**Supplementary File 1**. Summary of Behavioral result in Cohort 2. CA- closed arms, EPM- elevated plus maze, OA- open arms, OF- open field test, s- seconds. Significant outcomes are shown in red font.

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| **Behavior** | **CTL M Mean****(SEM)** | **CTL F** **Mean** **(SEM)** | **UPS M** **Mean****(SEM)** | **UPS F** **Mean****(SEM)** | **Main Effect** **of Rearing** | **Main Effect** **of Sex** | **Sex X Rearing****Interaction** |
| Time in Center (OF) (s) | 23.39 (1.86)n = 18  | 21.46 (1.88)n = 16  | 19.56 (3.29)n = 9  | 22.06 (2.21)n = 19 | F (1, 58) = 0.46, *p* = 0.50 | F (1, 58) = 0.01, *p* = 0.90 | F (1, 58) = 0.86, *p* = 0.36 |
| Distance Traveled (OF) (cm) | 3450.82 (71.65)n = 18  | 3760.85 (443.22)n = 16  | 3376.99 (200.95)n = 9  | 3159.42 (118.47)n = 19 | F (1, 58) = 1.56, *p* = 0.22 | F (1, 58) = 0.03, *p* = 0.87 | F (1, 58) = 0.95, *p* = 0.87 |
| OA Duration (EPM) (s) | 96.54 (15.17)n = 19 | 80.69 (13.15) n = 17 | 135.71 (21.41)n = 9  | 97.26 (18.30)n = 20 | F (1, 61) = 2.50, *p* = 0.12 | F (1, 61) = 2.37, *p* = 0.13 | F (1, 61) = 0.41, *p* = 0.52 |
| CA Duration (EPM) (s) | 92.04 (11.65)n = 19 | 115.40 (16.74) n = 17 | 87.76 (17.61)n = 9  | 95.37 (13.84)n = 20 | F (1, 61) = 0.63, *p* = 0.43 | F (1, 61) = 1.01, *p* = 0.32 | F (1, 61) = 0.26, *p* = 0.61 |
| Object Exploration (s) | 10.59 (1.12)n = 16 | 10.07 (1.53) n = 16 | 6.91 (1.76)n = 8 | 7.66 (1.08)n = 16 | F (1, 52) = 4.34, *p* = 0.04 | F (1, 52) = 0.01, *p* = 0.94 | F (1, 52) = 0.19, *p* = 0.67 |
| Context Test (% Freezing) | 19.92 (3.39)n = 17 | 26.29 (4.48) n = 17 | 15.34 (2.96)n = 12 | 15.89 (3.31)n = 20 | F (1, 62) = 3.99, *p* = 0.05 | F (1, 62) = 0.86, *p* = 0.36 | F (1, 62) = 0.6, *p* = 0.44 |
| Cued Test (% Freezing) | 26.72 (5.03)n = 17 | 41.64 (4.99) n = 17 | 32.12 (6.77)n = 12 | 40.35 (5.84)n = 20 | F (1, 62) = 0.13, *p* = 0.72 | F (1, 62) = 4.05, *p* = 0.05 | F (1, 62) = 0.34, *p* = 0.56 |