Distribution of selected variables by age at first birth of the respondents**

Variables	Age at first birth (adolescents' pregnancy or not)		P-value
	No	Yes (Adolescent pregnancy)	
<b>Year of survey</b>			P<0.001
1994	1560(18.30)	6974(81.70)	
1996	1253(15.50)	6851(84.50)	
1999	1934(20.70)	7427(79.30)	
2004	1872(18.40)	8285(81.60)	
2007	2189(22.10)	7695(77.90)	
2011	3790(23.70)	12210(76.30)	
2014	3873(24.00)	12280(76.00)	
2017	4649(25.70)	13452(74.30)	

<b>Age in 5-year groups</b>			P<0.001
15-19	0(0.00)	7373(100.00)	
20-24	3074(17.40)	14601(82.60)	
25-29	4791(24.90)	14439(75.10)	
30-34	4252(25.50)	12412(74.50)	
35-39	3574(25.80)	10268(74.20)	
40-44	2791(24.20)	8749(75.80)	
45-49	2638(26.50)	7333(73.50)	
<b>Type of place of residence</b>			P<0.001
Urban	6537(29.90)	15336(70.10)	
Rural	14582(19.60)	59839(80.40)	
<b>Division of respondents</b>			P<0.001
Barisal	1242(21.20)	4605(78.80)	
Chittagong	4380(23.70)	14108(76.30)	
Dhaka	6995(23.70)	22553(76.30)	
Khulna	2191(19.30)	9171(80.70)	
Mymensingh	334(24.10)	1052(75.90)	
Rajshahi	3187(17.30)	15205(82.70)	
Rangpur	1062(17.90)	4883(82.10)	
Sylhet	1728(32.40)	3598(67.60)	
<b>Muslim</b>			P<0.001
No	3215(32.20)	6777(67.80)	
Yes	17904(20.70)	68398(79.30)	
<b>Wealth index</b>			P<0.001
Poorest	3200(16.90)	15749(83.10)	
Poorer	3524(18.50)	15563(81.50)	
Middle	3614(19.20)	15167(80.80)	
Richer	4210(22.40)	14582(77.60)	
Richest	6290(32.30)	13174(67.70)	
<b>Highest level of education</b>			P<0.001
No education	5956(17.30)	28535(82.70)	
Primary	4766(16.50)	24104(83.50)	
Secondary	6456(23.80)	20692(76.20)	
Higher	3941(68.20)	1841(31.80)	
<b>Age at first birth (child marriage or not)</b>			P<0.001
No	12458(75.70)	3994(24.30)	
Child marriage	8661(10.80)	71180(89.20)	

### 6.3 Predictors of Age of Respondents at First Birth

*Multiple linear regression was calculated using DID estimation using different control groups and models to estimate the age at first birth among BDHS sample population, as table 6.3 showed. The first column reports baseline results without including control variables and fixed effects. The last column adds a full set of controls including religion, wealth index, survey year and division fixed effects. A significant regression equation was found in model 1 [ $F(2, 95070) = 231.375, p < 0.001$ , with adjusted  $R^2$  of 0.005], in model 2 [ $F(7, 95063) = 976.237, p < 0.001$ , with adjusted  $R^2$  of 0.071], and in model 3 [ $F(7, 95056) = 119.273, p < 0.001$ , with adjusted  $R^2$  of 0.080] respectively.*

Results show that the selected predictors collectively can account for 0.5% of the variance in age at first birth in **model 1**, 7.1% in **model 2**, and 8% in **model 3** respectively.

**In model 1**, Exposure to FSSSP is a significant predictor of age at first cohabitation. People who were fully exposed to FSSSP had -0.065 unit less age at first birth ( $\beta=-0.065$ ,  $p<0.001$ ) than who were not fully exposed. Similarly, people with partially exposed to FSSSP had -0.037 unit less first birth years ( $\beta=-0.037$ ,  $p<0.001$ ) than who were not partially exposed. In contrast, exposure to FSSSP is a significant positive predictor for both model 2 and 3 for age at first cohabitation.

**In model 2**, People who born between 1980-82 and 1983 or later had lower age at first birth ( $\beta= -0.030$ ,  $-0.086$ ,  $p<0.001$ ) than people born in another period. Respondents current age was significant positive predictor of age at first birth ( $\beta=0.078$ ,  $p<0.001$ ). Wealth index is also a significant positive predictor of age at first birth ( $\beta=0.184$ ,  $p<0.001$ ).

**In model 3**, Similar to model 2 birth cohort is significant negative predictors and current age and wealth index are positive predictor here as well. People living in rural area had -0.042 unit lower age at first birth ( $\beta=-0.042$ ,  $p<0.001$ ) than people living in urban or other than rural area. Besides, Muslim people had -0.090 unit lower age at first birth ( $\beta=-0.090$ ,  $p<0.001$ ) than non-Muslim. Divisional living status had negative impact on age at first cohabitation.

**Table 6. 3: Age of respondents at first birth test of DID estimation using different control groups and model**

Independent Variable	Model I		Model II		Model III	
	Beta (S.Error)	P-Value	Beta (S.Error)	P-Value	Beta (S.Error)	P-Value
Fully exposed (treatment1)	-0.065(0.025)	<0.001	0.052(0.052)	<0.001	0.052(0.051)	<0.001
Partially exposed (treatment2)	-0.037(0.042)	<0.001	0.012(0.083)	0.058	0.012(0.083)	0.060
1983 and later (cohort1)			-0.086(0.054)	<0.001	-0.088(0.054)	<0.001
1980-1982 (cohort2)			-0.030(0.075)	<0.001	-0.03(0.074)	<0.001
Respondent's current age			0.078(0.002)	<0.001	0.078(0.002)	<0.001
Year of survey			0.117(0.006)	<0.001	0.115(0.006)	<0.001
Wealth index			0.184(0.000)	<0.001	0.177(0.000)	<0.001
Rural			-0.040(0.034)	<0.001	-0.042(0.034)	<0.001
Muslim			-0.093(0.033)	<0.001	-0.090(0.033)	<0.001
Barishal					-0.060(0.059)	<0.001
Chittagong					-0.086(0.049)	<0.001
Dhaka					-0.134(0.047)	<0.001
Khulna					-0.117(0.052)	<0.001
Mymensingh					-0.027(0.093)	<0.001
Rajshahi					-0.145(0.049)	<0.001
Rangpur					-0.096(0.059)	<0.001
<b>Model Summary</b>						
<b>R-squared</b>	0.005		0.072		0.080	
<b>Adjusted R-squared</b>	0.005		0.071		0.080	
<b>F Change</b>	231.375		976.237		119.273	
<b>df</b>	(2, 95070)		(7, 95063)		(7, 95056)	
<b>Significance</b>	P<0.001		P<0.001		P<0.001	

## 6.4 Predictors of Respondents' Age at First Birth

A binary logistic regression was performed (table 6.4) to create a model of the relationship between the predictor variables and age at first birth to test the hypotheses. The dependent variable 'age at first birth' was divided into two categories – no and yes (adolescent pregnancy).

According to this model, respondents who were partially exposed to FSSSP are more likely to have first child as adolescent pregnancy than respondents in other categories (OR = 1.198,  $p < 0.050$ ). Respondents of cohort1 (born in 1983 or later) are less likely to bear first child as adult compared to those born in another period. Result indicates that as the respondents' year of birth increases, they are more likely to bear first child as adolescent pregnancy (OR=1.028,  $p < 0.001$ ).

The results also show that those who are non-Muslim (OR=0.552,  $p < 0.001$ ) more likely to bear first child as adult other than adolescent pregnancy than Muslim religions people. People living in rural areas (OR=1.398,  $p < 0.001$ ) are more likely to bear first child in adolescent period than those who reside in urban areas. In contrast, respondents living in Khulna, Rajshahi, and Rangpur are more likely to have first child as adolescent pregnancy than people living in Barisal, while people living in Chittagong, Dhaka, and Sylhet are more likely to have first child in adult years. People who have exposure to family planning through TV and Newspaper are more likely to have their first birth in adult years other than adolescent pregnancy.

The model summary indicates that this model is accurate in predicting 77.7% of cases. The fit between the model containing only the intercept and data improved with the addition of the predictor variables, Nagelkerke  $R^2 = .079$ ,  $p < 0.001$ . As the Nagelkerke R-Square shows that, selected predictors collectively explain 7.9% of the variation of the dependent variable of age at first birth of the respondents.

**Table 6. 4: Factors affecting age at first birth among BDHS sample population in Bangladesh using binary logistic regression**

Variables	Odds Ratio (95% C.I)	P-value
<b>Exposure level to FSSSP</b>		
Unexposed	<b>RC</b>	
Fully exposed cohort	1.078(0.995,1.167)	0.065
Partially exposed	1.198(1.058,1.356)	<0.004
<b>Birth cohort of the respondents</b>		
Before 1980	<b>RC</b>	
1983 and later	1.099(1.010,1.196)	<0.029
1980-1982	0.92(0.827,1.024)	0.129
<b>Year of the Survey</b>		
1994	<b>RC</b>	
1996	0.675(0.621,0.734)	<0.001
1999	0.692(0.636,0.753)	<0.001
2004	0.485(0.446,0.528)	<0.001
2007	0.374(0.344,0.406)	<0.001
2011	0.339(0.312,0.369)	<0.001
2014	0.269(0.247,0.293)	<0.001
<b>Year of birth</b>	1.028(1.025,1.031)	<0.001
<b>Division of the respondents</b>		
Barisal	<b>RC</b>	
Chittagong	0.882(0.817,0.953)	<0.001

Dhaka	0.892(0.828,0.960)	<0.002
Khulna	1.168(1.074,1.271)	<0.001
Mymensingh	0.966(0.835,1.118)	0.644
Rajshahi	1.172(1.082,1.268)	<0.001
Rangpur	1.442(1.309,1.588)	<0.001
Sylhet	0.562(0.514,0.615)	<0.001
<b>Type of place of residence</b>		
Urban	<b>RC</b>	
Rural	1.398(1.330,1.469)	<0.001
<b>Religion of the respondents (Muslim)</b>		
Yes	<b>RC</b>	
No	0.552(0.525,0.579)	<0.001
<b>Exposure to family planning on radio within last few months</b>		
No	<b>RC</b>	
Yes	1.011(0.950,1.076)	0.730
<b>Exposure to family planning on TV within last few months</b>		
No	<b>RC</b>	
Yes	0.75(0.720,0.782)	<0.001
<b>Exposure to family planning in newspaper within last few months</b>		
No	<b>RC</b>	
Yes	0.385(0.354,0.420)	<0.001
<b>Model Summary</b>		
<b>Omnibus Tests of Model Coefficients</b>	P<0.001	
<b>Nagelkarke R<sup>2</sup></b>	0.079	
<b>Predicted correct percentage (%)</b>	77.7	

## Chapter Seven: Children Ever Born & Son Preference

### 7.0 Introduction

This section contains findings on fertility outcomes and preferences of the informants of the study. Respondents' exposure to the female secondary school stipend program (FSSSP) as well as their socioeconomic and demographic characteristics are used to present findings on the number of surviving children of the respondents, and their preference for sons.

### 7.1 Summary Statistics of Respondent's Fertility Outcomes & Preferences

**Table 7.1** indicates that 58.6% of study respondents had up to two living children and 41.4% had more than two children. When their perception of the ideal number of children was investigated, it was discovered that most respondents believe that two children are the optimal number. However, some of them believe that having more than two children is optimal. Nearly 80% of the respondents had a perception of the ideal number of male and girl children, while the remainder reported having no such perception. Moreover, the majority of participants (nearly 85%) do not have a preference for sons, according to the obtained statistics.

**Table 7. 1: Summary Statistics of Respondent's Fertility Outcomes & Preferences**

Variable	Frequency	Valid percentage
<b>Number of living children</b>		
Up to two children	62575	58.6
More than two children	44286	41.4
<b>The ideal number of children</b>		
Up to two children	76524	73.7
More than two children	27255	26.3
<b>The ideal number of boys</b>		
None	18950	18.2
Yes	84952	81.8
<b>The ideal number of girls</b>		
None	20273	19.5
Yes	83633	80.5
<b>Son preference</b>		
Does not have a preference	88732	84.9
Have preference	15746	15.1

### 7.2 Effect of the Female Secondary Stipend Program on the Children Ever Born among Married Females

The results of the bivariate analysis revealed that respondents' number of living children is significantly associated with FSSSP exposure level, respondents' birth cohort, year of the survey, respondents' age, type of place of residence, division, respondents' highest education level, religion, economic status, respondents' exposure to radio, TV and newspaper within the last few months, and respondents' age at first marriage and first birth (**Table 7.2**).

Most respondents who were fully exposed to FSSSP (85.4%) had two or fewer children, while more than half of respondents who were not exposed to FSSSP at all had more than two children. The results

regarding the respondents' birth cohort indicate that 86.4% of respondents from the younger birth cohort (those born in 1983 or later) reported having up to two surviving children, while 60% of respondents born before 1980 reported having more than two children. The percentage of respondents with two children or fewer increased with each successive survey year, from 51% in 1994 to 64.2% in 2017, while the percentage of respondents with more than two children decreased, from 49% in 1994 to 35.4% in 2017.

More than 70% of the older respondents (40 years or older) reported having more than two children, whereas the majority of younger respondents (age group 15–24 years) were seen having two children or less in the survey (90% or higher). Compared to respondents who reside in rural regions and have lesser educational levels, the majority of urban respondents (65.8%) and those with higher degrees (89%) reported having two or fewer children. The results show that most respondents (64.5%) who lived in Khulna had up to two children, whereas most respondents (44.4%) who lived in Barisal reported having more than two children. Two groups were created to explore the influence of religious perspectives on reproductive outcomes, one for Muslims and one for adherents of other religions. The majority of Muslim respondents (42.1%) had more than two children, compared to members of other religions (36%). Furthermore, 65.7% of those in the richest wealth quintile reported having two or fewer children. During the study, however, the majority of respondents (47.1%) in the poorest wealth quintile were perceived to have more than two children.

The majority of the respondents who were exposed to family planning on the radio, TV, and newspapers had two or fewer children, according to research on the effects of exposure to family planning through various forms of media on respondents' reproductive outcomes. A total of 60.7%, 67.9%, and 76.4% of respondents reported having two or fewer children and having heard about family planning on the radio, TV, or newspaper. Furthermore, compared to respondents who were married before the age of 18, those who were married for the first time at that age or older reported having two children or less in the majority (77.1%) of cases. Similarly, it was discovered that 66.2% of respondents who became mothers for the first time at age 19 or later had two kids or less. However, the majority (51.7%) of respondents who were under 19 when they had their first child had more than two children.

