**Bangladeshi women breaking societal norms**
A field study of women who are attending engineering and science educations at Bangladesh University of Engineering and Technology

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ABSTRACT

Women and men are equal by law in Bangladesh, but the societal reality shows a different picture. By illuminating the obstacles women face when entering and choosing an engineering and science program and what enables women to overcome obstacles, this thesis aims to answer why there are fewer women than men at Bangladesh University of Engineering and Technology (BUET).

This thesis was a field study conducted at BUET. Questionnaires was handed out to get a broader perspective of women’s experiences within science and engineering while the interviews aimed to get an in-depth perspective of women’s own experiences being in science and engineering. The empirical data has been analysed using the Social Cognitive Career Theory (SCCT), the domestic responsibilities model and previous research about social norms within science and engineering and female networks. The thesis concludes that there are two main explanatory factors why there are fewer women than men studying science and engineering at BUET. Those factors are the social construct that science and engineering programs are more appropriate for men and that families do not have a beneficial Socioeconomic Status (SES) to allow women to study. The main factor enabling women to study and pursue an engineering and science program is family support.

Keywords: Women in engineering and science, Bangladesh University of Engineering and Technology (BUET), gender equality, societal norms, barriers and obstacles.

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1. INTRODUCTION

The Asian-Australian region stands for 60% of the world's population today and is highly diverse in terms of culture, environment, government systems and gender equality. Education has reached almost gender parity in all countries including Bangladesh, where women and men have the benefit of free state education up to secondary level regardless of socioeconomic status (SES) and gender. Because of this, the enrolment of women is high in primary and secondary education but after secondary education the representation of women declines considerably especially within male dominated fields as science and engineering (The Association of Academies and Societies of Sciences in Asia (AASSA) 2014) (Central Intelligence Agency 2018).

At Bangladesh’s highest ranked engineering university, Bangladesh University of Engineering and Technology (BUET) 19.2 % of the students are female. Even though the number of women in engineering is on the rise in Bangladesh, it is important to study the gender dynamics of career choices. This because the engineering profession historically has been male-dominated and seen as a masculine profession which may have discouraged women from studying engineering programs (Saifuddin, Dyke & Rasouli 2013, pp. 188-209). It is important to raise the awareness of gender equality, to clear the obstacles hindering women from choosing an education within engineering and science in Bangladesh and at BUET (AASSA 2014). Even though enrolment and success rates in education are important for every country it is especially important for a developing country like Bangladesh (Rahman 2008, pp. 115-128). What obstacles women encounter when choosing and entering a science and engineering education and what factors enable women to overcome these barriers is therefore studied in this thesis. This to understand why there are fewer women than men studying engineering and science at BUET.

1.1 Problem formulation

The purpose of this field study is to investigate which factors that are considered when women choose an engineering and science program in Bangladesh, to illuminate what obstacles women encounter when choosing a higher education program, within engineering and science. The focus of this thesis is on the respondents’ own experiences and motivations for their choices. The question that is raised to be answered in this study is the following:

- Why are there fewer women than men studying science and engineering at Bangladesh University of Engineering and Technology?

The sub-questions that are raised to be answered are:
- What obstacles do women experience when choosing and entering programs within engineering and science at BUET?
- Which factors enable women to overcome any barriers and study science and engineering programs at BUET?

1.2 Delimitations
Since this study investigates women’s own experiences and motivations there can be no conclusions drawn as to whether this result is unique to female students. This is not a comparative study between women and men.

The International Science Program at Uppsala University has reliable contacts and recommended the study to be performed at BUET. Since this study was conducted at BUET it might not be representative for all female engineering students in Bangladesh.

Since BUET has many faculties and departments it cannot be guaranteed that women from all departments are represented in the report since the questionnaires are anonymous and do not require respondents to fill in their faculty and department.
2. BACKGROUND

In this background section Bangladesh as a country and its history is presented as well as the Bangladesh school system and how social factors for girls attending education have developed through the years. Lastly information about BUET and the admission exam at BUET is presented.

2.1 Bangladesh

Bangladesh is a country in South Asia with 164.7 million inhabitants and it is the world’s most densely populated country (NE 2017). Over 19 million citizens inhabit the capital, Dhaka (World Populations Review 2018). Bangladesh is one of the poorest countries in the world and is severely affected by floods and other natural disasters. The economy is mainly agricultural though there is also an important manufacturing sector, with the clothing industry standing for 70% of exports (NE 2017).

In the 19th century the country that today is called Bangladesh was a part of British India under the British control. Upon independence in 1947 British India split into India and Pakistan, and East Pakistan was constantly repressed by West Pakistan. After the inhabitants in East Pakistan rebelled and a war broke out between India and Pakistan, East Pakistan became independent in 1971 and is now called Bangladesh (NE 2017).

2.2 Education system

In Bangladesh the Ministry of Primary and Mass Education (MoPME) and the Ministry of Education (MoE) share responsibility for the education system. The MoPME is responsible for the primary education and non-formal education which is available in a religious variant, Madrasahs, while the MoE is responsible for all education after primary school. Non-formal education takes place outside the classic school environment and the main goal is to tackle illiteracy through education regarding work-related or talent development programs. Non-formal education is provided at different levels, including for people that have left school without a qualification (EP-Nuffic 2012).

Primary education starts when children turn 6 years old and lasts 5 years. Primary education is free and there are two different types: traditional public education and religious education called Madrasahs. After primary education comes secondary education. There are three different programs in secondary education, the first is general, the second is religious and the third is a technical vocational secondary education. Secondary education lasts for seven years. Junior secondary lasts for three years, middle secondary for two years and higher secondary education lasts for two years. Secondary schooling concludes in a public examination leading to a Secondary School Certificate (SSC) while the higher secondary education leads to the Higher Secondary Certificate (HSC) (EP-Nuffic 2012).

To get admitted to a university, a student must have an HSC and a certain grade point average. This is often complemented with an entrance examination at the university. However
not even ten percent of the age groups are admitted to higher education. Various private institutions are working on increasing the number of students gaining admission to higher education however. To continue with a master’s degree, the student must have completed a four-year honours bachelors program and taken a certain number of credits (EP-Nuffic 2012).

