

## APPENDIX A

**Table 1.** Stage 1 *Shagai* throw outcomes (2014) (S - Student)

| Participant ID | Horse | Camel | Sheep | Goat | Total |
|----------------|-------|-------|-------|------|-------|
| Researcher     | 6     | 9     | 21    | 14   | 50    |
| S_1_1          | 15    | 15    | 36    | 34   | 100   |
| S_1_2          | 10    | 16    | 41    | 33   | 100   |
| S_1_3          | 13    | 20    | 38    | 29   | 100   |
| S_1_4          | 15    | 13    | 43    | 29   | 100   |
| S_1_5          | 13    | 9     | 40    | 38   | 100   |
| S_1_6          | 16    | 11    | 40    | 33   | 100   |
| S_1_7          | 9     | 10    | 44    | 37   | 100   |
| S_1_8          | 15    | 16    | 34    | 35   | 100   |
| S_1_9          | 11    | 13    | 38    | 38   | 100   |
| S_1_10         | 17    | 15    | 32    | 36   | 100   |
| S_1_11         | 7     | 12    | 40    | 41   | 100   |
| S_1_12         | 14    | 16    | 37    | 33   | 100   |
| S_1_13         | 12    | 10    | 41    | 37   | 100   |
| S_1_14         | 16    | 20    | 39    | 25   | 100   |
| S_1_15         | 10    | 14    | 42    | 34   | 100   |
| S_1_16         | 10    | 9     | 39    | 42   | 100   |
| S_1_17         | 11    | 12    | 43    | 34   | 100   |
| S_1_18         | 15    | 21    | 29    | 35   | 100   |
| S_1_19         | 10    | 13    | 40    | 37   | 100   |
| S_1_20         | 10    | 11    | 38    | 41   | 100   |
| S_1_21         | 12    | 12    | 38    | 38   | 100   |
| S_1_22         | 13    | 8     | 41    | 38   | 100   |
| S_1_23         | 8     | 7     | 43    | 42   | 100   |
| S_1_24         | 9     | 11    | 39    | 41   | 100   |
| S_1_25         | 13    | 12    | 43    | 32   | 100   |
| S_2_1          | 10    | 12    | 32    | 46   | 100   |
| S_2_2          | 13    | 14    | 38    | 35   | 100   |
| S_2_3          | 12    | 12    | 38    | 38   | 100   |
| S_2_4          | 11    | 12    | 39    | 38   | 100   |
| S_2_5          | 11    | 15    | 37    | 37   | 100   |
| S_2_6          | 11    | 15    | 37    | 37   | 100   |
| S_2_7          | 8     | 10    | 42    | 40   | 100   |
| S_2_8          | 18    | 20    | 35    | 27   | 100   |
| S_2_9          | 12    | 11    | 39    | 38   | 100   |
| S_2_10         | 14    | 17    | 34    | 35   | 100   |
| S_2_11         | 8     | 16    | 41    | 35   | 100   |

| Participant ID | Horse | Camel | Sheep | Goat | Total |
|----------------|-------|-------|-------|------|-------|
| S_2_12         | 9     | 10    | 45    | 36   | 100   |
| S_2_13         | 10    | 12    | 43    | 35   | 100   |
| S_2_14         | 13    | 13    | 36    | 38   | 100   |
| S_2_15         | 4     | 9     | 47    | 40   | 100   |
| S_2_16         | 14    | 11    | 35    | 40   | 100   |
| S_2_17         | 9     | 11    | 43    | 37   | 100   |
| S_2_18         | 15    | 17    | 40    | 28   | 100   |
| S_2_19         | 9     | 12    | 39    | 40   | 100   |
| S_2_20         | 13    | 12    | 35    | 40   | 100   |
| S_2_21         | 11    | 9     | 41    | 39   | 100   |
| S_2_22         | 10    | 11    | 44    | 35   | 100   |
| S_2_23         | 10    | 15    | 39    | 36   | 100   |
| S_2_24         | 12    | 12    | 41    | 35   | 100   |
| S_2_25         | 14    | 8     | 39    | 39   | 100   |

Table 2. Stage 2 (P - Participant)