**Table 7. 2: Percentage Distribution of Respondent’s Number of Living Children by Exposure Level to FSSSP and Other Socio-Economic Characteristics**

	Number of Living Children		P-value
	Up to two children	More than two children	
<b>Variable</b>			p<0.001
Fully exposed	23013 (85.4)	3944 (14.6)	
Partially exposed	4431 (63.0)	2598 (37.0)	
Unexposed	35130 (48.2)	37744 (51.8)	
Total (N=106860)	62574 (58.6)	44286 (41.4)	
<b>The birth cohort of the respondents</b>			p<0.001
1983 and later	31643 (86.4)	4964 (13.6)	
1980-1982	6050 (64.7)	3307 (35.3)	
Before 1980	24882 (40.9)	36015 (59.1)	
Total (N=106861)	62575 (58.6)	44286 (41.4)	
<b>Year of the survey</b>			p<0.001
1994	4831 (50.9)	4664 (49.1)	
1996	4696 (52.3)	4286 (47.7)	
1999	5582 (53.9)	4776 (46.1)	
2004	6144 (54.4)	5146 (45.6)	

	Number of Living Children		P-value
	Up to two children	More than two children	
2007	6356 (57.8)	4640 (42.2)	
2011	10756 (60.6)	6993 (39.4)	
2014	11292 (63.2)	6571 (36.8)	
2017	12917 (64.2)	7210 (35.8)	
Total (N=106860)	62574 (58.6)	44286 (41.4)	
<b>Age in 5-year groups</b>			p<0.001
15-19	13134 (99.7)	35 (0.3)	
20-24	18398 (90.3)	1968 (9.7)	
25-29	13330 (66.0)	6869 (34.0)	
30-34	7621 (44.6)	9481 (55.4)	
35-39	4614 (32.7)	9508 (67.3)	
40-44	3210 (27.3)	8561 (72.7)	
45-49	2268 (22.4)	7864 (77.6)	
Total (N=106861)	62575 (58.6)	44286 (41.4)	
<b>Type of place of residence</b>			p<0.001
Urban	16216 (65.8)	8412 (34.2)	
Rural	46359 (56.4)	35873 (43.6)	
Total (N=106860)	62575 (58.6)	44285 (41.4)	
<b>Division of the respondents</b>			p<0.001
Barisal	3603 (55.6)	2874 (44.4)	
Chittagong	10580 (51.7)	9867 (48.3)	
Dhaka	19605 (59.4)	13379 (40.6)	
Khulna	8143 (64.5)	4482 (35.5)	
Mymensingh	937 (60.6)	609 (39.4)	
Rajshahi	12521 (61.5)	7852 (38.5)	
Rangpur	4162 (64.3)	2312 (35.7)	
Sylhet	3024 (51.0)	2910 (49.0)	
Total (N=106860)	62575 (58.6)	44285 (41.4)	
<b>Highest educational level</b>			p<0.001
No education	14915 (41.0)	21478 (59.0)	
Primary	16802 (53.8)	14454 (46.2)	
Secondary	24196 (76.3)	7525 (23.7)	
Higher	6661 (89.0)	827 (11.0)	
Total (N=106858)	62574 (58.6)	44284 (41.4)	
<b>The religion of the respondents</b>			p<0.001
Others	6994 (64.0)	3935 (36.0)	
Islam	55581 (57.9)	40350 (42.1)	
Total (N=106860)	62575 (58.6)	44285 (41.4)	
<b>Wealth index combined</b>			p<0.001
Poorest	10880 (52.9)	9692 (47.1)	
Poorer	11731 (55.8)	9299 (44.2)	
Middle	12000 (57.7)	8803 (42.3)	
Richer	12775 (60.6)	8289 (39.4)	
Richest	14479 (65.7)	7546 (34.3)	
Total (N=105494)	61865 (58.6)	43629 (41.4)	
<b>Exposure to family planning on the radio within the last few months</b>			p<0.001

	Number of Living Children		P-value
	Up to two children	More than two children	
No	53150 (58.2)	38160 (41.8)	
Yes	9007 (60.7)	5843 (39.3)	
Total (N=106160)	62157 (58.6)	44003 (41.4)	
<b>Exposure to family planning on TV within the last few months</b>			p<0.001
No	45560 (55.7)	36162 (44.3)	
Yes	16602 (67.9)	7844 (32.1)	
Total (N=106168)	62162 (58.6)	44006 (41.4)	
<b>Exposure to family planning in newspapers within the last few months</b>			p<0.001
No	54856 (58.7)	38575 (42.3)	
Yes	2475 (76.4)	765 (23.6)	
Total (N=96671)	57331 (59.3)	39340 (40.7)	
<b>Age at first marriage</b>			p<0.001
18 years or above	15494 (77.1)	4612 (22.9)	
Below 18 years	47081 (54.3)	39673 (45.7)	
Total (N=106860)	62575 (58.6)	44285 (41.4)	
<b>Age at first birth</b>			p<0.001
19 years or above	20221 (66.2)	10328 (33.8)	
Below 19 years	31787 (48.3)	33957 (51.7)	
Total (N=96293)	52008 (54.0)	44285 (46.0)	

### 7.3 Effect of the Female Secondary Stipend Program on Son Preference among Married Females

According to the findings of the bivariate analysis, respondents' preference for son is strongly related to their level of FSSSP exposure, their birth cohort, the survey year, their age, their type of place of residence, their division, their highest level of education, their economic status, their recent exposure to radio, TV, and newspapers, as well as their age at first marriage and their first child's birth (**Table 7.3**).

The majority of respondents (91.1%) who were completely exposed to FSSSP did not. The findings also reveal that 91.7% of respondents from the younger birth cohort (those born in 1983 or later) reported having no preference for a son, whereas 19.4% of respondents born before 1980 reported having a preference for a son. With each subsequent survey year, the proportion of respondents who said they had no preference for a son rose from 79.2% in 1994 to 89.6% in 2017, while the percentage of respondents who said they did have a desire for a son fell, from 20.8% in 1994 to 15% in 2017.

In the study, over 20% of older respondents (40 years or older) stated a desire for a son, but a large proportion of younger respondents (nearly 90%) of the age range 15-19 years were perceived as having no preference for a son. Compared to respondents from rural areas and with lower educational levels, the majority of urban respondents (89%) and those with higher degrees (93%) indicated no preference for a son. The findings suggest that the majority of respondents (91.1%) in Rangpur had no choice for a son, whereas the majority of respondents (18.6%) in Chittagong had a preference for a

son. Furthermore, 87.3% of individuals in the wealthiest wealth quintile said they did not desire a son. Respondents who stated a preference for a son, on the other hand, are largely from the poorest wealth quintile (16.8%). However, the vast majority of respondents (almost 85%) from Islam and other religions expressed no desire to have a son.

In total, 90.4% and 88.1 % of respondents said they would not prefer a son who had learned about family planning from the news or watching television. Surprisingly, the percentage of respondents who had radio exposure to family planning and also had a son preference was higher than the percentage of respondents who had no such exposure. Additionally, compared to respondents who were married before the age of 18, those who were married for the first time at that age or older reported not favoring a son in the majority of situations (86.1%). Further research revealed that 86.1% of respondents who became mothers for the first time at age 19 or later had no preference for sons. The proportion of respondents who were under 19 when they had their first child and preferred not to have a boy, however, is a little lower.

**Table 7. 3: Percentage Distribution of Respondent’s Son Preference by Exposure Level to FSSSP and Other Socio-Economic Characteristics**

Variable	Son preference		P-value
	Does not have a preference	Have preference	
<b>Exposure level to FSSSP</b>			p<0.001
Fully exposed	24054 (91.1)	2358 (8.9)	
Partially exposed	5907 (86.1)	957 (13.9)	
Unexposed	58771 (82.5)	12432 (17.5)	
Total (N=104479)	88732 (84.9)	15747 (15.1)	
<b>The birth cohort of the respondents</b>			p<0.001
1983 and later	32830 (91.7)	2975 (8.3)	
1980-1982	7924 (86.9)	1198 (13.1)	
Before 1980	47978 (80.6)	11574 (19.4)	
Total (N=104479)	88732 (84.9)	15747 (15.1)	
<b>Year of the survey</b>			p<0.001
1994	6993 (74.7)	2363 (25.3)	
1996	6968 (78.9)	1862 (21.1)	
1999	7973 (79.2)	2094 (20.8)	
2004	9001 (81.4)	2055 (18.6)	
2007	9249 (85.8)	1532 (14.2)	
2011	15525 (89.1)	1906 (10.9)	
2014	15496 (89.1)	1896 (10.9)	
2017	17526 (89.6)	2037 (10.4)	
Total (N=104476)	88731 (84.9)	15745 (15.1)	
<b>Age in 5-year groups</b>			p<0.001
15-19	11679 (90.2)	1263 (9.8)	
20-24	17566 (88.2)	2361 (11.8)	
25-29	16972 (86.1)	2739 (13.9)	
30-34	14031 (84.0)	2667 (16.0)	
35-39	11278 (81.7)	2525 (18.3)	
40-44	9288 (80.8)	2201 (19.2)	

Variable	Son preference		P-value
	Does not have a preference	Have preference	
45-49	7917 (79.9)	1989 (20.1)	
Total (N=104476)	88731 (84.9)	15745 (15.1)	
<b>Type of place of residence</b>			p<0.001
Urban	21329 (89.0)	2643 (11.0)	
Rural	67403 (83.7)	13104 (16.3)	
Total (N=104479)	88732 (84.9)	15747 (15.1)	
<b>Division of the respondents</b>			p<0.001
Barisal	5227 (82.2)	1130 (17.8)	
Chittagong	16229 (81.4)	3720 (18.6)	
Dhaka	27305 (84.6)	4964 (15.4)	
Khulna	10977 (88.7)	1404 (11.3)	
Mymensingh	1337 (89.1)	164 (10.9)	
Rajshahi	17072 (85.8)	2819 (14.2)	
Rangpur	5765 (91.1)	565 (8.9)	
Sylhet	4819 (83.1)	980 (16.9)	
Total (N=104477)	88731 (84.9)	15746 (15.1)	
<b>Highest educational level</b>			p<0.001
No education	28060 (78.9)	7502 (21.1)	
Primary	25835 (84.4)	4778 (15.6)	
Secondary	28093 (90.5)	2964 (9.5)	
Higher	6741 (93.1)	502 (6.9)	
Total (N=104475)	88729 (84.9)	15746 (15.1)	
<b>The religion of the respondents</b>			P=0.292
Others	9075 (84.6)	1654 (15.4)	
Islam	79656 (85.0)	14092 (15.0)	
Total (N=104477)	88731 (84.9)	15746 (15.1)	
<b>Wealth index combined</b>			p<0.001
Poorest	16727 (83.2)	3388 (16.8)	
Poorer	17291 (83.9)	3327 (16.1)	
Middle	17288 (85.0)	3056 (15.0)	
Richer	17668 (85.7)	2948 (14.3)	
Richest	18714 (87.3)	2728 (12.7)	
Total (N=103135)	87688 (85.0)	15447 (15.0)	
<b>Exposure to family planning on the radio within the last few months</b>			p<0.001
No	76334 (85.6)	12883 (14.4)	
Yes	11852 (81.4)	2717 (18.6)	
Total (N=103786)	88186 (85.0)	15600 (15.0)	
<b>Exposure to family planning on TV within the last few months</b>			p<0.001
No	67135 (84.0)	12759 (16.0)	
Yes	21058 (88.1)	2841 (11.9)	
Total (N=103793)	88193 (85.0)	15600 (15.0)	

Variable	Son preference		P-value
	Does not have a preference	Have preference	
<b>Exposure to family planning in newspapers within the last few months</b>			p<0.001
No	78374 (85.8)	12935 (14.2)	
Yes	2826 (90.4)	301 (9.6)	
Total (N=94436)	81200 (86.0)	13236 (14.0)	
<b>Age at first marriage</b>			p<0.001
18 years or above	17407 (86.1)	2218 (13.9)	
Below 18 years	71325 (83.1)	13528 (16.9)	
Total (N=104478)	88732 (84.0)	15746 (16.0)	
<b>Age at first birth</b>			p<0.001
19 years or above	25671 (86.1)	4140 (13.9)	
Below 19 years	53411 (83.1)	10883 (16.9)	
Total (N=94105)	79082 (84.0)	15023 (16.0)	

## 7.4 Predictors of Respondents' Fertility Outcomes and Preferences

The results of binary logistic regression on the respondents' number of living children and son preference are shown in **Table 7.4**. The model summary shows that the Omnibus tests of model coefficients for the dependent variables are  $p < 0.001$ , indicating that the models are well-fitting and capable of accurately predicting 76.9% of the correct cases for the variable number of living children and 86% of the correct cases for the variable son preference.

When compared to respondents from the oldest birth cohort (those born before 1980), respondents from the 1983 and later birth cohort ( $OR = 0.765$ ,  $p < 0.001$ ) are less likely to have more than two living children, while respondents from the 1980–1982 birth cohort ( $OR = 1.252$ ,  $p < 0.001$ ) are more likely to have more children. Other two significant predictors of this model are the survey year and the birth year of the respondents. The year of the survey and the respondents' birth year are the other two important factors in this model. The results show that respondents from subsequent survey years were more likely than respondents from the survey year 1996 to have more than two children. On the other side, the likelihood that a respondent would have more than two children decreases as their birth year rises ( $OR = 0.856$ ,  $p < 0.001$ ).

Respondents in Chittagong ( $OR = 1.558$ ,  $p < 0.001$ ), Mymensingh ( $OR = 1.160$ ,  $p = 0.50$ ), and Sylhet ( $OR = 1.455$ ,  $p < 0.001$ ) are more likely to have more than two children, whereas respondents in Khulna ( $OR = 0.560$ ,  $p < 0.001$ ), Rajshahi ( $OR = 0.651$ ,  $p < 0.001$ ), and Rangpur ( $OR = 0.871$ ,  $p < 0.001$ ) are less likely to have more than two children than respondents from Barisal. The findings also imply that respondents' location of residence is a substantial predictor of their reproductive outcomes. Individuals living in rural areas are more likely than urban residents to have more children ( $OR = 1.676$ ,  $p < 0.001$ ). Furthermore, when compared to Muslims, non-Muslims are less likely to desire to have more than two children ( $OR = 0.491$ ,  $p < 0.001$ ).

While examining the relationship between the respondents' number of living children and their exposure to family planning through various media, it was discovered that respondents who are exposed to family planning through radio ( $OR = 0.906$ ,  $p < 0.001$ ), television ( $OR = 0.706$ ,  $p < 0.001$ ), and newspapers ( $OR = 0.454$ ,  $p < 0.001$ ) are less likely to have more than two children than respondents who are not exposed to family planning through these media.