2.3 Social development

In Bangladesh the historical socio-cultural environment makes women face many obstacles, one of them being gender discrimination. Since girls often are a financial burden to families in rural Bangladesh they often receive less investment in for example education and healthcare. Bangladesh has one of the highest rate of child marriage in the world and high levels of adolescent motherhood. The maternal mortality is also high, due to the lack of access, knowledge, and use of medical services (UNICEF 2010). Bangladesh has made major improvements regarding different social developments during the recent years (Ahluwalia & Mahmud 2004, pp. 4009-4011). Both Non-Governmental Organisations and the Bangladesh government have played a role in different social development initiatives, like microcredit and “food for education” programs. These programs have helped children and especially girls from poor households to be able to go to primary school. Among the social development initiatives, the government founded a stipend program to promote female students to attend secondary school. The stipend program has not only had an impact on girls but also on parents’ attitudes and the social norms regarding girls getting an education (Mahmud, Asadullah & Savoia 2013). Despite the widespread poverty and the social repression of women and girls, Bangladesh has managed to extend the education front for girls, mostly due to a successfully expanding primary education (Ahluwalia & Mahmud 2004, pp. 4009-4011). Economic growth in the country has also been helped by creating employment opportunities for the poor, which means that families are able to increasingly send their children, especially girls, to school (Mahmud, Asadullah & Savoia 2013).

Even though girls from rural areas can get a primary and secondary education, girls are still being kept back from participating at levels commensurate with men in several areas. And even though women and men have equal rights according to Bangladeshi law many women still grow up amidst taboos and prejudices that limit their development. This pushes women to a lower status and hinders their interest in education, as well as their performance. The gap in education between women and men has been reduced over the last couple of years but women are still underrepresented in science and engineering compared to other fields (Jahan, Keil, Hartman & Choudhury 2018). Given the efforts towards equality in primary and secondary education and since most institutions offer equal opportunities and education for both women and men the question remains why there are fewer women in higher education, and especially in engineering and science.
2.4 Bangladesh University of Engineering and Technology

BUET is one of the oldest and most prestigious universities in Bangladesh. Every year BUET takes in around 900 undergraduate students and around 1000 postgraduate students pursuing their Masters or PhDs in engineering, architecture, planning and science. BUET has three institutes, five faculties and sixteen teaching departments. There are around 500 teachers teaching and around 5500 students in total (BUET 2018a). BUET has five faculties with a wide range of research and teaching programs: Faculty of Engineering, Faculty of Civil Engineering, Faculty of Mechanical Engineering, Faculty of Electrical and Electronic Engineering and Faculty of Architecture and Planning (BUET 2018b).

Within the Faculty of Engineering there are several departments; Department of Chemical Engineering, Department of Materials & Metallurgical Engineering, Department of Glass and Ceramic Engineering, Department of Chemistry, Department of Mathematics, Department of Physics and Department of Petroleum and Mineral Resources Engineering (BUET 2018c).

To get accepted to BUET students must take a competitive admission exam that only can be taken once in a lifetime (All Results BD 2018). When a student has completed their HSC, they can apply for admission but there is only a limited number of entrance exam seats and a lot of students applying. This means that a lot of students are not even able to take the admission exam (Readingdb 2018). The requirement needed for taking the admission exam is that a candidate must have at least a GPA-4 of a total scale of GPA-5 from Secondary and Higher Secondary education. Candidates also need a total GPA score of 24 from mathematics, physics, chemistry, English and Bangla. This means that you need to be a student with high grades to be able to take the admission exam. Only a total of 9000-10000 students can take the admission test each year (Readingdb 2018).

When doing the intake exam there are two different types of exams. The first one covers physics, chemistry and mathematics and the other examines free hand drawing. The second exam is only needed if you want to get into a department such as Architecture and Planning. The mathematics, physics and chemistry are all worth 200 marks each and the free hand writing is worth 600 points. Of the 9000-10000 writing the exam approximately 10 % are admitted each year. Different departments have different number of available seats, as presented in table 1 (Readingdb 2018).

<table>
<thead>
<tr>
<th>Departments</th>
<th>Available Seats Annually</th>
</tr>
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<tbody>
<tr>
<td>Chemical Engineering</td>
<td>60</td>
</tr>
<tr>
<td>Materials and Metallurgical Engineering</td>
<td>50</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>195</td>
</tr>
<tr>
<td>Water Resources Engineering</td>
<td>30</td>
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<tr>
<td>Mechanical Engineering</td>
<td>180</td>
</tr>
<tr>
<td>Naval Architecture and Marine Engineering</td>
<td>55</td>
</tr>
<tr>
<td>Industrial and Production Engineering</td>
<td>50</td>
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<tr>
<td>Department</td>
<td>Seats</td>
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<td>-----------------------------------------------</td>
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</tr>
<tr>
<td>Electrical and Electronic Engineering</td>
<td>195</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>120</td>
</tr>
<tr>
<td>Biometrical Engineering</td>
<td>30</td>
</tr>
<tr>
<td>Architecture</td>
<td>55</td>
</tr>
<tr>
<td>Urban and Regional Planning</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>1050</strong></td>
</tr>
</tbody>
</table>

Table 1. All available seats at the different departments at BUET. Of the total 9000-10000 taking the exam, approximately 10% will therefore get accepted.


The intake exam is held at the BUET campus and students ranking is based on the admission exam result. The results are given in a merit position meaning the better the exam results, the higher ranked a student is. Students are given a chance to choose a department in the order of their merit position, meaning that a student who has a lower position might not be able to choose which department they want to go (CSE 2018).
3. THEORY AND PREVIOUS RESEARCH

In the theory and previous research section the theoretical basis of this study will be presented. The chosen theories aim to highlight both gender differences, and the environmental support and traditional prejudices women experience when studying engineering and science at university level. Social Cognitive Career Theory (SCCT) and previous research about social norms within science and engineering and female networks will be used to analyse the empirical data.

3.1 Women in engineering and science educations

The engineering and science professions have traditionally been male dominated, and while progress is being made to encourage women in these fields, the rate of progress has been very slow (Jahan et al. 2018). In 1991 the American physicist Stephen G. Brush wrote in the article *Women in Science and Engineering* that the open-faced discrimination towards women in science and engineering may have now been veiled, but since women are still underrepresented in these fields, discrimination is still effective (Brush 1991, pp. 404-419). More than 20 years later Isis H. Settles, professor in psychology, also wrote that women in science and engineering tend to face gender discrimination (Settles 2018). Settles research indicates that a supportive environment for females in science and engineering has not sufficiently developed during these years. The efforts to recruit women into technical programs and eliminate the obstacles within, and prior to, their education is not sufficient according to Brush. The laboratory and classroom environments are often not inviting and women who have entered science and engineering programs have found that they are not welcomed (Brush 1991, pp. 404-419). Some reasons for the low interest in engineering and science among women according to Settles is the experience of gender discrimination related to lower salary, fewer promotion opportunities, less access to administrative staff, and higher unemployment than men within the same field (Settles 2018).

