**Supplement Table 1**

*LSA Sample: Estimated Marginal Means for Words per Response with FSIQ Covaried*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | ACC (n = 25) | Control (n = 28) |  |  |  |
| Cards | M | SD | 95% CI | M | SD | 95% CI | F | *p* | *nₚ*2 |
| 1 | 82.12 | 8.29 | 65.47, | 98.77 | 89.68 | 7.83 | 73.95, | 105.41 | 0.439 | 0.51 | 0.009 |
| 2 | 118.96 | 13.67 | 91.50, | 146.43 | 114.43 | 12.92 | 88.48, | 140.38 | 0.058 | 0.811 | 0.001 |
| 6BM | 87.74 | 8.85 | 69.97, | 105.51 | 109.52 | 8.36 | 92.73, | 126.31 | 3.199 | 0.080 | 0.060 |
| 8BM | 96.91 | 12.22 | 72.37, | 121.45 | 130.47 | 11.54 | 107.29, | 153.66 | 3.981 | 0.051 | 0.074 |
| 12M | 99.26 | 10.85 | 77.48, | 121.05 | 106.80 | 10.25 | 86.22, | 127.39 | 0.255 | 0.616 | 0.005 |
| 13MF\* | 90.45 | 11.44 | 67.48, | 113.42 | 126.67 | 10.81 | 104.97, | 148.38 | 5.293 | 0.026 | 0.096 |

\*p < .05 with Modified Bonferroni Correction; CI = confidence interval

**Supplement Table 2**

*Topics Sample: Estimated Marginal Means for Words per Response with FSIQ and Square Root of Age Covaried*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | ACC (n = 26) | Control (n = 30) |  |  |  |
| Cards | M | SD | 95% CI | M | SD | 95% CI | F | *p* | *nₚ*2 |
| 1 | 120.37 | 16.74 | 86.78, | 153.96 | 77.08 | 15.58 | 45.82, | 108.34 | 3.556 | 0.065 | 0.064 |
| 2 | 181.25 | 27.39 | 126.29, | 236.22 | 117.98 | 25.49 | 66.84, | 169.12 | 2.838 | 0.098 | 0.052 |
| 6BM | 142.16 | 20.01 | 102.00, | 182.31 | 89.13 | 18.62 | 51.78, | 126.49 | 3.734 | 0.059 | 0.067 |
| 8BM | 155.82 | 26.66 | 102.33, | 209.32 | 103.75 | 24.80 | 53.98, | 153.53 | 2.029 | 0.160 | 0.038 |
| 12M | 111.13 | 14.28 | 82.48, | 139.79 | 90.52 | 13.29 | 63.86, | 117.18 | 1.108 | 0.297 | 0.021 |
| 13MF | 107.65 | 14.58 | 78.39, | 136.92 | 95.00 | 13.57 | 67.77, | 122.23 | 0.4 | 0.530 | 0.008 |

CI = confidence interval

**Supplement Table 3**

Descriptions for the TAT cards (Murray, 1943

|  |  |
| --- | --- |
| Card | Description |
| 1 | “A young boy is contemplating a violin that rests on a table in front of him” |
| 2 | “Country scene: In the foreground is a young woman with books in her hand; in the background, a man is working in the fields and an older woman is looking on” |
| 6BM | “A short elderly woman stands with her back turned to a tall young man. The latter is looking downward with a perplexed expression” |
| 8BM | “An adolescent boy faces the front of the picture. The barrel of a rifle is visible at one side, and in the background is the dim scene of a surgical operation, like a reverie image” |
| 12M | “A young man is lying on a couch with his eyes closed. Leaning over him is the gaunt form of an elderly man, his hand stretched out above the face of the reclining figure” |
| 13MF | “A young man is standing downcast head buried in his arm. Behind him is the figure of a woman lying in bed” |

**Supplement 4:** Average Perplexity by Group and Text from Participant whose Perplexity Score is Closest to the Group Mean

**Card01**

Control Perplexity Mean: 58.82

Participant ID36 Perplexity: 58.92

ID36 Text Response: “He sat down and he was looking at the violin and wanting to play. But his mother said no so he just sat there looking sad at the violin. He is thinking that when he gets older he could be a violinist. He is feeling sad because his mom would not let him play the violin.”