| Participant ID | Horse | Camel | Sheep | Goat | Total |
|----------------|-------|-------|-------|------|-------|
| P_1            | 10    | 11    | 44    | 35   | 100   |
| P_2            | 11    | 8     | 41    | 40   | 100   |
| P_3            | 9     | 13    | 38    | 40   | 100   |
| P_4            | 10    | 13    | 40    | 37   | 100   |
| P_5            | 10    | 10    | 39    | 41   | 100   |
| P_6            | 17    | 13    | 39    | 31   | 100   |
| P_7            | 15    | 12    | 42    | 31   | 100   |
| P_8            | 10    | 8     | 37    | 45   | 100   |
| P_9            | 10    | 16    | 37    | 37   | 100   |
| P_10           | 14    | 10    | 34    | 42   | 100   |
| P_11           | 12    | 14    | 34    | 40   | 100   |
| P_12           | 15    | 10    | 38    | 37   | 100   |
| P_13           | 15    | 7     | 42    | 36   | 100   |
| P_14           | 6     | 18    | 36    | 40   | 100   |
| P_15           | 11    | 19    | 36    | 34   | 100   |
| P_16           | 11    | 14    | 39    | 36   | 100   |
| P_17           | 13    | 14    | 39    | 34   | 100   |
| P_18           | 11    | 13    | 42    | 34   | 100   |
| P_19           | 7     | 13    | 43    | 37   | 100   |
| P_20           | 17    | 16    | 30    | 37   | 100   |
| P_21           | 14    | 15    | 33    | 38   | 100   |
| P_22           | 10    | 7     | 45    | 38   | 100   |

| Participant ID | Horse | Camel | Sheep | Goat | Total |
|----------------|-------|-------|-------|------|-------|
| P_23           | 11    | 12    | 40    | 37   | 100   |
| P_24           | 10    | 11    | 41    | 38   | 100   |
| P_25           | 11    | 15    | 34    | 40   | 100   |
| P_26           | 19    | 14    | 36    | 31   | 100   |
| P_27           | 11    | 14    | 39    | 36   | 100   |
| P_28           | 9     | 13    | 38    | 40   | 100   |
| P_29           | 8     | 20    | 38    | 34   | 100   |
| P_30           | 7     | 14    | 47    | 32   | 100   |
| P_31           | 12    | 10    | 42    | 36   | 100   |
| P_32           | 15    | 20    | 31    | 34   | 100   |
| P_33           | 11    | 6     | 45    | 38   | 100   |
| P_34           | 14    | 14    | 40    | 32   | 100   |
| P_35           | 18    | 12    | 41    | 29   | 100   |
| P_36           | 11    | 20    | 30    | 39   | 100   |
| P_37           | 8     | 9     | 47    | 36   | 100   |
| P_38           | 19    | 11    | 39    | 31   | 100   |
| P_39           | 12    | 12    | 39    | 37   | 100   |
| P_40           | 14    | 17    | 41    | 28   | 100   |
| P_41           | 17    | 9     | 43    | 31   | 100   |
| P_42           | 17    | 13    | 33    | 37   | 100   |
| P_43           | 12    | 13    | 34    | 41   | 100   |
| P_44           | 10    | 12    | 42    | 36   | 100   |
| P_45           | 7     | 14    | 45    | 34   | 100   |
| P_46           | 17    | 16    | 37    | 30   | 100   |
| P_47           | 12    | 13    | 42    | 33   | 100   |
| P_48           | 20    | 9     | 36    | 35   | 100   |
| P_49           | 12    | 11    | 41    | 36   | 100   |
| P_50           | 10    | 17    | 32    | 41   | 100   |

## APPENDIX B



Figure 1. A doctoral student collecting experimental data on “shagai tossing”

|            | Умр | Төгөд | Хонь | Амга | Нийт |
|------------|-----|-------|------|------|------|
| Астаг      | 11  | 7     | 21   | 11   | 50   |
| Устэмхэсэг | 3   | 6     | 13   | 18   | 50   |
| Минхөлсрэл | 8   | 4     | 19   | 19   | 50   |
| Энэ        | 7   | 5     | 25   | 13   | 50   |
| Умжигуули  | 7   | 1     | 22   | 20   | 50   |
| Минхир     | 19  | 2     | 24   | 5    | 50   |
| Урхууд     | 6   | 5     | 14   | 25   | 50   |
| Зула       | 5   | 5     | 22   | 18   | 50   |
| Бао Тага   | 6   | 4     | 18   | 22   | 50   |
| Уугам      | 6   | 6     | 14   | 24   | 50   |
| Нийт       | 19  | 45    | 202  | 175  | 500  |

  

|   | $\hat{p}$ | CI   | $\log_2 \hat{p}$ | $\hat{p} \cdot \log_2 \hat{p}$ |
|---|-----------|------|------------------|--------------------------------|
| M | 22        | 0.22 |                  |                                |
| T | 27        | 0.27 |                  |                                |
| X | 31        | 0.31 |                  |                                |
| ä | 20        | 0.20 |                  |                                |

  

$$CI_M = \hat{p} \pm 1.96 \cdot \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} = 0.22 \pm 1.96 \cdot \sqrt{\frac{0.22 \cdot 0.78}{100}}$$

$$= 0.22 \pm 0.0811 \quad [0.1389, 0.3011]$$

Figure 2. Data collected by a doctoral student



Figure 3. Doctoral students performing probability calculations during class



Figure 4. "The Four *Berkh*" (the best *Shagai* toss result) that landed on the felt rug