Moreover, respondents from the 1983 and later birth cohorts (OR=0.765,  $p<0.001$ ) are less likely to desire sons than those from the oldest birth cohort (those born before 1980). Chittagong respondents (OR=1.146,  $p=0.001$ ) are more likely to prefer a son, whereas respondents in Dhaka (OR=0.918,  $p=0.035$ ), Khulna (OR=0.600,  $p<0.001$ ), Rajshahi (OR=0.704,  $p<0.001$ ), and Rangpur (OR=0.677,  $p<0.001$ ) are less likely to prefer a son than Barisal respondents. The data also suggest that respondents' dwelling location is a significant determinant of their reproductive desires. Individuals living in rural areas are more likely to choose sons than urban residents (OR=1.358,  $p<0.001$ ).

Examining the relationship between respondents' son preference and their exposure to family planning through various media, it was found that respondents who are exposed to family planning through television (OR=0.765,  $p<0.001$ ) and newspapers (OR=0.718,  $p<0.001$ ) are less likely to desire a son than respondents who are not exposed to family planning through these media.

**Table 7. 4: Factors Affecting Respondent's Fertility Outcomes and Preferences Using Binary Logistic Regression**

Variable	Number of living children		Son preference	
	Odds ratio (95% C.I.)	P-value	Odds ratio (95% C.I.)	P-value
<b>Exposure level to FSSSP</b>				
Unexposed	<b>RC</b>		<b>RC</b>	
Fully exposed	0.918 (0.839, 1.004)	0.062	1.018 (0.911, 1.136)	0.755
Partially exposed	0.937 (0.833, 1.054)	0.276	0.943 (0.802, 1.109)	0.480
<b>The birth cohort of the respondents</b>				
Before 1980	<b>RC</b>		<b>RC</b>	
1983 and later	0.765 (0.696, 0.841)	<0.001	0.740 (0.660, 0.830)	<0.001
Before 1980-1982	1.252 (1.125, 1.394)	<0.001	1.013 (0.873, 1.176)	0.860
<b>Year of the Survey</b>				
1996	<b>RC</b>		<b>RC</b>	
1999	1.241 (1.156, 1.332)	<0.001	1.012 (1.173, 1.332)	1.089
2004	2.316 (2.157, 2.486)	<0.001	1.019 (1.182, 2.486)	1.097
2007	2.810 (2.610, 3.025)	<0.001	0.790 (0.928, 3.025)	0.856
2011	4.654 (4.331, 5.001)	<0.001	0.673 (0.789, 5.001)	0.729
2014	6.025 (5.596, 6.487)	<0.001	0.717 (0.846, 6.487)	0.779
2017	8.843 (8.195, 9.542)	<0.001	0.749 (0.887, 9.542)	0.815
<b>Year of birth</b>	0.856 (0.853, 0.859)	<0.001	0.973 (0.979, 0.859)	0.976
<b>Division of the respondents</b>				
Barisal	<b>RC</b>		<b>RC</b>	
Chittagong	1.558 (1.446, 1.678)	<0.001	1.146 (1.056, 1.243)	0.001
Dhaka	0.950 (0.885, 1.021)	0.162	0.918 (0.849, 0.994)	0.035
Khulna	0.560 (0.517, 0.607)	<0.001	0.600 (0.546, 0.659)	<0.001
Mymensingh	1.160 (1.000, 1.345)	0.050	0.887 (0.738, 1.066)	0.202
Rajshahi	0.651 (0.604, 0.702)	<0.001	0.704 (0.647, 0.765)	<0.001
Rangpur	0.817 (0.745, 0.896)	<0.001	0.677 (0.603, 0.759)	<0.001
Sylhet	1.455 (1.328, 1.593)	<0.001	1.044 (0.944, 1.154)	0.401
<b>Type of place of residence</b>				
Urban	<b>RC</b>		<b>RC</b>	
Rural	1.676 (1.594, 1.762)	<0.001	1.358 (1.276, 1.445)	<0.001

Variable	Number of living children		Son preference	
	Odds ratio (95% C.I.)	P-value	Odds ratio (95% C.I.)	P-value
<b>The religion of the respondents</b>				
Islam	<b>RC</b>		<b>RC</b>	
Others	0.491 (0.465, 0.519)	<0.001	0.962 (0.904, 1.024)	0.224
<b>Exposure to family planning on the radio within the last few months</b>				
No	<b>RC</b>		<b>RC</b>	
Yes	0.906 (0.856, 0.959)	0.001	0.999 (0.938, 1.064)	0.978
<b>Exposure to family planning on TV within the last few months</b>				
No	<b>RC</b>		<b>RC</b>	
Yes	0.706 (0.677, 0.737)	<0.001	0.765 (0.726, 0.805)	<0.001
<b>Exposure to family planning in newspapers within the last few months</b>				
No	<b>RC</b>		<b>RC</b>	
Yes	0.454 (0.411, 0.502)	<0.001	0.718 (0.632, 0.815)	<0.001
<b>Model Summary</b>				
<b>Omnibus Tests of Model Coefficients</b>	P<0.001		P<0.001	
<b>Nagelkarke R<sup>2</sup></b>	0.444		0.063	
<b>Predicted correct percentage (%)</b>	76.9		86.0	

## Chapter Eight: Use of Contraception

### 8.0 Introduction

This chapter comprises findings regarding the respondents' use of modern contraceptives. On the basis of respondents' exposure to the female secondary school stipend program (FSSSP) and their socioeconomic and demographic characteristics, findings regarding their current use of modern contraception methods are presented.

### 8.1 Summary Statistics of Respondent's Contraception Usage

The frequency distribution of married women who used modern methods of contraception during the survey is shown in **Table 8.1**. According to the data, only 45.5% of research participants used a contemporary or modern contraceptive, while more than 50% of the women did not use any modern contraceptives at all.

**Table 8. 1: Summary Statistics of Respondent's Contraception Usage**

Variable	Frequency	Valid percentage
<b>Currently using modern contraception method</b>		
No	58261	54.5
Yes	48599	45.5

### 8.2 Effect of the Female Secondary Stipend Program on Contraceptive Use among Married Females

The results of the bivariate analysis (**Table 8.2**) show that respondents' current use of modern contraceptives is significantly correlated with their level of FSSSP exposure, birth cohort, survey year, age, type of residence, division, their obtained highest level of education, religion, recent exposure to radio, TV, and newspapers, as well as their age at first marriage and the birth of their first child.

The majority of partially exposed respondents (51%) to the FSSSP reported using modern contraception methods during the span of the study, whereas 56.3% of unexposed participants reported not using any modern contraceptives. The majority of respondents who reported using modern contraception methods were born between 1980 and 1982, according to the results. Moreover, the majority of respondents born before 1980 (58.5%) reported not using any contemporary contraceptives during the research. In terms of survey years, respondents in the 2014 survey reported the highest (51%) utilization of the latest contraceptives. However, the majority of the 1994 survey participants (65.5%) were not using contraception at the time.

More than 75% of older respondents (those between the ages of 45 and 49) said they did not use contemporary contraception. However, it was estimated that roughly 55% of respondents in the 30- to 34-year-old age group used the most recent methods of contraception. Most urban respondents (49.7%) and those with higher degrees (50%) acknowledged using contemporary contraceptive techniques compared to respondents from rural regions and those with lower educational levels. The results indicate that most respondents in Rangpur (57.5%) had been utilizing contemporary methods of contraception, whereas most respondents in Sylhet (70%) chose not to use any modern methods.

In addition, compared to respondents who practiced any other religion, more Muslims reported not utilizing contemporary contraception.

Approximately 51% of the respondents who were exposed to family planning through newspapers favored modern contraception. However, more than half of the participants exposed to family planning through radio and television reported not using modern contraception. In addition, the findings suggest that the prevalence of modern contraception is higher among women who were married before the age of 18 and gave birth before the age of 19.

**Table 8. 2: Percentage Distribution of Respondent’s Contraception Usage by Exposure Level to FSSSP and Other Socio-Economic Characteristics**

Variable	Currently using modern contraception method		P-value
	No	Yes	
<b>Exposure level to FSSSP</b>			p<0.001
Fully exposed	13816 (51.3)	13141 (48.7)	
Partially exposed	3446 (49.0)	3583 (51.0)	
Unexposed	40999 (56.3)	31876 (43.7)	
Total (N=106861)	58261 (54.5)	48600 (45.5)	
<b>The birth cohort of the respondents</b>			p<0.001
1983 and later	18132 (49.5)	18475 (50.5)	
1980-1982	4492 (48.0)	4865 (52.0)	
Before 1980	35637 (58.5)	25259 (41.5)	
Total (N=106860)	58261 (54.5)	48599 (45.5)	
<b>Year of the survey</b>			p<0.001
1994	6216 (65.5)	3279 (34.5)	
1996	5434 (60.5)	3548 (39.5)	
1999	6116 (59.0)	4242 (41.0)	
2004	6269 (55.5)	5021 (44.5)	
2007	6112 (55.6)	4884 (44.4)	
2011	9090 (51.2)	8659 (48.8)	
2014	8751 (49.0)	9112 (51.0)	
2017	10274 (51.0)	9853 (49.0)	
Total (N=106860)	58262 (54.5)	48598 (45.5)	
<b>Age in 5-year groups</b>			p<0.001
15-19	8460 (64.2)	4709 (35.8)	
20-24	11100 (54.5)	9266 (45.5)	
25-29	9571 (47.4)	10627 (52.6)	
30-34	7621 (44.6)	9482 (55.4)	
35-39	6758 (47.9)	7364 (52.1)	
40-44	7121 (60.5)	4650 (39.5)	
45-49	7630 (75.3)	2501 (24.7)	
Total (N=106860)	58261 (54.5)	48599 (45.5)	
<b>Type of place of residence</b>			p<0.001
Urban	12378 (50.3)	12250 (49.7)	
Rural	45883 (55.8)	36349 (44.2)	

Variable	Currently using modern contraception method		P-value
	No	Yes	
Total (N=106860)	58261 (54.5)	48599 (45.5)	
<b>Division of the respondents</b>			p<0.001
Barisal	3520 (54.3)	2958 (45.7)	
Chittagong	12957 (63.4)	7490 (36.6)	
Dhaka	17954 (54.4)	15030 (45.6)	
Khulna	6414 (50.8)	6210 (49.2)	
Mymensingh	736 (47.6)	809 (52.4)	
Rajshahi	9773 (48.0)	10600 (52.0)	
Rangpur	2753 (42.5)	3722 (57.5)	
Sylhet	4154 (70.0)	1780 (30.0)	
Total (N=106860)	58261 (54.5)	48599 (45.5)	
<b>Highest educational level</b>			p<0.001
No education	21753 (59.8)	14640 (40.2)	
Primary	16704 (53.4)	14551 (46.6)	
Secondary	16056 (50.6)	15665 (49.4)	
Higher	3746 (50.0)	3742 (50.0)	
Total (N=106857)	58259 (54.5)	48598 (45.5)	
<b>The religion of the respondents</b>			p<0.001
Others	5532 (50.6)	5397 (49.4)	
Islam	52729 (55.0)	43203 (45.0)	
Total (N=106861)	58261 (54.5)	48600 (45.5)	
<b>Wealth index combined</b>			P=0.412
Poorest	11136 (54.1)	9435 (45.9)	
Poorer	11382 (54.1)	9648 (45.9)	
Middle	11295 (54.3)	9509 (45.7)	
Richer	11486 (54.5)	9577 (45.5)	
Richest	12098 (54.9)	9927 (45.1)	
Total (N=105493)	57397 (54.4)	48096 (45.6)	
<b>Exposure to family planning on the radio within the last few months</b>			p<0.001
No	49338 (54.0)	41972 (46.0)	
Yes	8284 (55.8)	6567 (44.2)	
Total (N=106161)	57622 (54.3)	48539 (45.7)	
<b>Exposure to family planning on TV within the last few months</b>			p<0.001
No	45376 (55.5)	36346 (44.5)	
Yes	12250 (50.1)	12196 (49.9)	
Total (N=106168)	57626 (54.3)	48542 (45.7)	
<b>Exposure to family planning in newspapers within the last few months</b>			p<0.001
No	49819 (53.3)	43612 (46.7)	
Yes	1588 (49.0)	1652 (51.0)	
Total (N=96671)	51407 (53.2)	45264 (46.8)	

Variable	Currently using modern contraception method		P-value
	No	Yes	
<b>Age at first marriage</b>			p<0.001
18 years or above	11276 (56.1)	8829 (43.9)	
Below 18 years	46985 (54.2)	39770 (45.8)	
Total (N=106860)	58261 (54.5)	48599 (45.5)	
<b>Age at first birth</b>			p<0.001
19 years or above	16415 (53.7)	14134 (46.3)	
Below 19 years	32982 (50.2)	32763 (49.8)	
Total (N=96294)	49397 (51.3)	46897 (48.7)	

### 8.3 Predictors of Respondents' Contraception Use

**Table 8.3** displays the outcomes of binary logistic regression of the respondents' contraception usage. The model summary shows that the Omnibus tests of model coefficients are  $p < 0.001$ , which suggests that the model is a good fit and capable of predicting 57.1% of the correct cases accurately.

According to this model, respondents who are fully exposed to FSSSP are less likely to use modern contraceptive methods ( $OR = 0.803$ ,  $p < 0.001$ ) compared to the respondents of the unexposed category. Besides, the respondents from 1983 and later ( $OR = 1.140$ ,  $p < 0.001$ ) & 1980-1982 ( $OR = 1.279$ ,  $p < 0.001$ ) birth cohorts are more likely to modern contraception than the respondents from the oldest (before 1980) birth cohort. Other two significant predictors of this model are the survey year and the birth year of the respondents. The findings reveal that the respondents of the survey year 2011 ( $OR = 1.113$ ,  $p < 0.001$ ) and the survey year 2017 ( $OR = 1.014$ ,  $p < 0.001$ ) were more likely to use the latest contraceptives compared to the participants of the survey year 1996, whereas the informants of the year 1999 ( $OR = 0.908$ ,  $p = 0.002$ ) were less likely to prefer modern methods. However, as the respondent's birth year increases, they are more likely to use new techniques ( $OR = 1.014$ ,  $p < 0.001$ ).

Respondents living in Khulna ( $OR = 1.135$ ,  $p < 0.001$ ), Mymensingh ( $OR = 1.175$ ,  $p = 0.007$ ), Rajshahi ( $OR = 1.366$ ,  $p < 0.001$ ) and Rangpur ( $OR = 1.366$ ,  $p < 0.001$ ) have a higher possibility of using modern contraception and the respondents living in Chittagong ( $OR = 0.692$ ,  $p < 0.001$ ) and Sylhet ( $OR = 0.479$ ,  $p < 0.001$ ) have a lower possibility of using modern methods compared the respondents living in Barisal. Results also suggest that the place of residence is another strong predictor of the respondents' contraception use. Individuals living in rural areas are less likely to use modern contraceptives than the residents of urban areas ( $OR = 0.944$ ,  $p = 0.010$ ). Moreover, believers of other religions are more likely to prefer the latest contraception compared to Muslims ( $OR = 1.270$ ,  $p < 0.001$ ).

