Online Appendix for

“Friendship and Female Education: Evidence from a Field Experiment in Bangladeshi Primary Schools”

Abstract

In this Appendix, we describe the tests that have been administered to the students in the field and provide additional results.

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1. **QUESTIONNAIRES**

**Individual Pre-Experiment Math Test (IPEMT)**

1. In a case, the dividend is 7363, quotient is 49 and remainder is 13. What is the divisor?
   - a) 130
   - b) 140
   - c) 150
   - d) 160

2. Write the smallest number using the digits 2, 3, 6, 1?
   - a) 2326
   - b) 1236
   - c) 6321
   - d) 1362

3. The price of a book is 17 Taka. What would be the total price of three of these books?
   - a) 50 Taka
   - b) 51 Taka
   - c) 61 Taka
   - d) 71 Taka

4. Which number is divisible by 1, 3, 6, 9?
   - a) 19
   - b) 20
   - c) 17
   - d) 18

5. Calculate the L.C.M. of 25 and 30.
   - a) 300
   - b) 200
   - c) 150
   - d) 250

6. 28 + 7 = 3 + 8 – 20. What is this called?
   - a) Number
   - b) Symbol
   - c) Number series
   - d) Mathematical statement

7. Which number needs to be added with 37 to get a sum of 50?
   - a) 13
   - b) 14
   - c) 5
   - d) 12

8. How many types of triangles are there based on the sides?
   - a) 2
   - b) 3
   - c) 4
   - d) 5
9. What does the symbol \( \leq \) mean?
   a) Smaller
   b) Greater
   c) Equal
   d) Smaller and equal

10. What is the previous number to the smallest number with three digits?
    a) 101
    b) 112
    c) 99
    d) 100

11. What is the sum of the place values of 4, 7, 2 in the number of 947231?
    a) 47231
    b) 47200
    c) 40072
    d) 4720

12. What are the symbols of greater and smaller?
    a) \( >, = \)
    b) \( <, = \)
    c) \( >, < \)
    d) None of the above

13. Sum of three numbers is 9890. Two of these numbers are 620 and 1260. What is the third number?
    a) 8100
    b) 590
    c) 8010
    d) 8770

14. How many hours are equal to 5 weeks 6 days 9 hours?
    a) 993 hours
    b) 990 hours
    c) 940 hours
    d) 949 hours

15. \( 1 \text{ Mon} = \) how many \( \text{Ser} \)?
    a) 56 \( \text{Ser} \)
    b) 40 \( \text{Ser} \)
    c) 39 \( \text{Ser} \)
    d) 45 \( \text{Ser} \)
Group General Knowledge Test (GGKT)

**Direction:** Please answer ALL of the following questions. You will get 1 (one) mark for each correct answer. Total time is 20 minutes.

1. Which of the following is the independence day of Bangladesh?
   a) 21 February    b) 26 March    c) 17 April   d) 16 December

2. In terms of population, what is the position of Bangladesh in the world?
   a) 5th    b) 7th    c) 8th   d) 10th

3. Which is the longest sea beach in the world?
   a) Cox’s Bazar    b) Kuakata    c) Deegha   d) Pataya

4. Which is the greatest delta in the world?
   a) India    b) China    c) Bangladesh   d) Australia

5. What is the area of Bangladesh?
   a) 54501 sq miles    b) 56501 sq miles    c) 57401 sq miles   d) 58501 sq miles

6. Which is the oldest place in Bengal?
   a) Horikel    b) Samatal    c) Pundra   d) Rarh

7. Which of the following district was called ‘Jahanabad’?
   a) Satkhira    b) Khulna    c) Dhaka   d) Barisal

8. Which of the following is regarded as the national children day of Bangladesh?
   a) 17 January    b) 17 February    c) 17 March   d) 17 April

9. Who is the only Nobel Prize winner of Bangladesh?
   a) Joynul Abedin    b) Kamrul Hassan    c) Dr. Muhammad Younus   d) Kazi Nazrul Islam

10. For which book did Rabindranath Tagore win the Nobel Prize?
    a) Sonar Tori    b) Geetanjali    c) Sanchaeeta   d) Balaka

11. Who is the first Everest Winner of Bangladesh?
    a) Musa Ibrahim    b) Sajal Khaled    c) Sakib Al Hassan   d) Mohammad Ashraful
12. Which of the following is not a part of folk music of Bangladesh?
   a) Baul music    b) Keertan music
   c) Jari music     d) Band music