ACC Perplexity Mean: 25.72

Participant ID6 Perplexity: 25.80

ID6 Text Response: “Johnny taking taking violin lessons. He does not really like the violin. His mother is making him take it so he is just sitting there looking at it. He is going to wind up playing it when he is older. Nope He does not like it. He winds up playing for an orchestra when he is older. He feels all right.”

**Card02**

Control Perplexity Mean: 58.05

Participant ID43 Perplexity: 59.55

ID43 Text Response: “This summer day and the whole family is out on the farm. The husband is working on the fields and the mom is just relaxing in the sun and the daughter is going to sit under a tree and read some books because it is a nice day. At the end of the day they sit at the dinner table and talk about how nice a day it was. They all feel joyful and in high spirits because it is a nice clear day and they are all relaxing around the farm.”

ACC Mean Perplexity: 26.54

Participant ID57 Perplexity

ID57 Text Response: “This story is western. This it has western horses, a farm, a barn, some trees, a cowgirl, a cowboy, and a farmer wife. And they are trying to hitch up a horse, a horse to plow both fields. And one of and the boy has his shirt off because it is a hot day [And how are they feeling?] Happy That um soon the other two ladies will uh change into shorts. And a sh. a shorts, a skirt, and a t shirt. The end”

**Card6bm**

Control Perplexity Mean: 63.17

Participant ID36 Perplexity: 65.13

ID36 Text Response: “It is a boy and a girl the mother would not look at the son the boy got mad at the mom and the mother would not let him get his job so she would not look at him. He is feeling mad and They are thinking that if his mother is going to let him have the job or not. where he gets his job.”

ACC Perplexity Mean: 23.04

Participant ID54 Perplexity: 23.01

ID54 Text Response: “OK. It looks like these two either shared some bad news or were arguing prior to the picture. Maybe right now they are thinking over what was said or done or whatever. They both kind of look kind of saddened or distraught over the situation. I would have to see the sequel. Um. Ah. I am sure they end up talking it out with each other and basically sorting out whatever the problem might have been.”

**Card8bm**

Control Perplexity Mean: 71.66

Participant ID14 Perplexity: 69.69

ID14 Text Response: “There was a young man who was remembering the stories his father used to tell him. About being a doctor during the war. He started imagining what it would be like treating wounded men while they were about to die. He starts feeling the pain the patients went through while wounded. The young man went on and wrote a book about what it was like fighting in the war.”

ACC Perplexity Mean: 27.00

Participant ID27 Perplexity: 28.53

ID27 Text Response: “I cannot think of one. The boy is like just looking like straight and there is this guy that is dead and there are two guys in the background, I cannot describe what their clothes look like cannot tell umm, since the boy dad is dead they had his grandfather watch the boy.”

**Card12M**

Control Perplexity Mean: 65.38

Participant ID36 Perplexity: 65.33

ID36 Text Response: “It is of a girl that is going to die, the father cannot stand it he is looking at her he cannot go to sleep. He keeps looking at her and he wakes up in the morning he finds that she is dead and he is very, very, very sad. They are thinking if she is going to heaven or hell and he is sad and it turns out that he dies. She was really ill. She had to lay down and she just died.”

ACC Perplexity Mean: 28.05

Participant ID15 Perplexity: 27.85

ID15 Text Response: “There is this, like, this like guy, I think, it is like a guy or a girl cannot make it out and he is going to touch his head because the guy is probably sick I cannot think of it I still cannot. No.”

**Card13mf**

Control Perplexity Mean: 69.45

Participant ID22 Perplexity: 70.01

ID22 Text ResponseText Response: “Guy is cheating on his wife. Guy and girl got hotel, he is supposed to be home for dinner with wife, but decides to go out and sleep with the woman. He sleeps with her and realized that he should be home. He is feeling disgusted, so he gets up and gets in his car and goes home.”

ACC Perplexity Mean: 28.82

Participant ID5 Perplexity: 29.14

ID5 Text Response: “She has been sick for a number of days and he is either her it seems he might be her husband and he has just got done spending his last moments with her. He is suffering from traumatic shock because he just witnessed her die. He is now walking out of the room and letting the doctors do what they need to do to prepare her for taking her away.”