While investigating the association between the respondents' contraception use and their exposure to family planning through different media, it was seen that respondents having exposure to family planning through radio ( $OR = 1.078$ ,  $p < 0.001$ ), TV ( $OR = 1.194$ ,  $p < 0.001$ ) and newspapers ( $OR = 1.084$ ,  $p < 0.001$ ) have higher possibility of using modern methods of contraception compared to the respondents who do not have that kind of exposures.

**Table 8. 3: Factors Affecting Respondent’s Usage of Contraception Using Binary Logistic Regression**

Variable	Odds ratio (95% C.I.)	P-value
<b>Exposure level to FSSSP</b>		
Unexposed	<b>RC</b>	
Fully exposed	0.803 (0.754, 0.856)	<0.001
Partially exposed	0.909 (0.819, 1.009)	0.072
<b>The birth cohort of the respondents</b>		
Before 1980	<b>RC</b>	
1983 and later	1.140 (1.063, 1.222)	<0.001
1980-1982	1.279 (1.164, 1.405)	<0.001
<b>Year of the Survey</b>		
1996	<b>RC</b>	
1999	0.908 (0.855, 0.964)	0.002
2004	0.993 (0.936, 1.054)	0.826
2007	0.978 (0.920, 1.040)	0.475
2011	1.113 (1.048, 1.181)	<0.001
2014	1.214 (1.142, 1.291)	<0.001
2017	1.047 (0.984, 1.115)	0.150
<b>Year of birth</b>	1.014 (1.012, 1.017)	<0.001
<b>Division of the respondents</b>		
Barisal	<b>RC</b>	
Chittagong	0.692 (0.652, 0.735)	<0.001
Dhaka	0.954 (0.901, 1.010)	0.107
Khulna	1.135 (1.065, 1.210)	<0.001
Mymensingh	1.175 (1.046, 1.319)	0.007
Rajshahi	1.355 (1.277, 1.439)	<0.001
Rangpur	1.366 (1.270, 1.469)	<0.001
Sylhet	0.479 (0.443, 0.517)	<0.001
<b>Type of place of residence</b>		
Urban	<b>RC</b>	
Rural	0.944 (0.903, 0.987)	0.010
<b>The religion of the respondents</b>		
Islam	<b>RC</b>	
Others	1.270 (1.217, 1.326)	<0.001
<b>Exposure to family planning on the radio within the last few months</b>		
No	<b>RC</b>	
Yes	1.078 (1.029, 1.129)	0.001
<b>Exposure to family planning on TV within the last few months</b>		
No	<b>RC</b>	
Yes	1.194 (1.155, 1.234)	<0.001
<b>Exposure to family planning in newspapers within the last few months</b>		
No	<b>RC</b>	

<b>Variable</b>	<b>Odds ratio (95% C.I.)</b>	<b>P-value</b>
Yes	1.084 (1.006, 1.169)	0.034
<b>Model Summary</b>		
<b>Omnibus Tests of Model Coefficients</b>	P<0.001	
<b>Nagelkarke R<sup>2</sup></b>	0.043	
<b>Predicted correct percentage (%)</b>	57.1	

## Chapter Nine: Women's Empowerment

### 9.0 Introduction

This chapter contains results from the respondents' empowerment index. Findings about respondents' empowerment level are presented based on their exposure to the female secondary school stipend program (FSSSP) and their socioeconomic and demographic factors.

### 9.1 Summary Statistics of Women's Empowerment

In order to calculate women's autonomy, responses on six autonomy-related variables were collected from the respondents. The variables assessed women's participation in decisions related to their health care, large household purchase, household purchase for daily needs, visiting family or relatives, food to be cooked each day and what to do with the money the husband earns.

However, observed analysis (**Table 9.1**) reveals that the variables concerning decisions related to household purchases for daily needs, food to be cooked each day and what to do with the money the husband earns contain a huge percentage of missing cases (79.1%, 84.9%, and 82.2% respectively). As a result, these three variables were dropped from the analysis of the present study and further analysis regarding the variable women's empowerment was continued using the remaining three variables.

**Table 9. 1: Summary Statistics of Women's Participation in Decision Making**

Variable	Frequency	Valid percentage
<b>The person who usually decides on the respondent's health care</b>		
Respondent alone	10598	9.9
Respondent and husband/partner	36307	34.0
Respondent and other person	1431	1.3
Husband/partner alone	21948	20.5
Some else	4301	4.0
Other	154	0.1
Missing cases	32122	30.1
<b>The person who usually decides on large household purchases</b>		
Respondent alone	6062	5.7
Respondent and husband/partner	39329	36.8
Respondent and other person	2182	2.0
Husband/partner alone	19316	18.1
Some else	7535	7.1
Other	315	0.3
Missing cases	32121	30.1
<b>The person who usually decides on household purchases for daily needs</b>		
Respondent alone	6127	5.7
Respondent and husband/partner	6377	6.0
Respondent and other person	1766	1.7
Husband/partner alone	5489	5.1
Some else	2522	2.4
Other	0.0	0.0

Variable	Frequency	Valid percentage
Missing cases	84580	79.1
<b>The person who usually decides on visits to family or relatives</b>		
Respondent alone	8411	7.9
Respondent and husband/partner	38823	36.3
Respondent and other person	1865	1.7
Husband/partner alone	19576	18.3
Some else	5819	5.4
Other	219	0.2
Missing cases	32148	30.1
<b>The person who usually decides on food to be cooked each day</b>		
Respondent alone	8345	7.8
Respondent and husband/partner	495	0.5
Respondent and other person	1037	1.0
Husband/partner alone	351	0.3
Some else	1057	1.0
Other	0.0	0.0
Missing cases	95575	89.4
<b>The person who usually decides what to do with the money the husband earns</b>		
Respondent alone	763	0.7
Respondent and husband/partner	12245	11.5
Respondent and other person	4780	4.5
Husband/partner alone	339	0.3
Some else	721	0.7
Other	136	0.1
Missing cases	87877	82.2

**Table 9.2** presents the frequency distribution of the women’s autonomy variables related to their health care, major household purchase and visits to family and relatives. These variables were recoded to produce categories which were later used to analyze the index of women empowerment in this study. According to the findings, most of the women (around 50%) in this study are moderately empowered as they reported making decisions regarding all three scenarios with their husbands. However, the second-highest response (almost 35%) selected by the participants was ‘not empowered’ which suggests those women do not have any participation in decision-making related to their health care, large household purchases and visits to family or relatives.

**Table 9. 2: Summary Statistics of Dimensions of Women Empowerment (Participation in Decision Making)**

Variable	The person who usually decides on the respondent’s health care				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Exposure level to FSSSP</b>					p<0.001
Fully exposed	9984 (38.7)	481 (1.9)	12838 (49.7)	2510 (9.7)	
Partially exposed cohort	1965 (35.6)	113 (2.0)	2598 (47.0)	846 (15.3)	

Variable	The person who usually decides on the respondent's health care				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
Unexposed	14453 (33.3)	837 (1.9)	20871 (48.1)	7242 (16.7)	
Total (N=74738)	26402 (35.3)	1431 (1.9)	36307 (48.6)	10598 (14.2)	
<b>Year of the survey</b>					p<0.001
2004	5885 (52.1)	573 (5.1)	2474 (21.9)	2357 (20.9)	
2007	3990 (36.3)	857 (7.8)	4286 (39.0)	1863 (16.9)	
2011	6131 (36.9)	0 (0.0)	8333 (50.1)	2153 (13.0)	
2014	5925 (35.2)	0 (0.0)	8550 (50.7)	2380 (14.1)	
2017	4472 (23.6)	0 (0.0)	12665 (66.7)	1845 (9.7)	
Total (N=74739)	26403 (35.3)	1430 (1.9)	36308 (48.6)	10598 (14.2)	
<b>Age in 5-year groups</b>					p<0.001
15-19	4583 (51.3)	387 (4.3)	3360 (37.6)	606 (6.8)	
20-24	5807 (40.4)	322 (2.2)	6726 (46.8)	1518 (10.6)	
25-29	4632 (33.3)	157 (1.1)	7111 (51.2)	1996 (14.4)	
30-34	3653 (29.9)	105 (0.9)	6410 (52.5)	2044 (16.7)	
35-39	2828 (28.4)	117 (1.2)	5196 (52.2)	1812 (18.2)	
40-44	2496 (30.1)	123 (1.5)	4168 (50.3)	1499 (18.1)	
45-49	2404 (33.9)	219 (3.1)	3336 (47.1)	1123 (15.9)	
Total (N=74738)	26403 (35.3)	1430 (1.9)	36307 (48.6)	10598 (14.2)	
<b>Type of place of residence</b>					p<0.001
Urban	5769 (29.7)	320 (1.6)	10318 (53.2)	2995 (15.4)	
Rural	20633 (37.3)	1111 (2.0)	25989 (47.0)	7604 (13.7)	
Total (N=74739)	26402 (35.3)	1431 (1.9)	36307 (48.6)	10599 (14.2)	
<b>Division of the respondents</b>					p<0.001
Barisal	1701 (38.4)	93 (2.1)	1941 (43.8)	695 (15.7)	
Chittagong	4671 (34.4)	336 (2.5)	6075 (44.7)	2512 (18.5)	
Dhaka	7834 (34.1)	403 (1.8)	11484 (49.9)	3277 (14.2)	
Khulna	3048 (35.0)	145 (1.7)	4184 (48.1)	1321 (15.2)	
Mymensingh	286 (19.5)	0 (0.0)	1085 (73.9)	97 (6.6)	
Rajshahi	5026 (39.0)	319 (2.5)	5982 (46.4)	1567 (12.2)	
Rangpur	1863 (30.5)	0 (0.0)	3792 (62.0)	462 (7.6)	
Sylhet	1974 (43.5)	136 (3.0)	1763 (38.8)	667 (14.7)	
Total (N=74739)	26403 (35.3)	1432 (1.9)	36306 (48.6)	10598 (14.2)	
<b>Highest educational level</b>					p<0.001
No education	7519 (38.2)	417 (2.1)	8546 (43.4)	3218 (16.3)	
Primary	7938 (35.4)	386 (1.7)	10912 (48.7)	3162 (14.1)	
Secondary	9212 (35.1)	540 (2.1)	13122 (50.1)	3335 (12.7)	
Higher	1733 (27.0)	88 (1.4)	3725 (57.9)	883 (13.7)	
Total (N=74736)	26402 (35.3)	1431 (1.9)	36305 (48.6)	10598 (14.2)	
<b>The religion of the respondents</b>					p<0.001
Others	2457 (34.0)	135 (1.9)	3900 (54.0)	736 (10.2)	
Islam	23945 (35.5)	1296 (1.9)	32407 (48.0)	9862 (14.6)	
Total (N=74738)	26402 (35.3)	1431 (1.9)	36307 (48.6)	10598 (14.2)	

Variable	The person who usually decides on the respondent's health care				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Wealth index combined</b>					P<0.001
Poorest	5117 (36.8)	198 (1.4)	6801 (48.9)	1781 (12.8)	
Poorer	5488 (37.5)	203 (1.4)	7083 (48.4)	1852 (12.7)	
Middle	5590 (37.2)	280 (1.9)	7137 (47.5)	2016 (13.4)	
Richer	5419 (34.9)	383 (2.5)	7264 (46.8)	2466 (15.9)	
Richest	4789 (30.6)	367 (2.3)	8021 (51.2)	2483 (15.9)	
Total (N=74738)	26403 (35.3)	1431 (1.9)	36306 (48.6)	10598 (14.2)	
<b>Age at first marriage</b>					p<0.001
18 years or above	4990 (31.9)	280 (1.8)	8227 (52.7)	2124 (13.6)	
Below 18 years	21413 (36.2)	1150 (1.9)	28080 (47.5)	8474 (14.3)	
Total (N=74738)	26403 (35.3)	1430 (1.9)	36307 (48.6)	10598 (14.2)	
<b>Age at first birth</b>					p<0.001
19 years or above	6956 (30.7)	369 (1.6)	12013 (53.1)	3301 (14.6)	
Below 19 years	15892 (35.5)	740 (1.7)	21476 (48.0)	6653 (14.9)	
Total (N=67400)	22848 (33.9)	1109 (1.6)	33489 (49.7)	9954 (14.8)	
<b>Number of living children</b>					p<0.001
Up to two children	16485 (36.3)	987 (2.2)	22140 (48.8)	5779 (12.7)	
More than two children	9918 (33.8)	443 (1.5)	14167 (48.3)	4819 (16.4)	
Total (N=74738)	26403 (35.3)	1430 (1.9)	36307 (48.6)	10598 (14.2)	
<b>Currently using modern contraception method</b>					p<0.001
No	13594 (36.5)	1046 (2.8)	15980 (42.9)	6590 (17.7)	
Yes	12808 (34.1)	385 (1.0)	20327 (54.2)	4008 (10.7)	
Total (N=74738)	26402 (35.3)	1431 (1.9)	36307 (48.6)	10598 (14.2)	

## 9.2 Effect of the Female Secondary Stipend Program on Women's Empowerment

The bivariate analysis results (**Table 9.3**) show that respondents' empowerment status based on their participation in health-care decisions is significantly correlated with their level of FSSSP exposure, survey year, age, type of residence, division, wealth status, obtained the highest level of education, religion, their age at first marriage and the birth of their first child, number of living children, and use of modern contraceptives.

Respondents who are fully exposed to FSSSP mostly (49.7%) lie in the moderately empowered category and most of the empowered participants (16.7%) were in the unexposed group. The majority of the respondents (51.3%) of the youngest age group reported not being empowered. However, respondents of the age group 35-39 years, were found as empowered mostly (18.2%).

According to the findings, Muslim women, those who live in cities, and those who are wealthier are more empowered than non-Muslim women, those who live in rural regions, and those who are less financially secure. Surprisingly, compared to their counter groups, women without education (16.3%), women with more than two children (16.4%), and women not utilizing contemporary contraception (17.7%) all claimed to be empowered.