Brush also writes about women in science and engineering and how stereotypical scientists and engineers are portrayed. Scientists and engineers are often understood to be men and the cultural stereotype of science as masculine is very strong (Brush 1991, pp. 404-419). People therefore associate science and engineering with men and often have a negative opinion about women in these “masculine” positions. Women are also often judged as being less competent than men in “male” jobs, like engineering and science, unless they are very successful (Hill, Corbett & Rose, 2010).

Scientists and engineers mentioned or pictured in literature and textbooks are almost always males. When a discovery made by a woman is discussed she usually do not get credit for it. How the pairing of the word “scientist” or “engineer” and “male” affects young women when choosing to study these subjects may be different, but according to Brush it must have an impact. It is hard to exactly tell what these impacts are, but in a survey where female students were asked who they most admired, out of 509 female students only 3 named a woman. This enhances the picture of a scientist and engineer being a man (Brush 1991, pp. 404-419).
Since the studies by Brush and Hill, Corbett and Rose state that people picture engineers in a specific way and associate it with a man and that this can affect women when choosing and entering a science and engineering education, this study investigates if the female students at BUET have been affected by this. The study also investigates if the female students at BUET believed that people in Bangladesh picture an engineer in the way Brush and Hill, Corbett and Rose described it and if they agreed that this created an obstacle for females choosing and entering a program within science and engineering.

3.2 The domestic responsibilities model

Many women in Bangladesh are affected by a patriarchal social system, a system which controls for example women’s mobility. Men in both rural and urban areas do not want the women in their families to travel alone which limits their chance to do things on their own. This kind of system also controls women’s role in society making them responsible for the domestic responsibilities (Sogra 2014). Domestic responsibilities are according to the European Institute for Gender and Equality tasks performed inside a household to ensure that the needs of its members are met. These responsibilities consist of cooking, cleaning and taking care of children or older adults. In many societies the person responsible for these tasks is in a subordinate position and most often women or girls are responsible for the household even if they study or work outside the home (European Institute for Gender Equality 2018).

Diane Bebbington describes the domestic responsibilities model in her research Women in Science, Engineering and Technology: A Review of The Issues as an explanation for gendered patterns of segregation in the labour market and that the disadvantages primarily come from the demands of motherhood and family (Bebbington 2003, pp. 360-375). Many eastern women are burdened with the choice between marriage and motherhood or a professional career. The possibility to combine these is only slowly gaining acceptance (Jahan et al. 2018).

Even though a combination of motherhood and a professional career is gaining acceptance, many women still leave their science and engineering careers because they cannot balance their work with family responsibilities (Hill, Corbett & Rose 2010). Bebbington also states that women in engineering and science can have difficulties handling the demands of both professional and family life, and this is most common for women in traditionally male dominated occupations. Women within science and engineering also tend to have children later in life than those in other occupations, or not at all (Bebbington 2003, pp. 360-375).

Since Sogra wrote that women in Bangladesh often are responsible for the domestic responsibilities, this study investigates if female students could be applied within Bebbington’s domestic responsibility model. Since they had chosen and entered a male dominated education where Bebbington stated that women especially had problems with handling the demands of both professional and family life, this study aimed to investigate if the female students at BUET saw this as an obstacle within their education and future careers.
3.3 Social Cognitive Career Theory

Social Cognitive Career Theory (SCCT) is based on Albert Bandura’s Social Cognitive Theory (SCT), a theory about cognitive and motivational processes. SCT states that learning occurs in a social context with a reciprocal and dynamic interaction of a person's behaviour and environment. SCT is unique in the way that it emphasizes social influence as well as external and internal social reinforcement. The theory considers in which way individuals obtain and maintain a behaviour and the social environment in which individuals perform the behaviour (LaMorte 2016). SCT was first applied to career choices by Hackett and Betz in 1981 where they focused on a self-efficacy theory to explain women’s traditional career choices. Self-efficacy is a term defined by Albert Bandura and is the belief in your own ability to influence what effect your life and control how events are experienced (Bandura 1994). This new application of SCT led to investigations of what role self-efficacy play in career related behaviours. SCCT developed from SCT into a social cognitive framework to explain and predict career behaviour. SCCT focuses on interests, choices and performance based on Bandura’s social cognitive theory (Fouad & Swanson 2015).

Since a career choice often starts with an educational choice the SCCT provides a useful framework for understanding why there are fewer women than men choosing and studying an education within engineering and science at BUET. Robert W. Lent, Steven D. Brown and Gail Hackett writes in their article Social Cognitive Career Theory (2002) that SCCT is aimed to explain three aspects of career development:

1. How career and academic interests develop.
2. How career and educational choices are made.
3. How career and academic success is obtained.
Figure 1. The SCCT model.


Figure 1 shows the SCCT model that focus on self-efficacy, expectations, earlier experiences and interests and how these are integrated with a person’s environment, gender, social support, ethnicity and barriers. According to SCCT, when a person has the right skills and the environmental support to pursue their interests then they can become more interested, and perform better, in their chosen activities. Since childhood, children are exposed to different activities because of their gender. Girls activities in school, at home and in their communities, differ from the boys and therefore boys and girls are exposed to and reinforced for pursuing different kinds of activities (Lent, Brown & Hackett 2002, pp. 255-311).

A person's interest is often constrained by economic need, educational limitation, family pressure or cultural values, according to SCCT. If this is the case it leads to a compromise, which means that the interests are set aside, and the person may have to do work that is available even though it is not any of their interest. The SCCT says that people will pursue their interests with the right “environmental influencers” which refers to support, for example family support both financial and emotional, surmountable barriers, and the available type of good opportunities. SCCT states that interest connected to the types of choices people make in a supportive environment, rather than in a restrictive environment, will be more of a potent predictor of success (Lent, Brown & Hackett 2002, pp. 255-311).
3.3.1 SCCT as a framework for understanding underrepresentation in Engineering and Science Educations

After investigation from a social cognitive perspective Nadya Fouad and Mercedes Santana state in their article from 2017 SCCT and Underrepresented Populations in STEM Fields: Moving the Needle that the underrepresentation of women in Science, Technology, Engineering and Mathematics (STEM) fields is still a concern after more than four decades. The SCCT framework is one of the major frameworks for investigating underrepresentation of women in STEM fields. In previous research, the SCCT model has been used to understand factors influencing early choices in high school but also later in life in workplaces or college. The SCCT interest and choice model is based on constructs such as self-efficacy, outcome expectations and interests as well as contextual factors that influences career choices. Fouad and Santana (2017) explain that building self-efficacy for math and science and creating realistic outcome expectations would prepare women for entering a STEM occupation (Fouad & Santana 2017, pp. 24-39).

