

Supplemental Material

Analytical Strategy and Results for Sex, Age, and Resurgence Outcome

We evaluated differences in resurgence as a function of sex and age. We coded resurgence as a binary variable wherein “1” depicted target-response rates increased from the last bin of Phase 2 to the first bin of Phase 3, and “0” depicted no change in target-response rates from the last bin of Phase 2 to the first bin of Phase 3. We fit a generalized linear model with binomial distribution to account for the binary nature of the dependent variable. The analysis was conducted using the R Statistical Program with the *glm* method contained in the *stats* package. The result of the model suggested no significant effect of Age ($\beta = -0.01$, $z = -0.33$, $p = .739$), Sex ($\beta = 0.51$, $z = 0.29$, $p = .771$) or Sex*Age interaction ($\beta = 0.01$, $z = 0.11$, $p = .913$) on resurgence.

Analytical Strategy and Results of Cue and Resurgence Effect

We also evaluated whether there was a difference in resurgence of target responding if Phase 3 began with either a Cue test or a No Cue test, and whether any differences were maintained across both groups. We performed a two-way ANOVA to examine the effects of Group (Alt Present vs. Alt Absent), Condition (Cue vs. No Cue), and Phase (last bin of Phase 2 vs. first bin of Phase 3). The results of the ANOVA showed significant main effect of Group ($F [1, 192] = 8.84$, $p < .001$), a significant main effect of Phase ($F [1, 192] = 15.85$, $p < .001$), and a significant Phase x Group interaction ($F [1, 192] = 5.35$, $p = .022$). Post-hoc pairwise comparisons suggested initially experiencing a no cue test (i.e., BAABABBABA) as opposed to initially experiencing a Cue Test resulted in greater resurgence for Group Alt Absent. No other significant differences were observed ($p > .083$).

Post-hoc pairwise comparisons suggested significantly lower alternative-response rates in the first bin of Phase 3 relative to the last bin of Phase 2 for Alt Present and Alt Absent if the No Cue Test was first ($t_s > 6.83$, $p_s < .001$). Additionally, responding also decreased for Alt Present when the Cue Test was first ($t = 8.27$, $p < .001$). Significantly greater responding was observed for Alt Absent when the Cue Test was first compared to when the No Cue Test was first ($t = 3.91$, $p = .003$). Lastly, alternative responding was significantly higher for Alt Absent when the Cue Test was first compared to Alt Present ($t = 5.13$, $p < .001$).

Figure S1
Hourglass Image



Appendix A

Instructions to HIT

After pressing the PROCEED button below, you will play a game to earn as many points as you can. A new page will appear, and you will see a button. Pressing the button could sometimes increase or decrease your points. Points will be tracked by a bar on the screen. The game will take approximately 15 minutes to complete. If you complete the game, you will be paid for completing the task and every point earned will be worth US\$0.00021. Failing to begin engaging with the game within 30 seconds after proceeding will terminate the opportunity to participate in this task and the opportunity for payment. Therefore, do not proceed unless you are ready to begin and complete the game. Press the PROCEED button when ready to continue and please begin the game as soon as the interface appears.

Appendix B

Post-task Questionnaire

1. On a scale of 1 (definitely no) to 100 (definitely yes), how sure are you there was a button with a RED HEART at some point during the task?
2. On a scale of 1 (definitely no) to 100 (definitely yes), how sure are you there was a button with a BLACK SPADE at some point during the task?
3. On a scale of 1 (definitely no) to 100 (definitely yes), how sure are you there was a button with a RED DIAMOND at some point during the task?
4. On a scale of 1 (definitely no) to 100 (definitely yes), how sure are you there was a button with a BLACK CLUB at some point during the task?
5. On a scale of 1 (not effective) to 100 (very effective), how sure are you the button with a RED HEART was effective for earning points at some point during the task?
6. On a scale of 1 (not effective) to 100 (very effective), how sure are you the button with a BLACK SPADE was effective for earning points at some point during the task?
7. On a scale of 1 (not effective) to 100 (very effective), how sure are you the button with a RED DIAMOND was effective for earning points at some point during the task?
8. On a scale of 1 (not effective) to 100 (very effective), how sure are you the button with a BLACK CLUB was effective for earning points at some point during the task?
9. What do you think was the overall purpose of the study you just completed? If you do not know, please feel free to respond, "I don't know." Leave the question blank if you prefer not to answer.
10. Did you have an overall strategy that you used throughout the study?
11. Please describe your overall strategy that you used throughout the study. If you did not have a strategy, please feel free to respond, "I did not have a strategy." Leave the question blank if you prefer not to answer.
12. Did your strategy change as you moved forward in the study?
13. If there is any other information you wish to explain about your experience during the study, please describe here:
14. What is your age?
15. What gender/sex do you identify with?
16. What is your nationality?
17. In what country do you live?
18. How much distress did you feel resulting from this task from 1 (no stress) to 100 (very stressful)?
19. Do you have any problems with color vision?