**Table 9. 3: Percentage Distribution of Respondent’s Decision Autonomy (Healthcare) by Exposure Level to FSSSP and Other Socio-Economic Characteristics**

Variable	The person who usually decides on large household purchases				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Exposure level to FSSSP</b>					p<0.001
Fully exposed	11255 (43.6)	661 (2.6)	12695 (49.2)	1203 (4.7)	
Partially exposed cohort	1944 (35.2)	186 (3.4)	2957 (53.6)	434 (7.9)	
Unexposed	13967 (32.2)	1335 (3.1)	23677 (54.6)	4425 (10.2)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Year of the survey</b>					p<0.001
2004	4863 (43.1)	1000 (8.9)	4098 (36.3)	1328 (11.8)	
2007	3700 (33.7)	1183 (10.8)	4865 (44.3)	1246 (11.3)	
2011	6717 (40.4)	0 (0.0)	8733 (52.6)	1167 (7.0)	
2014	6528 (38.7)	0 (0.0)	8930 (53.0)	1399 (8.3)	
2017	5358 (28.2)	0 (0.0)	12702 (66.9)	923 (4.9)	
Total (N=74740)	27166 (36.3)	2183 (2.9)	39328 (52.6)	6063 (8.1)	
<b>Age in 5-year groups</b>					p<0.001
15-19	5044 (56.4)	525 (5.9)	3123 (34.9)	244 (2.7)	
20-24	6219 (43.3)	502 (3.5)	6860 (47.7)	790 (5.5)	
25-29	4784 (34.4)	242 (1.7)	7811 (56.2)	1061 (7.6)	
30-34	3624 (29.7)	157 (1.3)	7213 (59.1)	1218 (10.0)	
35-39	2775 (27.9)	195 (2.0)	5873 (59.0)	1110 (11.2)	
40-44	2422 (29.2)	252 (3.0)	4741 (57.2)	870 (10.5)	
45-49	2298 (32.4)	309 (4.4)	3708 (52.3)	769 (10.9)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Type of place of residence</b>					p<0.001
Urban	5805 (29.9)	523 (2.7)	11190 (57.7)	1886 (9.7)	
Rural	21361 (38.6)	1660 (3.0)	28139 (50.9)	4176 (7.5)	
Total (N=74740)	27166 (36.3)	2183 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Division of the respondents</b>					p<0.001
Barisal	1815 (41.0)	133 (3.0)	2080 (47.0)	399 (9.0)	
Chittagong	5236 (38.5)	516 (3.8)	6409 (47.1)	1432 (10.5)	
Dhaka	7887 (34.3)	640 (2.8)	12485 (54.3)	1990 (8.7)	
Khulna	3099 (35.6)	247 (2.8)	4626 (53.2)	727 (8.4)	
Mymensingh	321 (21.9)	0 (0.0)	1108 (75.5)	39 (2.7)	
Rajshahi	4720 (36.6)	460 (3.6)	6807 (52.8)	904 (7.0)	
Rangpur	1959 (32.0)	0 (0.0)	3949 (64.5)	210 (3.4)	
Sylhet	2128 (46.9)	185 (4.1)	1866 (41.1)	361 (8.0)	
Total (N=74738)	27165 (36.3)	2181 (2.9)	39330 (52.6)	6062 (8.1)	
<b>Highest educational level</b>					p<0.001
No education	7051 (35.8)	627 (3.2)	9974 (50.6)	2047 (10.4)	
Primary	7922 (35.4)	583 (2.6)	12053 (53.8)	1840 (8.2)	
Secondary	10162 (38.8)	817 (3.1)	13458 (51.3)	1774 (6.8)	
Higher	2031 (31.6)	155 (2.4)	3842 (59.8)	401 (6.2)	

Variable	The person who usually decides on large household purchases				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
Total (N=74737)	27166 (36.3)	2182 (2.9)	39327 (52.6)	6062 (8.1)	
<b>The religion of the respondents</b>					p<0.001
Others	2597 (35.9)	218 (3.0)	4050 (56.0)	364 (5.0)	
Islam	24569 (36.4)	1964 (2.9)	35279 (52.3)	5698 (8.4)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Wealth index combined</b>					P<0.001
Poorest	5044 (36.3)	283 (2.0)	7548 (54.3)	1021 (7.3)	
Poorer	5466 (37.4)	317 (2.2)	7831 (53.5)	1012 (6.9)	
Middle	5723 (38.1)	411 (2.7)	7694 (51.2)	1195 (8.0)	
Richer	5871 (37.8)	590 (3.8)	7692 (49.5)	1381 (8.9)	
Richest	5062 (32.3)	581 (3.7)	8564 (54.7)	1453 (9.3)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Age at first marriage</b>					p<0.001
18 years or above	5604 (35.9)	437 (2.8)	8468 (54.2)	1114 (7.1)	
Below 18 years	21562 (36.5)	1745 (3.0)	30861 (52.2)	4948 (8.4)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Age at first birth</b>					p<0.001
19 years or above	7481 (33.0)	583 (2.6)	12741 (56.3)	1833 (8.1)	
Below 19 years	15674 (35.0)	1150 (2.6)	23977 (53.6)	3961 (8.8)	
Total (N=67400)	23155 (34.4)	1733 (2.6)	36718 (54.5)	5794 (8.6)	
<b>Number of living children</b>					p<0.001
Up to two children	17635 (38.8)	1498 (3.3)	23095 (50.9)	3165 (7.0)	
More than two children	9531 (32.5)	685 (2.3)	16234 (55.3)	2897 (9.9)	
Total (N=74740)	27166 (36.3)	2183 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Currently using modern contraception method</b>					p<0.001
No	14395 (38.7)	1489 (4.0)	17359 (46.6)	3969 (10.7)	
Yes	12770 (34.0)	693 (1.8)	21970 (58.5)	2093 (5.6)	
Total (N=74738)	27165 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	

The findings of the bivariate analysis (**Table 9.4**) demonstrate a significant relationship between respondents' empowerment status as measured by their involvement in major household purchase decisions and their level of FSSSP exposure, survey year, age, type of residence, division, wealth status, the highest level of education attained, religion, age at first marriage and childbirth, number of living children, and use of modern contraceptives.

Respondents who had not been exposed to the FSSSP were mainly found to be either moderately empowered (54.6%) or empowered (10.2%). Similar to the previous variable, respondents aged 35-39 years were found to be primarily empowered (11.2%) for this measure as well. It was seen that the residents of Chittagong assessed themselves as empowered most (10.5%).

However, other findings reveal that respondents who were married at the age of 18 or later, became pregnant at 19 or later, have more than two children and were using modern contraceptives reported being mostly moderately empowered.

**Table 9. 4: Percentage Distribution of Respondent’s Decision Autonomy (Large Household Purchases) by Exposure Level to FSSSP and Other Socio-Economic Characteristics**

Variable	The person who usually decides on large household purchases				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Exposure level to FSSSP</b>					p<0.001
Fully exposed	11255 (43.6)	661 (2.6)	12695 (49.2)	1203 (4.7)	
Partially exposed cohort	1944 (35.2)	186 (3.4)	2957 (53.6)	434 (7.9)	
Unexposed	13967 (32.2)	1335 (3.1)	23677 (54.6)	4425 (10.2)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Year of the survey</b>					p<0.001
2004	4863 (43.1)	1000 (8.9)	4098 (36.3)	1328 (11.8)	
2007	3700 (33.7)	1183 (10.8)	4865 (44.3)	1246 (11.3)	
2011	6717 (40.4)	0 (0.0)	8733 (52.6)	1167 (7.0)	
2014	6528 (38.7)	0 (0.0)	8930 (53.0)	1399 (8.3)	
2017	5358 (28.2)	0 (0.0)	12702 (66.9)	923 (4.9)	
Total (N=74740)	27166 (36.3)	2183 (2.9)	39328 (52.6)	6063 (8.1)	
<b>Age in 5-year groups</b>					p<0.001
15-19	5044 (56.4)	525 (5.9)	3123 (34.9)	244 (2.7)	
20-24	6219 (43.3)	502 (3.5)	6860 (47.7)	790 (5.5)	
25-29	4784 (34.4)	242 (1.7)	7811 (56.2)	1061 (7.6)	
30-34	3624 (29.7)	157 (1.3)	7213 (59.1)	1218 (10.0)	
35-39	2775 (27.9)	195 (2.0)	5873 (59.0)	1110 (11.2)	
40-44	2422 (29.2)	252 (3.0)	4741 (57.2)	870 (10.5)	
45-49	2298 (32.4)	309 (4.4)	3708 (52.3)	769 (10.9)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Type of place of residence</b>					p<0.001
Urban	5805 (29.9)	523 (2.7)	11190 (57.7)	1886 (9.7)	
Rural	21361 (38.6)	1660 (3.0)	28139 (50.9)	4176 (7.5)	
Total (N=74740)	27166 (36.3)	2183 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Division of the respondents</b>					p<0.001
Barisal	1815 (41.0)	133 (3.0)	2080 (47.0)	399 (9.0)	
Chittagong	5236 (38.5)	516 (3.8)	6409 (47.1)	1432 (10.5)	
Dhaka	7887 (34.3)	640 (2.8)	12485 (54.3)	1990 (8.7)	
Khulna	3099 (35.6)	247 (2.8)	4626 (53.2)	727 (8.4)	
Mymensingh	321 (21.9)	0 (0.0)	1108 (75.5)	39 (2.7)	
Rajshahi	4720 (36.6)	460 (3.6)	6807 (52.8)	904 (7.0)	
Rangpur	1959 (32.0)	0 (0.0)	3949 (64.5)	210 (3.4)	
Sylhet	2128 (46.9)	185 (4.1)	1866 (41.1)	361 (8.0)	
Total (N=74738)	27165 (36.3)	2181 (2.9)	39330 (52.6)	6062 (8.1)	

Variable	The person who usually decides on large household purchases				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Highest educational level</b>					p<0.001
No education	7051 (35.8)	627 (3.2)	9974 (50.6)	2047 (10.4)	
Primary	7922 (35.4)	583 (2.6)	12053 (53.8)	1840 (8.2)	
Secondary	10162 (38.8)	817 (3.1)	13458 (51.3)	1774 (6.8)	
Higher	2031 (31.6)	155 (2.4)	3842 (59.8)	401 (6.2)	
Total (N=74737)	27166 (36.3)	2182 (2.9)	39327 (52.6)	6062 (8.1)	
<b>The religion of the respondents</b>					p<0.001
Others	2597 (35.9)	218 (3.0)	4050 (56.0)	364 (5.0)	
Islam	24569 (36.4)	1964 (2.9)	35279 (52.3)	5698 (8.4)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Wealth index combined</b>					P<0.001
Poorest	5044 (36.3)	283 (2.0)	7548 (54.3)	1021 (7.3)	
Poorer	5466 (37.4)	317 (2.2)	7831 (53.5)	1012 (6.9)	
Middle	5723 (38.1)	411 (2.7)	7694 (51.2)	1195 (8.0)	
Richer	5871 (37.8)	590 (3.8)	7692 (49.5)	1381 (8.9)	
Richest	5062 (32.3)	581 (3.7)	8564 (54.7)	1453 (9.3)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Age at first marriage</b>					p<0.001
18 years or above	5604 (35.9)	437 (2.8)	8468 (54.2)	1114 (7.1)	
Below 18 years	21562 (36.5)	1745 (3.0)	30861 (52.2)	4948 (8.4)	
Total (N=74739)	27166 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Age at first birth</b>					p<0.001
19 years or above	7481 (33.0)	583 (2.6)	12741 (56.3)	1833 (8.1)	
Below 19 years	15674 (35.0)	1150 (2.6)	23977 (53.6)	3961 (8.8)	
Total (N=67400)	23155 (34.4)	1733 (2.6)	36718 (54.5)	5794 (8.6)	
<b>Number of living children</b>					p<0.001
Up to two children	17635 (38.8)	1498 (3.3)	23095 (50.9)	3165 (7.0)	
More than two children	9531 (32.5)	685 (2.3)	16234 (55.3)	2897 (9.9)	
Total (N=74740)	27166 (36.3)	2183 (2.9)	39329 (52.6)	6062 (8.1)	
<b>Currently using modern contraception method</b>					p<0.001
No	14395 (38.7)	1489 (4.0)	17359 (46.6)	3969 (10.7)	
Yes	12770 (34.0)	693 (1.8)	21970 (58.5)	2093 (5.6)	
Total (N=74738)	27165 (36.3)	2182 (2.9)	39329 (52.6)	6062 (8.1)	

The bivariate analysis results (**Table 9.5**) show a significant relationship between respondents' empowerment status as measured by engagement with decisions related to visits to family relatives and their level of FSSSP exposure, survey year, age, type of residence, division, wealth status, the highest level of education attained, religion, age at first marriage and childbirth, number of living children, and use of modern contraceptives.

Respondents who had not been exposed to the FSSSP were mostly moderately empowered (53.6%) or empowered (13.9%). Younger participants stated that they have no involvement in decisions

regarding visits to family or relatives. Respondents dwelling in urban centers and respondents living in Chittagong, on the other hand, reported being mostly empowered. Results also indicate that Muslim and richest respondents were mostly empowered compared to their other counter groups.