According to the SCCT this would mean that by building interest and intentions more women would be enabled to go into STEM fields including engineering and science. But according to Fouad and Santana these might not be the only factors for understanding why women are underrepresented in STEM fields. Contextual factors such as SES or mentoring may also affect career choices and by using SCCT as a framework a deeper understanding of the complexity of factors and opportunities in the decision-making progress when choosing a career or education can be understood (Fouad & Santana 2017, pp. 24-39).

To understand why there are fewer women than men studying at BUET, SCCT was used because it has been a good framework for similar studies prior to this thesis. In this study SCCT theory is used to analyse respondents’ answers and motivations, to analyse if the factors that SCCT points out as important for pursuing an interest to a career choice are important for the interest and choice of an engineering or science education. This means examining if social support, self-efficacy within the subjects and a supportive learning environment influenced the responding women to study engineering or science.

3.4 Importance of female networks

Formally organised female networks are a growing phenomenon. These networks exist so that women can share their experiences and other work-related advice. Helen McCarthy explains in her article Girlfriends in High Places that women still perceive what she calls the ‘Old Boy Network’ to be a barrier for career advancement. Women are often excluded from informal male networks (‘Old Boy Network’) due to gender related factors. Some of these factors are unequal division of childcare and housework which means women have less time to participate in networking activities at work and ‘male bonding’ activities that strengthen the social relationship between men. Even though a lot within gender equality has been done in recent years, women still experience inequality in pay, promotion and representation, especially in higher positions (McCarthy 2014).
A strategy to overcome these invisible structures and obstacles that hold women back can be female networks. Networks are flexible and do not require much infrastructure which means that women can easily connect and communicate which makes women more visible. The networks can also help women to take charge of their own development in their careers through mentoring and other gender-related initiatives. Women with higher positions can mentor and give advice to other women about childcare and organisational development. Empowering women and creating a place where success for women is the norm is also an important part of female networks. By providing opportunities for the networks, women can become more visible and put themselves up for new leadership roles. Female networks do not only try to empower the individual, they are also a collective strategy for change, to alter the power balance between the sexes (McCarthy 2014).

As female networks can be a strategy to overcome some obstacles women face according to McCarthy this study investigates if female students at BUET are part of any female networks. The study also investigates if respondents believe that female networks can help to overcome obstacles and invisible structures that are holding women back in engineering and science.
4. METHODOLOGY

In this section the methods used to gather empirical data at BUET will be discussed. The main method used was interviews with a complementary questionnaire. A literature study of Bangladesh culture, history and habits was undertaken prior to the field study to get a wider perspective and avoid cultural clashes or misunderstandings. Previous research within gender studies was also used as a complement to the study. This study is both quantitative and qualitative. The questionnaire is the quantitative part and aims to get the broader perspective of women studying engineering and science at BUET. The interviews are the qualitative part and aim to better understand in-depth experiences and opinions from engineering and science students at BUET.

The participants in this study are female engineering and science students at BUET. The questionnaire “Women in Science and Engineering programs” (see Appendix 2) was answered by 38 female students at BUET, covering bachelor, master and PhD students from different departments. From the questionnaires interview respondents were picked out with regards to their degree and what they answered on the questionnaire. The range of interview respondents was designed to get a wide perspective from first year students to PhD students and to get a variety of opinions. In total five interviews were conducted.

All students in this study are kept anonymous so they would be able to express themselves freely without having to answer for what they have said. Their department will also be kept anonymous as in some departments there are not that many female students which could lead to finding out who said what. The anonymity applies for both the questionnaire and the interviews. The respondents’ ages and degrees are revealed in this report since age and degree differences might have impacted respondent’s experiences of BUET.

4.1 Field study

This field study aims to understand why there are fewer women than men studying science and engineering at BUET at both undergraduate and postgraduate levels. The field study was conducted during the spring of 2018 from the 20th of March to the 15th of May. To get a broader understanding a local context analysis was made involving local issue implications and conditions to make the information more relevant and relatable, therefore bringing a clearer idea about the experiences of women attending universities as students (U.S Department of Homeland Security 2017).

4.2 Questionnaire

To complement the qualitative study a quantitative study was performed. A questionnaire was formulated before the field study started. The questionnaire provides an opportunity to explore issues that can be perceived as uncomfortable to talk about, since the method gives informants anonymity. Questionnaires are also important for capturing data that cannot be observed (Olds, Moskal & Miller 2005, pp. 13-25). There are some difficulties with using questionnaires as a
methodology and it is important to construct the questionnaire with a logical order and to reflect about the answering opportunities. This is to avoid misunderstandings and to get more reliable responses. The questionnaire should also not be too long as respondents might get bored or impatient and not finish the questionnaire (Song, Son & Oh 2015, pp. 323-328). Another difficulty with questionnaires is that the quality of the information gathered from questionnaires depends a lot on whether the respondents answer honestly and if they can answer accurately. Creating a questionnaire that will enable valid usable results is difficult, but when both open-ended and selected-response question are used the quality information gathered from the questionnaire may be maximized. An open-end question requires a respondent to answer in an unstructured way with a short answer. Selected-response questions on the other hand have a predetermined list of responses which the respondent can choose from. When handing out the questionnaires the number of adequate responses cannot be ensured. A low response rate can reduce ability to generalize the survey in a broader perspective but since this study lies within BUET this is not something that will affect the results (Olds, Moskal & Miller 2005, pp. 13-25).

50 questionnaires (appendix 2) were distributed to female students outside the female common rooms at BUET and 38 were collected. The questionnaires contained questions designed to capture a broader perspective of female students’ backgrounds and their point of view of BUET and Bangladesh. Female students’ opinions about whether women and men are treated differently in society in Bangladesh and if they believed that women and men have the same opportunity for higher education were investigated. The questionnaire also aimed to investigate respondents’ backgrounds, such as if parents had an academic background and if the area respondents came from mattered.