13. What is the national sport event of Bangladesh?
   a) Football       b) Cricket
   c) Hockey        d) Kabadi

14. Which country is the maximum winner of World Cup Cricket?
   a) India          b) Pakistan
   c) Australia      d) England

15. Which country was the winner of 2010 World Cup Football?
   a) Brazil        b) Argentina
   c) Italy         d) Spain

16. Which is the first artificial Earth satellite?
   a) Asterix        b) Sputnik 1
   c) Sputnik 2      d) Apollo 11

17. How many continents are there in the world?
   a) 5              b) 6
   c) 7              d) 9

18. In terms of population, which is the largest continent in the world?
   a) America       b) Asia
   c) Europe        d) Africa

19. Which is the longest river in the world?
   a) Padma          b) Jamuna
   c) Hoangho       d) Yangsikian

20. Which part of Asia is Bangladesh situated?
   a) North-East    b) South-East
   c) North-West    d) South-West
**Group Math Test (GMT)**

**Problem 1:** Arrange the numbers in the following Table in Ascending and Descending order using symbol. One is done for you.

<table>
<thead>
<tr>
<th>Number</th>
<th>Ascending</th>
<th>Descending</th>
</tr>
</thead>
<tbody>
<tr>
<td>65032, 8973, 26940, 53278, 80149, 84256, 9856</td>
<td>8973 &lt; 9856 &lt; 26940 &lt; 53278 &lt; 65032 &lt; 80149 &lt; 84256</td>
<td>84256 &gt; 80149 &gt; 65032 &gt; 53278 &gt; 26940 &gt; 9856 &gt; 8973</td>
</tr>
<tr>
<td>88457, 45682, 23412, 780021, 100000, 45789, 65231</td>
<td></td>
<td></td>
</tr>
<tr>
<td>78921, 12356, 98213, 238593, 45123, 636336, 24789</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9874, 87412, 23145, 89564, 98741, 45621, 32100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>654646, 3265, 7841565, 568984, 56874, 89586, 656898</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Problem 2:** Without repeating any digit, arrange the following groups of numbers to make the greatest and smallest numbers possible. Calculate the difference between the greatest and smallest number in each set.

(a) 7, 2, 3, 0, 1
(b) 4, 2, 3, 8, 1
(c) 6, 0, 7, 8, 5
(d) 2, 3, 7, 0, 9

**Problem 3:** Here is part of a wall chart that lists numbers from 1 to 100.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Below is part of the same wall chart.

| 43 | 53 | ? |

Look at the charts carefully and find out what number should be in the box with the question mark inside. How do you find this?
Problem 4: In which pair of numbers is the second number 100 more than the first number? Please show how you solve this problem.
   A. 199 and 209  
   B. 4236 and 4246  
   C. 9635 and 9735  
   D. 51863 and 52863

Problem 5: Ajay wanted to use his calculator to add 1463 and 319. He entered 1263 + 319 by mistake. What could he do to correct his mistake?
   A. Add 20  
   B. Add 200  
   C. Subtract 200  
   D. Subtract 20

Problem 6: Rahim had 100 mangoes. He sold some and then had 50 left. □ represents the number of mangoes that he sold. Which of these is a number sentence that shows this?
   A. □ - 50 = 100  
   B. 50 - □ = 100  
   C. □ - 100 = 50  
   D. 100 - □ = 50

Problem 7: Rahim had 100 mangoes. He sold some and then had 50 left. He found some rotten mangoes and threw them away. Finally he had 45 mangoes left. □ represents the number of mangoes that he sold and # represents the number that was rotten. Which of these is a number sentence that shows this?
   A. □ + 50 - # = 100  
   B. □ + 50 + # = 100  
   C. □ + 45 + # = 100  
   D. 100 - □ = 45

Problem 8: The sum of ages of a mother and a daughter is 65 years. The mother’s age is 4 times as much as the daughter’s. What are the ages of the mother and the daughter? What will be their ages after 6 years?

Problem 9: Tina has Tk. 125 more than Bina and Tk. 45 less than Rina. Tina has Tk. 300. How much does each of Bina and Rina have? How much do the three persons have altogether?

Problem 10: In 2012, there were 95 members in a cooperative society. In 2013 25 new members joined in the society. Each of the members has paid 200 for a picnic in 2013. How much money was collected as subscription?
Individual Post-Experiment Math Test (IPOMT)

**Problem 1:** Arrange the following numbers in Ascending and Descending order using symbol.

5238, 4132, 8725, 6138, 7201

**Problem 2:** Without repeating, arrange the following digits to make the smallest number possible.

4, 3, 9, 1

**Problem 3:** Subtract the greatest number with 3 digits from the smallest number with 5 digits.

**Problem 4:** The difference between two numbers is 425. If the greater number is 7235, find out the smaller number.

**Problem 5:** When you subtract one of the following numbers from 900, the answer is greater than 300. Which number is it?