**Table 9. 5: Percentage Distribution of Respondent’s Decision Autonomy (Visits to Family and Relatives) by Exposure Level to FSSSP and Other Socio-Economic Characteristics**

Variable	The person who usually decides on visits to family or relatives				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Exposure level to FSSSP</b>					p<0.001
Fully exposed	10623 (41.2)	659 (2.6)	12724 (49.3)	1801 (7.0)	
Partially exposed cohort	1892 (34.3)	180 (3.3)	2861 (51.9)	582 (10.6)	
Unexposed	13099 (30.2)	1026 (2.4)	23238 (53.6)	6028 (13.9)	
Total (N=74713)	25614 (34.3)	1865 (2.5)	38823 (52.0)	8411 (11.3)	
<b>Year of the survey</b>					p<0.001
2004	4776 (42.3)	858 (7.6)	3864 (34.2)	1790 (15.9)	
2007	3530 (32.1)	1007 (9.2)	4698 (42.7)	1757 (16.0)	
2011	6186 (37.3)	0 (0.0)	8806 (53.0)	1608 (9.7)	
2014	6281 (37.3)	0 (0.0)	8910 (52.9)	1659 (9.8)	
2017	4840 (25.5)	0 (0.0)	12546 (66.1)	1598 (8.4)	
Total (N=74714)	25613 (34.3)	1865 (2.5)	38824 (52.0)	8412 (11.3)	
<b>Age in 5-year groups</b>					p<0.001
15-19	4808 (53.8)	527 (5.9)	3243 (36.3)	356 (4.0)	
20-24	5849 (40.7)	475 (3.3)	6954 (48.4)	1090 (7.6)	
25-29	4584 (33.0)	229 (1.6)	7606 (54.7)	1477 (10.6)	
30-34	3417 (28.0)	154 (1.3)	6975 (57.1)	1660 (13.6)	
35-39	2627 (26.4)	120 (1.2)	5692 (57.2)	1510 (15.2)	
40-44	2245 (27.1)	156 (1.9)	4650 (56.2)	1228 (14.8)	
45-49	2084 (29.4)	205 (2.9)	3704 (52.3)	1089 (15.4)	
Total (N=74714)	25614 (34.3)	1866 (2.5)	38824 (52.0)	8410 (11.3)	
<b>Type of place of residence</b>					p<0.001
Urban	5357 (27.6)	414 (2.1)	11148 (57.5)	2481 (12.8)	
Rural	20257 (36.6)	1451 (2.6)	27675 (50.0)	5930 (10.7)	
Total (N=74713)	25614 (34.3)	1865 (2.5)	38823 (52.0)	8411 (11.3)	
<b>Division of the respondents</b>					p<0.001
Barisal	1637 (37.0)	102 (2.3)	2080 (47.0)	606 (13.7)	
Chittagong	4899 (36.1)	455 (3.3)	6310 (46.4)	1922 (14.1)	
Dhaka	7236 (31.5)	525 (2.3)	12555 (54.6)	2679 (11.7)	
Khulna	3062 (35.2)	213 (2.4)	4487 (51.6)	936 (10.8)	
Mymensingh	292 (19.9)	0 (0.0)	1111 (75.7)	65 (4.4)	
Rajshahi	4618 (35.8)	405 (3.1)	6531 (50.7)	1332 (10.3)	
Rangpur	1916 (31.3)	0 (0.0)	3825 (62.6)	371 (6.1)	
Sylhet	1953 (43.0)	165 (3.6)	1923 (42.4)	498 (11.0)	
Total (N=74709)	25613 (34.3)	1865 (2.5)	38822 (52.0)	8409 (11.3)	

Variable	The person who usually decides on visits to family or relatives				P-value
	Not empowered	Partially empowered	Moderately Empowered	Empowered	
<b>Highest educational level</b>					p<0.001
No education	6748 (34.3)	506 (2.6)	9757 (49.5)	2681 (13.6)	
Primary	7674 (34.3)	477 (2.1)	11728 (52.4)	2511 (11.2)	
Secondary	9449 (36.1)	762 (2.9)	13430 (51.3)	2558 (9.8)	
Higher	1742 (27.1)	120 (1.9)	3907 (60.8)	659 (10.3)	
Total (N=74709)	25613 (34.3)	1865 (2.5)	38822 (52.0)	8409 (11.3)	
<b>The religion of the respondents</b>					p<0.001
Others	2288 (31.7)	187 (2.6)	4196 (58.1)	555 (7.7)	
Islam	23325 (34.6)	1678 (2.5)	34627 (51.3)	7856 (11.6)	
Total (N=74712)	25613 (34.3)	1865 (2.5)	38823 (52.0)	8411 (11.3)	
<b>Wealth index combined</b>					P<0.001
Poorest	4869 (35.0)	235 (1.7)	7403 (53.3)	1386 (10.0)	
Poorer	5336 (36.5)	274 (1.9)	7591 (51.9)	1418 (9.7)	
Middle	5485 (36.5)	361 (2.4)	7539 (50.2)	1634 (10.9)	
Richer	5462 (35.2)	508 (3.3)	7644 (49.2)	1915 (12.3)	
Richest	4462 (28.5)	487 (3.1)	8646 (55.2)	2057 (13.1)	
Total (N=74712)	25614 (34.3)	1865 (2.5)	38823 (52.0)	8410 (11.3)	
<b>Age at first marriage</b>					p<0.001
18 years or above	5020 (32.1)	408 (2.6)	8561 (54.8)	1630 (10.4)	
Below 18 years	20593 (34.8)	1457 (2.5)	30262 (51.2)	6781 (11.5)	
Total (N=74712)	25613 (34.3)	1865 (2.5)	38823 (52.0)	8411 (11.3)	
<b>Age at first birth</b>					p<0.001
19 years or above	6880 (30.4)	484 (2.1)	12639 (55.8)	2629 (11.6)	
Below 19 years	15034 (33.6)	957 (2.1)	23388 (52.3)	5365 (12.0)	
Total (N=67376)	21914 (32.5)	1441 (2.1)	36027 (53.5)	7994 (11.9)	
<b>Number of living children</b>					p<0.001
Up to two children	16551 (36.5)	1383 (3.0)	23065 (50.8)	4381 (9.7)	
More than two children	9063 (30.9)	483 (1.6)	15758 (53.7)	4029 (13.7)	
Total (N=74713)	25614 (34.3)	1866 (2.5)	38823 (52.0)	8410 (11.3)	
<b>Currently using modern contraception method</b>					p<0.001
No	13419 (36.1)	1311 (3.5)	17113 (46.0)	5355 (14.4)	
Yes	12195 (32.5)	554 (1.5)	21710 (57.9)	3056 (8.1)	
Total (N=74713)	25614 (34.3)	1865 (2.5)	38823 (52.0)	8411 (11.3)	

### 9.3 Predictors of Women's Empowerment

In order to identify the predictors of women's empowerment, a hierarchical multiple regression was conducted, with three blocks of variables (**Table 9.6**). The first block included treatment1 (fully exposed to FSSSP) & treatment2 (partially exposed to FSSSP) variables as the predictors, with women empowerment as the dependent variable. In block two, cohort1 (women born in 1983 and later) & cohort2 (women born in 1980-1982) respondents' current age, year of the survey, wealth index, and

dummy variables for rural and Islam were also included as the independent variables. And in the last block, dummy variables for divisions (for Barisal, Chittagong, Dhaka, Khulna, Mymensingh, Rajshahi and Rangpur) were included as predictor variables, with women empowerment.

The results show that all three regression models are significant, whereas in **Model 1** [F(4, 74700)=637.556, p<0.001, with adjusted R<sup>2</sup> of 0.017], in **Model 2** [F(9, 74695)=477.062, p<0.001, with adjusted R<sup>2</sup> of 0.059], in **Model 3** [F(16, 74688)=38.975, p<0.001, with adjusted R<sup>2</sup> of 0.062]. The variables of **Model 1**, **Model 2** and **Model 3** are capable of predicting 1.7%, 5.9% and 6.2 % variance in women empowerment respectively.

**Model 1** shows that respondents' exposure to FSSSP (both treatment groups) is negatively associated with women's empowerment. On the other hand, according to **Model 2** and **Model 3** respondents' full exposure to FSSSP, increases their likelihood of being empowered.

**Model 2** and **Model 3** also replicate that cohort1 has a negative relation with women's empowerment, whereas cohort2 has a positive association with the women's empowerment index. In addition, results suggest that as the year of the survey and the respondents' current age increase, they are likely to be more empowered. However, residing in rural areas is predicated to negatively impact respondents' empowerment index.

Lastly, **Model 3** predicts that all the divisions are positively associated with respondents' empowerment status and residing in Barisal, Chittagong, Dhaka, Khulna, Mymensingh, Rajshahi and Rangpur increases respondents' likelihood of being empowered.

**Table 9. 6: Effect of the FSSSP on Women's Empowerment**

Independent Variable	(1) Women Empowerment		(2) Women Empowerment		(3) Women Empowerment	
Fully exposed (treatment1)	-0.745 (0.021)	<0.001	0.174 (0.046)	<0.001	0.173 (0.046)	<0.001
Partially exposed (treatment2)	-0.273 (0.038)	<0.001	0.080 (0.076)	0.292	0.078 (0.075)	0.303
1983 and later (cohort1)			-0.258 (0.053)	<0.001	-0.257 (0.053)	<0.001
1980-1982 (cohort2)			0.132 (0.068)	0.050	0.136 (0.067)	0.044
Respondent's current age			0.049 (0.002)	<0.001	0.049 (0.002)	<0.001
Year of survey			0.235 (0.008)	<0.001	0.224 (0.009)	<0.001
Wealth index			0.000 (0.000)	<0.001	0.000 (0.000)	<0.001
Rural			-0.560 (0.036)	<0.001	-0.528 (0.036)	<0.001
Muslim			0.087 (0.032)	0.007	0.052 (0.032)	0.108
Barisal					0.409 (0.055)	<0.001
Chittagong					0.563 (0.045)	<0.001

<b>Independent Variable</b>	<b>(1) Women Empowerment</b>		<b>(2) Women Empowerment</b>		<b>(3) Women Empowerment</b>	
Dhaka					0.620 (0.043)	<0.001
Khulna					0.545 (0.048)	<0.001
Mymensingh					0.974 (0.079)	<0.001
Rajshahi					0.487 (0.045)	<0.001
Rangpur					0.587 (0.051)	<0.001
<b>Model Summary</b>						
<b>R<sup>2</sup></b>	0.017		0.059		0.062	
<b>Adjusted R<sup>2</sup></b>	0.017		0.059		0.062	
<b>F Change</b>	637.556		477.062		38.975	
<b>df</b>	(2, 74702)		(9, 74695)		(16, 74688)	
<b>Significance of F Change</b>	P<0.001		P<0.001		P<0.001	
<b>No. observations</b>	74704		74704		74704	

## Chapter Ten: Discussion and Conclusion

### 10.0 Introduction

This chapter comprises discussion regarding chapter three to nine. On the basis of respondents' exposure to the female secondary school stipend program (FSSSP) and their socioeconomic and demographic characteristics, discussion regarding their background characteristics, years of schooling, age at first marriage, age at first birth, children ever born and son preference, use of contraception, and women's empowerment are presented.

### 10.1 Discussion

This study utilized a mixed-methods research strategy. Seven waves of Bangladesh Demographic and Health Surveys (BDHS) between 1993 to 2018 were used as the quantitative data. Qualitative data were collected from girl students (studying in classes 9-12), married and unmarried women, parents, teachers, and stakeholders (e.g., government officials).

This study divided the BDHS sample population into three cohort – such as 1983 and later, 1980-1982, before 1980, while majority of the sample population were from before 1980 birth cohort followed by 1983 and later birth cohort. Among the treatment group most of the sample population were unexposed to FSSSP followed by one fourth population exposed to FSSSP, and most of the sample population were from BDHS 2017 survey (sample population were collected from 1994-2017 BDHS survey). Majority of the study population were from rural area and Muslim. The divisional distribution of the sample population shows that, most of them from Dhaka region followed by Rajshahi and Chittagong, Khulna, and lowest from Mymensingh division.

The majority of respondents, who are members of the birth cohorts 1983 and later, were fully exposed to FSSSP, whereas the majority of respondents, who are members of the birth cohorts 1980–1982, were only partially exposed. The majority of individuals between the ages of 15 and 19 were completely exposed to FSSSP, whereas the majority of adults were not. While no one in urban areas was exposed to FSSSP, over one-third of those who lived in rural areas were.

#### **What is the effect of the female secondary stipend program on years of schooling among married females in Bangladesh?**

According to the results of the chi-square test on independence, exposure to the FSSSP, the respondent's birth cohort, the survey year, age groups, the types of places of residence, divisional living status, religion (Muslim), wealth index, the age at first marriage and birth, using modern methods, the number of living children, the ideal number of children, and boys are statistically significantly correlated with highest level of education. Using DID estimation and multiple linear regression, it was discovered that exposure to the FSSSP is a very accurate predictor of a single year of education. People who had fully benefited from the FSSSP had more years of education under their belts than those who hadn't. People born between 1980 and 1982, as well as those born in 1983 and later, had less years in school than people born in earlier time periods. Residents of rural areas had fewer single education years than residents of urban or other non-rural places. Muslims had fewer years of formal schooling than non-Muslims.

The results of a binary logistic regression showed that respondents who were entirely exposed to the FSSSP had a higher likelihood of having a secondary or higher education than respondents who were not at all exposed to it. Similar to this, respondents who had some exposure to the FSSSP were more likely to have finished high school or have a higher degree than respondents who had none. The results also show that those who live in rural areas have a lesser possibility than those who do not of finishing a secondary or higher education. In contrast to respondents in the Barisal division, respondents in

Dhaka, Rajshahi, Rangpur, Mymensingh, and Sylhet are less likely to have a secondary or higher education.

### **What is the effect of the female secondary stipend program on age at first marriage among married females in Bangladesh?**

The respondent's birth cohort, the year of the survey, age groups, different types of dwelling, divisional living status, religion (Muslim), wealth index, and highest level of education are all statistically substantially ( $p < 0.05$ ) associated with age at first marriage. The results of multiple linear regression utilising DID estimation show that individuals who were fully exposed had later first-cohabitation ages than those who were only partially exposed. Those born between 1980-1982 and 1983 or later had younger average ages at first cohabitation than those born during earlier time periods. People who lived in rural areas had younger average ages at first cohabitation than those who lived in urban regions or other areas other than rural areas. In addition, Muslims were younger when they first cohabited than non-Muslims. Age at first cohabitation was negatively impacted by divisional living situation.

In contrast to respondents in other categories, those who had full exposure to the FSSSP had a higher risk of being in a child marriage, according to the results of binary logistic regression. Respondents born between 1980 and 1982 and 1983 or later have a reduced risk of being in a child marriage than those born in earlier time periods. The results also show that non-Muslims were less likely to be married as adults. However, people who reside in rural areas are more likely to be married as adults than those who do not. In contrast, respondents who reside in Khulna, Rajshahi, and Rangpur are more likely to be married as adults than those who reside in Barisal, while Chittagong, Dhaka, and Sylhet respondents are less likely to be married as adults than those who reside in the Barisal division.

### **What is the effect of the female secondary stipend program on age at first birth among married females in Bangladesh?**

Age at first birth is statistically substantially ( $p < 0.05$ ) related to survey year, age groups, residence types, divisional living status, religion (Muslim), wealth index, highest level of education, and age at first birth. Those who were entirely exposed to FSSSP had younger first-birth ages than those who weren't fully exposed, according to multiple linear regression employing DID estimation. People born between 1980-1982 and 1983 or later have younger average ages at first birth than people born during prior time periods. Compared to urban or non-rural populations, rural residents had a lower average age at first birth. Additionally, Muslims were younger at their first birth than non-Muslims. Age at first cohabitation was negatively impacted by divisional living situation.

The results of binary logistic regression show that respondents who were partially exposed to the FSSSP were more likely to become pregnant as teenagers and give birth to their first child than respondents in other categories. According to the research, non-Muslims are more likely than Muslim believers to become parents for the first time as adults rather than while still adolescents. Living in a rural region increases the likelihood of having your first kid during adolescence compared to living in an urban environment. People who are exposed to family planning through media such as television and newspapers are more likely to experience their first pregnancy as an adult rather than during adolescence.

### **What is the effect of the female secondary stipend program on children ever born among married females in Bangladesh?**

This study sought to quantify the impact of FSSSP and other socio-demographic factors on the children ever born to Bangladeshi women who have ever been married. This study reveals that women born after 1980 are less likely to have more than two children than those born before 1980. Also apparent is that younger women are more likely to have two or fewer offspring. According to the current research findings, urban women in Bangladesh are less likely to have more children than rural women.

Previous studies validate this result (Asaduzzaman & Khan, 2009), and one of the past studies identified urban women's easy access to contraception as a plausible cause of this scenario (Rahman et al., 2022).