4.3 Interviews

The intent with the interviews was to listen to the women’s stories about their daily life at the university, any obstacles they have encountered during their time there and how they ended up at the university. It is important to focus on and encourage their strengths and opportunities, and not only focus on constraints, to get a wider picture; therefore, the interviews also consisted of questions about what enabled the respondents to be able to choose and enter their program at BUET. The interviews were semi-structured, since a conversation tends to lead to more reliable information. Because of this the five interviews turned out to be slightly different depending on the respondent’s experiences and answers. The intention with this configuration was to understand the respondents view of their reality (Hedin 1996). The interviews were audiotaped and transcribed, and notes were taken during the sessions. This is common when making interviews and helps when the data is analysed (Olds, Moskal & Miller 2005, pp. 13-25).

To get an insight in respondents’ everyday life at the university this study also included spending ordinary days at BUET with the female students. When interviewing or sending out
questionnaires the respondents’ willingness and active cooperation highly affects result while the observation method is independent of respondents’ responses (Kothari 2004, pp. 96).

As mentioned, the interviews were semi-structured and turned out differently each time. All the respondents answered questions about their family and background. Such information is important because the background and SES can have an impact on opportunities to study at university. After this background information, questions focused on what their path to the university had looked like, if they faced any obstacles along the way, and which factors enabled them to be where they are today. Questions about the environment and if they felt comfortable and welcomed at BUET were also asked to know what the environmental support at the university looked like. The interviews finished with questions about students’ future, if they thought they would be viewed and treated differently than males in their working life and what obstacles they might encounter later in life.

4.4 Data analysis

The data of the field study consisted of observations, interviews and questionnaires. Burnard, Gill, Stewart, Treasure and Chadwick write that data from a study needs to be analysed by the researcher and be analysed differently whether the data is quantitative or qualitative. In quantitative research, the data analysis should occur after all the data have been collected; in qualitative research the data analysis should begin during, or immediately after, the first data has been collected (Burnard, Gill, Stewart & Treasure 2008, pp. 429-432). Therefore the interviews in this study were analysed, processed and transcribed after the data from each interview had been collected while the data from the questionnaires were analysed after all the data had been collected.

The qualitative data from the interviews and observations were analysed with thematic analysis, a method for identifying, analysing and reporting patterns within data. This method consisted of reading and re-reading to get familiar with the data, identifying important features that might be relevant to the research, searching for patterns within the data, reviewing these patterns and then defining and naming them. The final step was to contextualise the analysis within the existing literature and theory (Braun & Clarke 2006, pp. 77-101). The data from the questionnaire were processed and the basic statistic are presented in the result and discussion section. Some quotations from the questionnaires were picked out because they helped elucidate and emphasize patterns.
5. RESULTS AND DISCUSSION

This results and discussion section contains interpretations of the respondents’ answers from the questionnaires and interviews. The empirical data is analysed and interpreted considering background, theory and previous research presented in previous sections.

5.1 The education of Bangladeshi women

In this section the general picture of the situation regarding women studying higher education in Bangladesh is presented. The respondents’ experiences of how SES, domestic responsibilities and restriction of mobility create obstacles for women studying at university level together with how society pictures an engineer in Bangladesh according to the respondents is presented and discussed.

5.1.1 Socio-economic status

Cultural expectations of women and men are in general different in Bangladesh. In many cases this means that women and men are treated differently. In the questionnaire 87% of the respondents answered that women and men were treated differently in society in Bangladesh. But when answering the question if women and men have the same opportunity for higher education over 60% believed so. One of the respondents to the questionnaire who answered that she believes that women and men have the same opportunity for higher education in Bangladesh also commented that:

Actually, the opportunity depends on the socioeconomic condition of a family. If the family is from urban area, mostly the opportunity is same for both male and female. Families having rural backgrounds often don’t let their daughters to study higher.

Another comment to the same question from a different respondent was:

Actually, it depends on from what clan of society you belong to and the background of your family. Girls from a family with an education background and high clan society get the opportunity for higher education in Bangladesh. On the other hand, poor girls don’t have the opportunity of higher education in Bangladesh.

This means that if you are from an urban area both women and men in most cases have the same opportunity for higher education. If you are from a rural area males and females might not have the same opportunity for higher education. As the respondent answered, the poor girls don’t have the opportunity for higher education in Bangladesh which means that there is also an economic barrier constraining some girls from continuing their education. The same is stated by the SCCT theory, which says that even though a person has interest they may often be constrained by economic factors. According to SCCT, girls in rural areas won’t have the right “environmental influencers” meaning financial support from family. This meaning that girls
won’t be able to make it to science and engineering programs. Another factor making girls in rural areas not able to study are cultural values. Some respondents stated in the questionnaire why females and males don’t have the same opportunity for higher education. In rural areas girls are forced to marry at an early age. So, they cannot pursue to higher education. Another stated, Girls in our country are mostly married off after HSC. This scenario is common in villages but not in town to that extent. They mean that if a girl must marry at such an early age she would not have the same opportunity as men, but marrying at such an early age is more common in the rural areas. Another also mentioned that Now a day’s government in Bangladesh is giving support for women education. But women and men do not get same opportunity for higher education due to different type of social behaviour, especially at the poor families.

Interview respondent 2 was the only interview respondent who did not grow up in Dhaka and she was also the only one who said that it was not common for girls to study engineering or science in the area where she grew up:

Yes, normally in the village, the female children get less facilities than male children but since my father and my grandfather both are educated, they were very much interested about education and they gave me the chance for higher education. They have helped me much, but I am lucky for that but every family student child did not get this type of opportunity, not every family does allow the female children for higher education.

Even though respondent 2 was a girl that did not grow up in Dhaka she had the environmental support to pursue her interest according to SCCT. Respondent 2 had the economic ability but also support from her family to pursue her interest within science. This made her overcome the barriers and able to follow her interest to be an engineer. When interviewing the other respondents, they all said that they knew at least one woman studying or a woman that had studied to be an engineer. A reason why engineering and science was not a common subject for girls to study in the area where respondent 2 grew up, might be because she is almost 20 years older than the other respondents. During the interview all the respondents explained that time has changed the way society thinks and that it is more accepted today that females get a higher education, especially in male dominated fields like engineering. Interview respondent 4 said:

The perspective have changed actually, a lot and in the last 10 to 15 years. In the past there was discrimination and women studying everywhere, was not so common in Bangladesh, but now it is a very good climate for girls to study in Bangladesh.