A. 823  
B. 712  
C. 667  
D. 579

**Problem 6:** What is 3 times 23?

A. 323  
B. 233  
C. 69  
D. 26

**Problem 7:** Mr. Rahim drew eight 100 Taka notes, four 50 Taka notes and two 10 Taka notes from the bank. What is the amount he drew from the bank?

**Problem 8:** Fill the blank in the following number sentence.

2000 + ____________ + 30 + 9 = 2739

**Problem 9:** Kamal had 50 mangoes. He sold some and then had 20 left. Which of these is a number sentence that shows this?

A. □ – 20 = 50  
B. 20 – □ = 50  
C. □ – 50 = 20  
D. 50 – □ = 20

**Problem 10:** If we equally distribute Taka 7642 among 52 people, how much will each of them receive? What will be the remaining amount?
2. **ADDITIONAL EVIDENCE**

Figure A1: Simulation experiment

Note: The distribution of groups by fraction of females when re-running the algorithm of creating peer groups 1000 times using a different seed number is plotted. The realized fraction of females used in our results are shown as a red vertical line.
### Table A1: Balance checks – subsamples in Table 5

<table>
<thead>
<tr>
<th></th>
<th>Females Low ability</th>
<th>Females High ability</th>
<th>Males Low ability</th>
<th>Males High ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPEMT</td>
<td>0.84</td>
<td>0.705</td>
<td>0.779</td>
<td>0.869</td>
</tr>
<tr>
<td>Missing IPEMT</td>
<td>0.404</td>
<td>0.413</td>
<td>0.596</td>
<td>0.892</td>
</tr>
<tr>
<td>Household income per cap</td>
<td>0.863</td>
<td>0.369</td>
<td>0.114</td>
<td>0.951</td>
</tr>
<tr>
<td>Household has electricity</td>
<td>0.858</td>
<td>0.808</td>
<td>0.336</td>
<td>0.654</td>
</tr>
<tr>
<td>Parent education in years</td>
<td>0.443</td>
<td>0.541</td>
<td>0.749</td>
<td>0.909</td>
</tr>
<tr>
<td>Parent age</td>
<td>0.571</td>
<td>0.796</td>
<td>0.695</td>
<td>0.551</td>
</tr>
<tr>
<td>Observations</td>
<td>1203</td>
<td>1159</td>
<td>1000</td>
<td>1265</td>
</tr>
</tbody>
</table>

Note: The reported p-values are based on the estimation of regression models where each characteristic is regressed on a dummy variable indicating whether a student belongs to a friendship school. Standard errors are clustered at the school level.

### Table A2: Balance checks – subsamples in Table 6

<table>
<thead>
<tr>
<th></th>
<th>Mixed gender groups (Females) Low ability</th>
<th>Mixed gender groups (Females) High ability</th>
<th>Same gender groups (Females) Low ability</th>
<th>Same gender groups (Females) High ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPEMT</td>
<td>0.258</td>
<td>0.666</td>
<td>0.101</td>
<td>0.488</td>
</tr>
<tr>
<td>Missing IPEMT</td>
<td>0.652</td>
<td>0.156</td>
<td>0.891</td>
<td>0.878</td>
</tr>
<tr>
<td>Household income per cap</td>
<td>0.536</td>
<td>0.9</td>
<td>0.14</td>
<td>0.569</td>
</tr>
<tr>
<td>Household has electricity</td>
<td>0.445</td>
<td>0.622</td>
<td>0.959</td>
<td>0.98</td>
</tr>
<tr>
<td>Parent education in years</td>
<td>0.198</td>
<td>0.568</td>
<td>0.563</td>
<td>0.687</td>
</tr>
<tr>
<td>Parent age</td>
<td>0.832</td>
<td>0.84</td>
<td>0.723</td>
<td>0.59</td>
</tr>
<tr>
<td>Observations</td>
<td>896</td>
<td>891</td>
<td>307</td>
<td>268</td>
</tr>
</tbody>
</table>

Note: The reported p-values are based on the estimation of regression models where each characteristic is regressed on a dummy variable indicating whether a student belongs to a friendship school. Standard errors are clustered at the school level.