This study also found divisional variation is one of the strong predictors of women's living number of children. Past studies observed such variations in their findings (Rahman et al., 2022). Some studies revealed that Muslim women had a higher likelihood of having more children than non-Muslim women (Haque et al., 2015; Kareem & Yusuf, 2018). This study also discovered that respondents who practiced other religions had lower fertility than those who practiced Islam. Apart from that analysis reveal that women who learned about family planning through different media such as radio, TV, and newspapers have a lower chance of having more than two children. Research suggests that exposure to media impacts women's number of living children (Rahman et al., 2022).

### **What is the effect of the female secondary stipend program on son preference among married females in Bangladesh?**

The phenomenon of son preference is widely recognized in numerous low-income countries where women's status is relatively low. Many developing nations, especially those where women are financially and socially dependent on men, are widely regarded to have a son preference (Bairagi & Langsten, 1986; Vlassoff, 1990). However, according to the findings of this study, a very small portion of the married women reported having a preference for a son.

While examining the predictors of son preference among married women in Bangladesh, it was observed that women who were born in 1983 or later are less likely to have son preference compared to women belonging to an older birth cohort (women born before 1980). Besides, analysis shows that respondents' region is another important predictor of son preference in Bangladesh. Previous studies investigating the differentials of son preference also found a higher desire for a son among older women (Uddin, M.I., Sarkar, D.C. & Islam, 2016).

The current investigation employed binary logistic regression analysis to determine that mothers residing in rural areas exhibited a significantly higher degree of son preference, a result that is consistent with previous research (El-Gilany & Shady, 2007). Furthermore, the findings of the present research indicate that females who receive family planning education via television and newspapers are anticipated to exhibit a lower level of son preference in contrast to their unexposed counterparts. Earlier investigations have reported similar findings (Uddin, M.I., Sarkar, D.C. & Islam, 2016).

### **What is the effect of the female secondary stipend program on contraceptive use among married females of Bangladesh?**

The results of this study indicate that women of younger birth cohorts are more likely to use modern methods of contraception, and as respondents' birth years increase, they prefer modern contraceptives over those of previous birth years. Numerous previous research examining variations in contraception use among married women found similar types of correlations (Haq et al., 2017; Khan & Raeside, 1997).

Previous research has found that respondents' division and place of living have an impact on their contraceptive use. Their research revealed that Chittagong and Sylhet people are more conservative (Mahmud & Islam, 1995), and women in those areas utilize contraception at a lesser rate than women in other parts of the country (Haq et al., 2017). Furthermore, many of the investigations discovered that city dwellers are more likely to use contraception (Islam, 2017; Osmani et al., 2015). The current study also reveals that participants who are not from Chittagong and Sylhet and those not from rural areas are more likely to use modern contraception techniques. Previous research has suggested a lack

of concentration among policymakers and a lack of access to contraception in those regions and areas as plausible explanations for this scenario (Haq et al., 2017).

According to the findings of this study, Muslim women are less likely than non-Muslim women to utilize contemporary contraceptives. The same findings are confirmed by some earlier investigations (N. Kamal & Mohsena, 2011). In addition, some studies point to a strong correlation between women's use of contraception and their exposure to family planning material in the media (S. M. Kamal, 2009; Retherford & Mishra, 1997). Similar findings can be observed in this study, which demonstrates that women who are exposed to family planning through radio, television, or newspapers are more likely to adopt contemporary contraceptive methods. However, the results of this study indicate that respondents fully exposed to FSSSP are less likely to prefer modern contraceptives than completely unexposed participants. The fact that modern contraceptives are easily accessible to urban respondents who were not exposed to FSSSP can be one of the potential causes of this result.

### **What is the effect of the female secondary stipend program on women's empowerment in Bangladesh?**

Given its multifaceted character, contextualizing women's empowerment is a difficult endeavor. Empowerment can be quantified using a variety of indicators such as self-esteem, decision-making role, freedom of movement, resource control, and so on. The comprehensiveness of this study does not allow for an examination of every aspect of such a complex problem. However, three variables concerning women's decision-making autonomy were employed in this study to calculate the empowerment index for the respondents.

Bivariate analysis of these three autonomy variables suggests that women's participation in decisions related to their health care, major purchases for the household, and going for a visit to family or relative are significantly associated with their exposure to FSSSP and other socio-demographic factors such as current age, age at first marriage and first birth, their educational attainment, place of living and so on. In addition, the multivariate regression analysis of the empowerment index suggests that respondents' exposure to FSSSP, their current age, year of the survey and divisions have positive association with their empowerment level. On the other hand, the regression model reveals that respondents who were born in 1983 or later and live in rural areas are less likely to be empowered.

## 10.2 Limitations of the Study

- To assess the effect of a program, experimental study provides best result. However, we could not use that due to lack of data.
- Real cohort of exposure and non-exposure to FSSP could not be assessed using BDHS data.
- Since the some part of current investigation is based on secondary data, numerous important variables e.g., information parents could not be investigated.
- Multiple potential predictors had to be omitted from the analysis as a result of an extensive amount of missing data.

## 10.3 Recommendations

- The government should create and announce an incentive scheme for higher education beginning with the HSC to lower dropout rates after the secondary level.
- The female secondary stipend program should be expanded to encompass disadvantaged female students in urban areas.
- Female education should be given greater attention in order to attain desirable fertility outcomes and long-term positive effects on women's empowerment and labor force participation.
- The promotion of family planning through various media such as radio, television, and periodicals should be increased so that females have more opportunities to learn about the latest contraceptive methods and are encouraged to use them.
- Initiatives should be taken to eliminate poverty and regional and cultural differences to accomplish positive social changes throughout the nation.

## 10.4 Conclusion

Investment on education is the best strategy not only for population control but also for well-being of people. More specifically, educating girls is considered to be an effective way for better health and nutrition of women and childre, reducing the rate of child marriage, early child bearing, and total fertility. Women with more education usually make a delayed and healthier transition into adulthood. Because they experience their first sexual involvement later, marry later, want smaller families, thereby are more likely to utilize modern methods of contraception than others. In this circumstance, conditional cash transfer programs have been introduced in 1994 in Bangladesh as an incentive to increase school enrolment and delay marriage under the system of social protection for disadvantaged and vulnerable groups. The FSSP of Bangladesh has been considered one of the world's pioneering conditional cash transfer programs. However, there are limited studies focusing on the effect of such programs on reproductive beahvior of women in Bangladesh.

This research focuses the causal effects of the FSSP on education, age at marriage, age at first birth, contraception, fertility, son preference and empowerment using mixed-methods strategy. The estimated treatment effect of the FSSP on completed schooling, age at marriage, contraception, and women empowerment is found to be positive. In contrast, the treatment effect was negative for total fertility and son preference. The findings suggest that the GoB should introduce universal stipend program for disadvantage group irrespective of their place of residence.

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## Appendices

### Appendix I: Research question-wise data source and data collection methods

Question No	Research Question	Sources of information	Variable Name in BDHS	Methods of Collection
<b>1<sup>st</sup> General Research Question: What is the effect of the female secondary stipend program on child marriage?</b>				
1.1.	What is the female secondary stipend program's effect on women's empowerment in Bangladesh?	<ol style="list-style-type: none"> <li>Secondary data (MICS, BDHS)</li> <li>Primary data</li> </ol>	<b>DV:</b> V743 (from 2004), V744 (missing in 2004)  <b>ID:</b> V007, V011, V012/V013, V024, V025, V106/149, V130, V136, V190/191, Mediation: V106, V133, V149,	FGD with girl students FGD with married women FGD with parents IDI with teachers IDI with relevant government officials (can be from MoH, MowCA, MoL etc.)
1.2.	How does the female secondary stipend program affect the mate selection process of the girls/women in Bangladesh?	<ol style="list-style-type: none"> <li>Primary Data</li> </ol>		FGD with girl students FGD with married women FGD with parents IDI with relevant government officials (can be from MoH, MowCA, MoL etc.)
1.3.	What is the effect of the female secondary stipend program on the age at entry into the marriage of the girls/women in Bangladesh?	<ol style="list-style-type: none"> <li>Secondary data (MICS, BDHS)</li> <li>Primary data</li> </ol>	<b>DV:</b> V511	FGD with girl students FGD with married women FGD with parents IDI with relevant government officials (can be from MoH, MowCA, MoL etc.)
1.4.	How can the female stipend program work as a marriage incentive or disincentive in Bangladesh? <i>(Here we can focus on FSSP's connection with dowry practice, reduction in adolescent labor, continuation of education, improved household economic security, improved knowledge etc.)</i>	<ol style="list-style-type: none"> <li>Primary data</li> </ol>		FGD with girl students FGD with married women FGD with parents IDI with teachers IDI with relevant government officials (can be from MoH, MowCA, MoL etc.)

<b>2<sup>nd</sup> General Research Question: What is the female secondary stipend program's effect on Bangladesh's fertility preference?</b>				
2.1.	What is the effect of the female secondary stipend program on contraceptive use among married females in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b> V312, V313	FGD with married women
	What is the effect of the female secondary stipend program on early childbearing among married females in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b> V212	FGD with married women
2.2.	What is the effect of the female secondary stipend program on gender preference (son/daughter) among married females in Bangladesh?	3. Secondary data 4. Primary data	<b>DV:</b> will be calculated by ideal sex of child	FGD with married women
2.5.	What is the female secondary stipend program's effect on the children born among married females in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b> V218	FGD with married women
2.6	What is the effect of the female secondary stipend program on unintended pregnancy among married females in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b> V367	FGD with married women
<b>3<sup>rd</sup> General Research Question: How does the year of schooling mediate the relationship between the female secondary stipend program and age at marriage/contraception/fertility in Bangladesh?</b>				
3.1	What is the role of the year of schooling in mediating the relationship between the female secondary stipend program and age at marriage in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b>	IDI, FGD with married women
3.2	What is the role of the year of schooling in mediating the relationship between female secondary stipend programs and contraception in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b>	IDI, FGD with married women
3.3	What is the role of the year of schooling in mediating the relationship between the female secondary stipend program and children ever born in Bangladesh?	1. Secondary data 2. Primary data	<b>DV:</b>	IDI, FGD with married women

## Appendix II: List of variables used in this study (BDHSs)

Dependent variables	Name in BDHS dataset
Women's age at marriage	V511
Contraception	V312, V313
Early childbearing/ age at first birth	V212
Fertility/ children ever born	V218
Son preference	V627, V628
Empowerment	V743(A-F), V744(A-E)
Independent variables	
<b>Cohort 1 (Fully exposed to FSSSP):</b> Girls who were born in, or after, 1983 and living in rural areas; <b>Cohort 2 (Partially exposed to FSSSP):</b> Girls who were born between 1980 and 1982 and living in the rural area; <b>Cohort 3 (Not exposed to FSSSP):</b> Girls born in 1979 or before or living in urban areas.	V010/ V011
Control variables	
Current age of women	V012, V013
Place of residence	V025
Education of women	V106, V133, V149
Religion	V130
Employment status	V714
Household wealth index	V190
Division	V024
Survey year	V007

## Appendix III: Interview Guidelines for Qualitative Data Collection

### FGD with girl students/IDI with girl students

**Target Population:** Girl students of Class 6-10 in a rural area who are receiving stipend currently

#### **Associated Research Questions**

**First General Research Question:** What is the effect of a female secondary stipend program on child marriage?

Specific areas to be explored through this tool: Effect of female secondary stipend program on

- Women empowerment
- Mate selection process
- Age at entry into marriage
- Incentives towards marriage or disincentives

### **FGD Guideline**

#### ***Coverage, perception, and utilization of the stipend***

- What is your understanding/knowledge of the stipend program? Why is it provided according to you?
- Do you receive the stipend?
  - If yes, from when?
  - If no, why are you not receiving the stipend?
- How much stipend do you receive?
- How do you receive the money? In cash or through mobile banking? Do you face any challenges while receiving the money? Discuss.
- Do you think the amount of stipend is enough/sufficient for you?
  - If yes, how?
  - If no, why? (reasons)
- Do you decide where you can spend your money on a stipend?
  - If no, why?
  - Who decides this if not you?
- In which area do you spend the money on a stipend?
- What portion of the stipend do you utilize for your school-related expenditure?
  - Do you consider it sufficient? Why?
  - Do you consider it insufficient? Why?
- According to your knowledge, how many girls are receiving the stipend in your area?
- Is there any girl who is not receiving the stipend?
  - If yes, do you know why?

#### ***Effect of stipend on the schooling***

- Do you think that this stipend is helping you to run your schooling smoothly?
  - If yes, how?
  - If no, why?
- Do you think other girls in your area benefit from the stipend program?
  - in enrollment
  - in continuing the schooling
- If yes, how? If no, why?
- Do you think the stipend program is attracting the 'non-enrolled' girls to the schools in a better way?

- If yes, how?
- If no, what are the existing challenges?
- Do you think this program was needed in your school?
  - If yes, why?
  - If no, why?
- Has the school dropout rate reduced after this stipend?

***Effect of stipend on marriage related decision making***

- Do you feel the stipend has strengthened your position in the family regarding decision-making?
  - If yes, how?
  - If no, why?
- If the stipend program has strengthened your decision-making ability/scope/capacity in the family settings, in which areas are you able to make your own decisions?
  - Expenditure
  - Health
  - Marriage
  - Others
- Do you think your decision-making ability in marriage-related issues increased after you started getting a stipend?
  - If yes, how?
  - If no, why?
- What aspects of marriage-related decisions can you take after receiving a stipend?
  - Please probe
    - Choosing education over child marriage
    - Age at entry into marriage
    - Mate selection
    - Opinion on dowry
    - Others
- Why do you have to marry earlier despite receiving stipend money? (for the girl who went through child marriage)
  - Probe about reasons:
    - Family issues
    - Security issues
    - Cultural issues
    - Social issues
    - Others
- Are your friends/familiar girls/girls from the same community similarly influenced?
  - If no, why?
- The married girls from your community who are married off as a child and also received a stipend from FSSSP – was there any influence of stipend on the occurrence of their child marriage?
  - If yes, what are the influences (both positive and negative)
  - If no, why?
- The married girls from your community who were not married off as a child and received a stipend from FSSSP – was there any influence of the stipend program?
  - If yes, what are the influences (both positive and negative)
  - If no, why? What are the other preventive factors?
- The still unmarried girls from your community (aged over 18) who are not married off as a child and received a stipend from FSSSP – was there any influence of the stipend program?
  - If yes, what are the influences (both positive and negative)
  - If no, why? What are the other preventive factors?