Interview respondent 4 also mentioned that men still treat females in a certain way even though the climate for girls to study in Bangladesh has become better during the years:

Actually, in Bangladesh, if you ask anyone, they will answer you that, there is something that boys are not accepting girls as much as boys actually. Here if one boy he is educated, but his concept about girls is not
so opened minded, they always think that a girl should do everything like with his educational life he's like job, she should maintain her family and maintain her home and everything like husband and children so this concept have not changed yet.

5.1.2 Domestic responsibilities
Interview respondent 2 is studying to complete her PhD at BUET and she is a mom of two kids. This gives her another perspective compared to the other respondents since they do not have any kids and since they are younger than respondent 2. She explained that she had to work hard when her kids were small since both family and the household responsibilities were her duty.

I have to manage both, that is why I feel so much pressure, I have to manage my home totally, it is my duty, woman's duty to manage children, and then we have to manage our job-place so I need to work hard. I get very little time for sleeping. He (her husband) helps as much as he can, but normally our men partner are not used to help at the house work.

As Bebbington (2014) described, domestic responsibilities create an obstacle for women in Bangladesh. Since domestic responsibilities are considered a women’s job, this can become a problem, since women may not have time to take care of both their family and their work, which interview respondent 2 mentioned as well that, the main problem is that they have to manage both family and job bits. If they can’t manage their family, they are not able to take any jobs.

This means that if a woman has problem to manage the domestic responsibilities she might not be able to take any job. The other students in this study have not yet faced any obstacles regarding domestic responsibilities since all respondents except respondent 2 still live with their parents, since they are not married. Interview respondent 4 spoke about what obstacles she might have to encounter when having a family and kids to take care of, and that she might have to compromise her education to be able to handle her domestic responsibilities:

Family can be an obstacle like after getting married, I do not know how much time I will have until I will have time for them, if I have to compromise. Like, after doing master’s degree I maybe study or getting admitted into PhD but if there are children and so I think that I would give them more time and maybe I will compromise doing a degree.

As Hill, Corbett and Rose (2010) wrote, this compromise of a woman's education or work to take responsibility of kids and family is a reason why many women leave their science and engineering careers. According to interview respondent 2 there are almost no existing day-cares or similar support from the universities in Bangladesh. She also said that if the university could support with day-care it would help women by taking some responsibility off their shoulders so they can maintain their educations and careers.
Day-care is very much necessary at every institute, or any other organisation, because women are coming to job in increasing amount but they feel various types of problems regarding their kids. Sometimes some women, educated women, can't take any job because they have nowhere to place their children

5.1.3 The picture of an engineer
When a question about how people picture an engineer in Bangladesh was presented, interview respondent 1 said:

In our country when every girl borns then her parents wants her when she grows up she will be a doctor and when a boy baby is born then the parents plan for him that he will be engineer. That is the cultural of our country, parents wants girl to be a doctor and boy to be engineer. They think that medical side is better for women.

In fact, all the interview respondent mention this as a common thing in Bangladesh. Respondent 1 explains why this might be the case:

I heard that somebody thinks that the engineering work is late night work, women have to be outside for late night if she works with engineering side working. So that’s why people don’t appreciate the female students to read engineering. Because they think that it’s so hard working and it will be preferable for male students and male students can stay outside for late night, for whole night and they think it will be difficult to do these stuff for women and stay outside late night, or the whole night work.

The other interview respondents agreed to this, that the Bangladeshi society often do not think it is appropriate or safe for a woman to work outside or late nights. This reason together with that engineering is considered hard work, in many cases makes people think of engineering as a profession more appropriate for men. Interview respondent 3 explained it as follows:

They think that girls cannot work outside, like girls cannot work in the construction sites, they have less strength than boys, so they really cannot work at construction sites but there are so many girls out there that are working in construction sites and there are competing with boys, but guys or people, our whole society thinks that.

That parents usually want their daughters to be doctors is explained by interview respondent 5 as “a Bangladeshi cultural thing” and three of the interview respondents mentioned that their parents wanted them to study medicine and become doctors from the beginning. This view of engineers in Bangladesh contributes to the stereotypical picture of engineers and scientists that Brush (1991) and Hill, Corbett, and Rose (2014) write about: that engineering and science are considered masculine work and not suitable for women. However, research in other contexts does not bring up the working outside and late-night situation, which is one of the main reasons
why Bangladeshi society thinks that engineering is preferable for males according to the interview respondents.

5.1.4 Mobility

The traffic system in Bangladesh can also create a problem. Since Bangladesh is the most densely populated country in the world the traffic in the capital Dhaka gets very hectic. Due to often-occurring traffic jams it takes long time for students to reach BUET, and it is sometimes hard for the female students to travel safely to the university. Interview respondent 4 said that the safety issues for women are declining but that their family members still hesitate to let girls go out alone:

Here girls are treated like they are dolls and they should be kept indoors and safely, here girls are not safe and the safety issues are declining more with time, that is why father, mother and family members want girls to have a secure life, that she shouldn’t go out like boys.

According to Sogra (2014) the control of a woman's mobility is part of the system that controls women’s role in society and makes it hard for them to do things on their own. Interview respondent 3 also talked about the difficulties for women to get the support from their parents to be able to move around on their own:

Most of the parents, I don’t know but it is changing, but many parents are not supportive, how they show to their male children they do not show it to their female children. If you are trying to traveling alone, they are going to let you go if you are a guy, but if you are a girl they will not let you, they will not let you go alone.

Since women might have to travel alone to and from the university this can create an obstacle and preventing her from getting a higher education. Interview respondent 2 saw this as an obstacle and suggested that more transport opportunities for the female students and more female hostels in connection to the university could make the university more supportive for women. This would also enable more women to study at the university since mobility for females are limited.

5.2 Female engineering students at Bangladesh University of Engineering and Technology

In this section the picture of women studying engineering and science at BUET is presented from the respondents’ point of view. How the respondents experience the environment at the BUET, the support from their families, how they picture an engineer, and the opinions about the non-existence of female networks are presented and discussed.
5.2.1 The picture of an engineer at BUET

BUET is the highest ranked engineering and technology university in Bangladesh, but only 19.2% of the students are female. The number of women is low but the distribution of female students is different among different programs and subjects at the university. However, interview respondents mentioned that the number of women at BUET is increasing. As interview respondent 3 said, *it is like, before there used to be less girls in BUET but the number of girls is changing. Increasing I would say.* Even though the respondents can see an increasing number of women at the university the number is still low compared to men. Interview respondent 1 explained this as follows:

> Because the women in our country are dedicated to the medical science, too much than engineering science. But this thing is changing, now female students are also interested in engineering studies but before majority of the female students in our country were dedicated to medical science more than engineering.