## FGD with married women

**Target Population:** both child bride and non-child bride, and preferably also received FSSA

### Associated Research Questions:

**First General Research Question:** What is the effect of the female secondary stipend program on child marriage?

Specific areas to be explored through this tool: Effect of female secondary stipend program on

- Women empowerment
- Mate selection process
- Age at entry into marriage
- Incentives towards marriage or disincentives

**Second General Research Question:** What is the effect of the female secondary stipend program on fertility preference in Bangladesh?

Specific areas to be explored through this tool: Effect of female secondary stipend program on

- Contraceptive use among married female
- Early childbearing among married female
- Gender preference among married females while childbearing
- Unintended pregnancy
- Children ever born

**Third General Research Question:** How does the year of schooling mediate the relationship between the female secondary stipend program and age at marriage/fertility in Bangladesh?

Specific areas to be explored through this tool: The role of schooling in mediating the relationship between female secondary stipend programs and

- Age at the marriage in Bangladesh
- Contraception use in Bangladesh
- Children ever born in Bangladesh

## FGD Guideline

\*\*\*\* The first two themes can be omitted while taking interviews of child brides and can be directly asked about marriage-related decisions. Or these themes also can be included in the interview. \*\*\*\*

### **Coverage, perception, and utilization of the stipend**

- What is your understanding/knowledge of the stipend program? Why is it provided according to you?
- Did you receive the stipend?
  - If yes, from when?
  - If no, why are you not receiving the stipend?
- How much stipend do/did you receive?
- How do/did you receive the money? In cash or through mobile banking? Do you face any challenges while receiving the money? Discuss.
- Do you think the stipend amount is/was enough/sufficient for you?
  - If yes, how?
  - If no, why? (reasons)
- Did you decide where you can spend your money of stipend?
  - If no, why?
  - Who takes/decided this if not you?

- In which area do/did you spend the money on a stipend?
- What portion of the stipend do/did you utilize for your school-related expenditure?
  - Do/did you consider it sufficient? Why?
  - Do/did you consider it insufficient? Why?
- What percentages of the girls are receiving the stipend in your area?
- Is there any girl who is not receiving the stipend?
  - If yes, do you know why?

#### ***Effect of stipend on the schooling***

- Do you think that this stipend is helping/helped you to run your schooling smoothly?
  - If yes, how?
  - If no, why?
- Do you think other girls in your area are being/ were benefitted by the stipend program?
  - in enrollment
  - in continuing the schooling
- If yes, how? If no, why?
- Do you think the stipend program is attracting/attracted the 'non-enrolled' girls to the schools in a better way?
  - If yes, how?
  - If no, what are the existing challenges?
- Do you think this program was needed in your school?
  - If yes, why?
  - If no, why?

#### ***Effect of stipend on marriage related decision making***

- Do/did you feel the stipend has strengthened your position in the family in terms of decision-making?
  - If yes, how?
  - If no, why?
- If the stipend program has strengthened your decision-making ability/scope/capacity in the family settings, in which areas are/were you being able to make your own decisions?
  - Expenditure
  - Health
  - Marriage
  - Others
- Do/did you think your decision-making ability in your marriage-related issues increased after you started getting the stipend?
  - If yes, how?
  - If no, why?
- What aspects of marriage-related decisions are you/were able to take after receiving a stipend?
  - Please probe
    - Choosing education over child marriage (if no, why?)
    - Age at entry into marriage (if no, why?)
    - Mate selection (if no, why?)
    - Opinion on dowry (if no, why?)
    - Others
- Why do you have to marry earlier despite receiving stipend money? (for the girl who went through child marriage)
  - Probe about reasons:
    - Family issues
    - Security issues

- Cultural issues
  - Social issues
  - Others
- Are your friends/familiar girls/girls from the same community similarly influenced?
  - If no, why?
- The married girls from your community who were not married off as a child and received the stipend from FSSSP – was there any influence of the stipend program?
  - If yes, what are the influences (both positive and negative)
  - If no, why? What are the other preventive factors?
- The still unmarried girls from your community (aged over 18) who are not married off as a child and received the stipend from FSSSP – is there any influence of the stipend program for the prevention of their child marriage?
  - If yes, what are the influences (both positive and negative)
  - If no, why? What are the other preventive factors?

### ***Effects of stipend on fertility preference and actual fertility behavior***

- Do you think receiving the stipend is connected with your fertility preference and behavior?
  - If yes, how?
    - Please prob
      - Through the increasing year of schooling (if yes, how, if no, why)
      - Delaying sexual debut (if yes, how? If no, why?)
      - Through increasing bargaining power on fertility-related issues? (if yes, how? If no, why?)
      - Through knowledge received from the continued year of schooling (if yes, how? If no, why?)
      - Through knowledge of contraception
  - If no, why?
- In what sorts of fertility-related issues have the stipend (through the way mentioned above) kept impact at the decision-making level, bargaining level, or practice level?
  - Use or non-use of contraception
  - Timing of pregnancy
  - Gender preference
  - Birth spacing
  - Total number of childbirths

## IDI with Parents

**Target Population:** Parents of both Child brides and non-child brides

### Associated Research Questions

**First General Research Question:** What is the effect of the female secondary stipend program on child marriage?

**Specific areas to be explored through this tool:** Effect of female secondary stipend program on

- Women empowerment
- Mate selection process
- Age at entry into marriage
- Incentives towards marriage or disincentives

### Interview Guideline

\*\*\* Interview guideline for parents excludes the topic of fertility preference and fertility behavior of the couples and the impact of stipend on it. It can be added later if needs necessary\*\*\*

#### ***Coverage, perception, and utilization of the stipend***

- How many children of yours go to school?
- How many girls go to school?
- What do you know about the stipend program? (in case the answer is negative, please inform us about the basic idea of the program)
- How many girls in your area are recipients of the stipend?
- What do you usually do with the stipend money?
- In your family, who decides the areas where this money will be spent?
- If the amount is spent mostly on girls, what was the purpose of spending?
- Is it easier to continue the daughters' education with the stipend money in hand?
  - If yes, how?
  - If no, why?
- Do you feel responsible for your girls' education after receiving the stipend?
  - If yes, why?
  - If no, why?
- Are there any parents in the community that still do not send their daughters to school?
  - If yes, why?
  - If no, what is the impact of the stipend program behind it, according to you?

#### ***Effect of stipend on marriage related decision making***

- Do you feel the stipend has strengthened your girl's position in the family regarding decision-making?
  - If yes, how?
  - If no, why?
- If the stipend program has strengthened your daughter's decision-making ability/scope/capacity in the family settings, in which areas can your daughter make her own decisions?
  - Expenditure
  - Health
  - Marriage
  - Others
- What aspects of marriage-related decisions can your daughter take after receiving a stipend?
  - Please probe
    - Choosing education over child marriage
    - Age at entry into marriage

- Mate selection
  - Opinion on dowry
  - Others
- Why did you marry off your daughter earlier, even though she received stipend money? (for the parents of the girl who went through child marriage)
  - Probe about reasons:
    - Family issues
    - Security issues
    - Cultural issues
    - Social issues
    - Others
- Are your friends/familiar girls/girls from the same community similarly influenced?
  - If no, why?
- You did not arrange child marriage for your daughter. Is there any influence of the stipend money? (Please ask this question to the parents who did not marry their daughters off before 18)
  - If yes, what influences?
  - If no, why?
- The married girls from your community who are married off as a child and also received the stipend from FSSSP – was there any influence of stipend on the occurrence of their child marriage?
  - If yes, what are the influences (both positive and negative)
  - If no, why?
- The married girls from your community who were not married off as a child and received the stipend from FSSSP – was there any influence of the stipend program?
  - If yes, what are the influences (both positive and negative)
  - If no, why? What are the other preventive factors?
- The still unmarried girls from your community (aged over 18) who are not married off as a child and received the stipend from FSSSP – was there any influence of the stipend program?
  - If yes, what are the influences (both positive and negative)
  - If no, why? What are the other preventive factors?

#### ***Effects of stipend on fertility preference and actual fertility behavior***

- Do you think receiving the stipend is connected with fertility preference and behavior (preferably for your daughter)?
  - If yes, how?
    - Please prob
      - Through the increasing year of schooling (if yes, how, if no, why)
      - Delaying sexual debut (if yes, how? If no, why?)
      - Through increasing bargaining power on fertility-related issues? (if yes, how? If no, why?)
      - Through knowledge received from the continued year of schooling (if yes, how? If no, why?)
  - If no, why?
- In what sorts of fertility-related issues have the stipend (through the way mentioned above) kept impact at the decision-making level, bargaining level, or practice level?
  - Use or non-use of contraception
  - Timing of pregnancy
  - Gender preference
  - Birth spacing
  - Total number of childbirths

## IDI with Teachers

**Target Population:** Teachers of schools where girl students are receiving the stipend

### Associated Research Questions

**First General Research Question:** What is the effect of the female secondary stipend program on child marriage?

**Specific areas to be explored through this tool:** Effect of female secondary stipend program on

- Women empowerment
- Mate selection process
- Age at entry into marriage
- Incentives towards marriage or disincentives

### **Interview Guideline**

\*\*\* Interview guideline for teachers excludes the topic of fertility preference and fertility behavior of the couples and the impact of stipend on it. It can be added later if needs necessary\*\*\*

- Do you understand what the stipend program is and what it is for?
- Do you think that girl students have become more confident after this program?
  - If yes, why?
  - If no, why?
- What other changes do you notice in their (girl students) behavior and personality?
- Do you think the stipend program was needed at your school?
  - If yes, why?
  - If no, why not?
- How many girls in your school are recipients of this stipend?
- Has this Stipend program changed the perceptions of girls' education at the household level?
  - If yes, how?
  - If no, why?
- Has this Stipend program changed the perceptions of girls' education at the community level?
  - If yes, how?
  - If no, why?
- Is there any change in the girl student dropout rate after receiving the stipend?
  - If yes, what changes?
  - If no, why?
- Has the stipend program motivated some parents to start sending their daughters to school?
  - If yes, how?
  - If no, why?
- Has this program affected your community's early marriages (under 18 years)?
  - If yes, how?
  - If no, why?
- Have you noticed any married girls now joining school due to this program?
  - If yes, how many?
  - If no, why?
- Do you think the stipend program will help in empowering girls in terms of
  - Individual value at home
  - Participation in decision-making at home
  - Her decision regarding her health & hygiene
  - Her health-related issues
  - Her marriage-related decisions
  - Her childbearing-related decisions after marriage

- Her decision regarding continuing her education after marriage
- How do parents of girls who are not attending school perceive this facility?
- What do they cost in terms of marriage and childbearing their daughters by being out of this facility? Please discuss
- Do you perceive any flaws in this cash transfer program or any suggestions to improve the program? Please discuss

## KII With Policy Level

**Target Population:** Policy-level stakeholders from different ministries like MOWCA, MoHFW, Ministry of Education, Upazila Education Officer etc.

### Associated Research Questions

**First General Research Question:** What is the effect of the female secondary stipend program on child marriage?

Specific areas to be explored through this tool: Effect of female secondary stipend program on

- Women empowerment
- Mate selection process
- Age at entry into marriage
- Incentives towards marriage or disincentives

**Second General Research Question:** What is the effect of the female secondary stipend program on fertility preference in Bangladesh?

Specific areas to be explored through this tool: Effect of female secondary stipend program on

- Contraceptive use among married female
- Early childbearing among married female
- Gender preference among married females while childbearing
- Unintended pregnancy
- Children ever born

**Third General Research Question:** How does the year of schooling mediate the relationship between the female secondary stipend program and age at marriage/fertility in Bangladesh?

Specific areas to be explored through this tool: The role of schooling in mediating the relationship between female secondary stipend programs and

- Age at the marriage in Bangladesh
- Contraception use in Bangladesh
- Children ever born in Bangladesh

## Topic Guide

- **About the FSSA Program**
  - The background of the program
  - Alignment with the country's priorities
  - Current remarks on the program
    - Remarks on existing Need assessment
    - Remarks on Need wise performance
  - Policy level challenges while running the program
    - Demand side challenges
    - Supply-side challenges
  - Public-private partnership issues
- **Perceived effectiveness of the program**
  - On continuation of education
    - Perception about the success of the program in ensuring the continuation of girls' education
    - Perceived reasons for success/lack of success
    - Associated challenges in this regard

- On reducing child marriage
  - Perception about the success of the program in reducing child marriage
    - Age at entry into marriage
    - Mate selection
    - Dowry practice
    - others
  - Reasons behind the success/lack of success
    - Responsibility for the demand side
    - Responsibility for the supply side
  - Associated challenges in this regard
- On fertility-related issues
  - Perception about the success of the program in reducing fertility
    - Fertility preference
    - Contraceptive use
    - Number of childbirth
    - Birth spacing
    - others
  - Reasons behind the success/lack of success
    - Responsibility for the demand side
    - Responsibility for the supply side
  - Associated challenges in this regard
- **Way forward**
  - Current loopholes
  - Target population-specific recommendations

## Appendix IV: List of Technical Committee Members

পপুলেশন সায়েন্সেস বিভাগ  
ঢাকা বিশ্ববিদ্যালয়



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1. **Professor Dr A K M Nurun Nabi**, Founder Chairman, Department of Population Sciences, University of Dhaka
2. **Professor Dr. Syed Shahadat Hossain**, Institute of Statistical Research and Training, University of Dhaka
3. **Dr Abu Jamil Faisel**, Public Health Expert Advisor, Ministry of Health and Family Welfare (MoHFW), Government of the People's Republic of Bangladesh
4. **Professor Dr. Mohammad Ali Zinnah**, Institute of Education and Research, University of Dhaka
5. **Professor Dr. Md. Sheikh Giash Uddin**, Department of Statistics, Jagannath University, Dhaka
6. **Professor Dr. Muhammad Shahadat Hossain Siddiquee**, Department of Economics, University of Dhaka
7. **Dr. Sanzida Akhter**, Associate Professor, Department of Women and Gender Studies, University of Dhaka
8. **Mr. Mohammed Ahsanul Alam**, Director Research (CC) and Line Director OP-TRD, National Institute of Population Research and Training (NIPORT), Dhaka, Bangladesh
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11. **Md. Mehedi Hasn Khan**, Associate Professor, Department of Population Sciences, University of Dhaka
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14. **Farhana Ferdous Luna**, Assistant Professor, Department of Population Sciences, University of Dhaka

## **Appendix V: List of Research Assistants and Data Collectors**

### **Research Assistants:**

1. Anika Tahseen Nuva
2. Md. Fakrul Islam Roni

### **Qualitative Data Collectors:**

1. Abdullah Al Mamun
2. Hossna Tasmia Monia
3. Sharmin Sultana Shoma
4. Shaima Shohuda Kashfi
5. Sanjana Khaleque
6. Ziaul Haque
7. Md. Saief Zawad
8. Al Imran Md. Moniruzzaman
9. Isna Haque Sheoti
10. Jumana Akter
11. Mashiat Abedin
12. Sadia Roushan

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