To the question of why women in Bangladesh were more dedicated to medical education than to engineering and science interview respondent 2 answered:

> It is most probably due to our social condition; female student don’t eager to work outside or overnight or hard work. Some of our family members think that engineering job is not suitable for women, that women should give more time for getting job or service. If they give more time service they give less time at their family.

BUET is an attractive and competitive university in Bangladesh and since many people apply for the limited number of spots, it is hard to get accepted. Interview respondent 3 said that she could not have done it without the support from her family and the will to make it.

> When I decided that I wanted to be at BUET, despite knowing it is really, really tough almost 12000 take the intake exam to get here and only 1000 is chosen so it is very much competitive. My family was very supportive, my mom was my backbone, so family support should be most, it should get most priority. My mom, when I was like breaking, thinking that I cannot do it, my mom was like my back she said no you can do it, no you can do it, it can happen, it can happen, it is very much important that you do it with your parent’s support, it should come from your family. And yourself, if you want to do it, no one can stop you, that is the biggest thing.

Another thing that was mentioned during the interviews was the situation of not getting your first choice, since students who apply and get accepted to BUET get a score on his or her intake exam and after that gets placed in a department that matches with the score. This means a lot of students end up were they might did not want to be in the first place and not studying their main interest. Interview respondent 3’s merit position was a bit low meaning that she could not
get into mechanical engineering as she wished. During the first year she felt frustrated not getting into the department she wanted but now she is very happy with her department. Since BUET is a competitive university and it is hard to get admitted. A lot of students are glad just to be admitted; therefore, choosing department does not pose as an obstacle for women.

5.2.2 Environment at BUET

In contrast to the Brush study from 1991 which stated that a lot of women did not feel welcomed in the science and engineering subjects, 95% of the respondents of the questionnaire said that they felt welcomed when they started studying at BUET. Brush also wrote that many women experienced a gender discrimination within the science and engineering area but interview respondent 1 said, No, I did not see any different, no gender discrimination. There is no gender discrimination in BUET. But outside of BUET, I say that there is a gender difference. Most of the interview respondents thought that men and women are treated the same at the university; respondent 3 mentioned though that boys underestimate us females and that females usually get better results than males. 97% of the respondents to the questionnaires said that they felt comfortable at the university. When interview respondent 4 answered the same question, she said:

I don’t ever feel uncomfortable here, and in the context on Bangladesh BUET is a very friendly campus, here girls and boys there is no gender discrimination and girls is accepted very nicely here. But in some universities the discriminations is seen, but BUET in this context are so opened minded or highly friendly.

All the other interview respondents agreed to that BUET is a welcoming and comfortable university were the female students feel safe in the environment. Teachers and other students show, in general, good support to female students.

5.2.3 Family support, SES and Background

During the interviews the respondents were very clear with that they had a lot of support coming to and studying at BUET. The main support comes from the family and interview respondent 5 mentioned that she never heard of any female student at BUET who does not have her parent’s support and that if that was the case the student would not be at BUET:

Actually, here all the students are very smart and they have taken their decision very early, from their very own. Actually, in Bangladesh for the women, higher studies are very complicated. To take the decision, due to family influence and social facts. So, whenever a student takes the decision to come here, always there is a family support. Without that this is not possible so whenever they come here, without family support is obviously not possible. So, all have their family support I have to say.

Most of the interview respondents said that they had developed an interest in science and engineering at an early age, some were influenced by their parents, one by her cousins and some
just liked the subject a lot. According to SCCT a supportive environment is important for a person to pursue and develop their interests. Just as SCCT states, the respondents in this study said that the support, both from the university and the families, are important for them and the other female students in Bangladesh to be able to study science and engineering and develop their interests within these subjects. Interview respondent 1 said that the family support is the main reason why females can study at BUET.

When interviewing the respondents, they all stated that they were very lucky to come from such a supportive environment and that they had much support from their families. But all are not so lucky. Respondent 4 stated:

I have grown up in a town, there are many girls from villages … they do not have that schooling system or have that teachers or financial supports to get in here (BUET). Because after completing your A-level we have to do three or four months coaching for the admission test at BUET or any other engineering university. The best coaching services are here in Dhaka or the main districts here but in villages, coaching teachers are not available so if she wants to study in engineering she doesn’t get that opportunity, there to flourish.

Since BUET is a competitive university and the entrance exam only can be taken once many students need coaching to be able to get in. In rural areas there are in most cases not even any coaching systems in the village meaning that getting in to a prestigious university as BUET can be very tough. This means that women from urban areas have an advantage since they in most cases have a SES allowing them to get coaching. Of all the respondents from the questionnaire approximately 97% had parents with academic background meaning that students at BUET most often come from well-educated families. The female students at BUET therefore often comes from families that are educated, have good SES and are supportive to their daughter’s choice of education.

5.2.4 Non-existing female networks
From the results of the questionnaires and the interviews, there are no existing female networks for female engineering students at BUET or in Bangladesh. Some respondents from the interviews and questionnaires did not know what a female network is. In the questionnaire none answered that they were a part of any gender working group. There was not any mentoring for females at BUET either. Respondent 2 from the interview answered that there are networks for engineers in Bangladesh but that there are no networks for girls specifically. When asking the respondents from the interviews if they thought that it would be good to develop female networks at BUET they all agreed. Respondent 5 stated when answering if she thought that female networks are needed: I of course do, yeah it is important. Everywhere there is need of mentoring, it is important. But there is not, I feel that there is lacking here. Interview respondent 3 and 4 explicitly stated that they would join a female network or a mentoring program if it existed at BUET.
When asking respondents from the interviews they all stated that BUET campus was a safe and comfortable place. Two stated that they felt comfortable everywhere while three of the respondents said that they felt comfortable everywhere but that they felt more comfortable in the female common rooms. The female common rooms are rooms at BUET where only female student can enter for example to pray or eat. Respondent 5’s answer to why she felt more comfortable in the female common room was, there are all girls and is a very calm place. I actually don’t feel very good in front of the boys, I feel shy. It is my problem, I can’t talk with boys. Respondent 3’s answer to why females might feel more comfortable in the common rooms was:

Because it is a Muslim country so many of the girls do have hijab and wear burka so they are not comfortable with sharing a common room with guys. So, they, because in our religion if you are praying your prayer, you cannot pray it before a guy. So, that’s why.

Respondent 1’s answer to why she felt more comfortable in the common rooms:

Okay, because. No, we also feel relaxed in other rooms but about eating and washroom and changing dresses and do something personal things then we would choose to do that at our common room. In cafeteria boys and girls eat together, maybe girls feel shy in front of boys, then they generally go to the common room and have their lunch.

Why some girls feel more comfortable in the common rooms are partly a religious reason as girls are not allowed to pray or change their hijab in front of a guy and partly because of some girls’ shyness. These female common rooms do in a way act as an informal female network. Like McCarthy (2014) explained, female networks are a place where women can share their experiences and communicate with each other. The common room acts as a place where women can discuss and communicate, it is a place where older students can give advice and therefore also mentor younger students. Even though there are common rooms where some form of informal female network exists, there is still, according to the respondents, a need for a formal female network to where girls can turn for advice and especially mentoring, as there are fewer women than men at the engineering programs at BUET. Knowing that mentoring and female networks for engineers exist might make it easier for women to choose an engineering education. As McCarthy (2014) wrote, since the female networks do not only try to empower individuals but are also a collective strategy for changing the power balance between the sexes, the network is not only important for women within engineering but for BUET to try to achieve a gender balance.
6. CONCLUSIONS

One of the explanatory factors why there are fewer women than men studying science and engineering at BUET is the social construct that science and engineering programs are more appropriate for men. Obstacles women experience when choosing and entering an education within science and engineering at BUET are mainly based on SES in compliance with SCCT, that implies that SES is an important factor if a person can pursue an interest. Women from rural areas will most likely not get the opportunity to study higher than secondary education because of the societal norms from rural areas meaning that a girl should marry young and take care of the domestic responsibilities. Families from urban areas in most cases have the SES to send their girls to higher education and it is therefore the societal norms from urban areas hindering women from studying engineering and science programs. This is in line with previous research that implies economic status and domestic responsibilities to be the most prominent factors prohibiting women from entering and choosing engineering and science educations. According to the societal norms in Bangladesh, engineering and science are not suitable for women because of safety issues, as engineering and science are considered hard work where you must spend time outdoors at evening or night. Instead a suitable occupation for women are as a doctor as they spend most of the time indoors. Previous research within engineering and science has not indicated safety to be one of the main reasons for women not to enter and pursue an engineering education. Therefore, a new factor, safety, has been found to have an impact which has not been found in previous research.

The situation in Bangladesh is changing and even though women face many obstacles there are still some factors that enable women to choose and then enter a science and engineering program. One of the main factors enabling women, with the right SES, to overcome barriers and study science and engineering programs is support from family. As SCCT says; with the right support women do not have to follow societal norms and can therefore pursue an education within engineering and science especially at BUET since the environment is safe. BUET’s environment is encouraging and welcoming which makes it easier for women to study there since the safety barrier is not an obstacle. The female common rooms also make students feel more comfortable at the university as they can act as informal female networks where women can communicate and share their experiences.

Societal norms are ever so slightly changing in Bangladesh but there are still fewer women than men studying science and engineering at BUET. The conclusions drawn to the question why there are fewer women than men studying science and engineering at BUET are not having a beneficial SES and society’s view of women not fitting in within engineering and science. There are fewer women than men studying engineering and science programs at BUET and the social construct that science and engineering programs are more appropriate for men is changing. This making it easier for women to overcome barriers and being able to choose and enter a science and engineering program at BUET. There are still barriers left for women to overcome within engineering and science programs, but as respondent 3 said “if you want to
pursue an education within engineering and science, no one can stop you, that is the biggest thing”.

6.1 Suggestions for future work
This thesis studies why fewer women than men are studying engineering and science at BUET university. Future work could include other universities in Bangladesh than BUET to see if the thesis results are specific to BUET. It would also be interesting to investigate why there are fewer women than men from parents’ perspective. Investigating why parents do not allow girls to go outside and why they do not think that engineering and science are for women. Another future research project would be to investigate what the main obstacles in entering an engineering and science field are from a rural woman's perspective.

Another future work could be to investigate women in medical programs. To investigate if medicine was their first choice and if their parents had anything to say about their career choice. It would be interesting to understand their motivations to career choices and if the low number of women in science and engineering could be explained by women in medical programs.
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APPENDIX 1

Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BUET</td>
<td>Bangladesh University of Engineering and Technology</td>
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<tr>
<td>HSC</td>
<td>Higher Secondary Certificate</td>
</tr>
<tr>
<td>MoPME</td>
<td>Ministry of Primary and Mass Education</td>
</tr>
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<td>MoE</td>
<td>Ministry of Education</td>
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<tr>
<td>SCCT</td>
<td>Social Cognitive Career Theory</td>
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<tr>
<td>SCT</td>
<td>Social Cognitive Theory</td>
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<td>SES</td>
<td>Socioeconomic Status</td>
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<td>SSC</td>
<td>Secondary School Certificate</td>
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<td>STEM</td>
<td>Science, Technology, Engineering and Mathematics</td>
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APPENDIX 2

Questionnaire

Women in Science and Engineering programs

This questionnaire is a part of a pre-study about women in science and engineering programs at BUET conducted by two Master of science students in sociotechnical systems engineering at Uppsala University Sweden. This study is aimed towards women and contains 17 questions. Answers will be kept strictly confidential and any answers will not in any way be personally identified in the report. All answers will be kept anonymous.

Thank you for your participation!

Kind regards, Sofia and Idah

Age:

What region and town are you from?

What degree are you currently studying?
For example: BSc - Bachelor of science, MSc - Master of science, PhD – Doctor of philosophy

How many years have you studied at BUET?
- 1 year or less
- 2 years
- 3 years
- 4 years
- 5 years or more
Does your family have an academic background?
○ Yes
○ No

Did you feel welcomed when you started your education at BUET?
○ Yes
○ No

Do you feel comfortable with the surroundings at the university?
○ Yes
○ No

How many of you professors/teachers are female?

Do you feel that there is a difference between how teachers/professors treat male and female students at BUET?
○ Yes
○ No

Are you a part of any gender working groups? If so, please write their names below.
○ Yes
○ No

In general, do you agree that "Men and women are treated differently" in society in Bangladesh?
○ Yes
○ No
In general, do you believe that women and men have the same opportunity for higher education in Bangladesh?

- Yes
- No

If you would like to add something, give an example or give a more elaborate answer, please write it below:

Would you be willing to meet with us for an interview this spring, April 2018?

- Yes
- No

If so, please fill in your contact information below, so we can get in contact with you. The contact information is only to be filled in if you are willing to participate in an interview.