

Participant-visible method context. Results, discussion, captions, and the target figure are excluded.

Participants We aimed to have an appropriate number of participants to match the statistics reported in Table 1 of Roediger and Tekin (2020) (i.e., 7,200 study items/100 study items per participant = 72 participants). Seventy-two participants were recruited but one was excluded from the analysis because their performance in the single-item recognition task was at the floor (their hit-minus-false alarm rate was equal to 0.02), and so an additional participant was recruited to replace them. The 72 participants (60 female, 11 male, and one nonbinary/ other) had a mean age of 19.56 years ($SD = 1.73$). All individuals in this and subsequent experiments were psychology students from the University of Plymouth, who participated in partial fulfillment of a course requirement, and were recruited through the University's online participant pool. Ethical approval for all experiments was

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Figure 5 Predicted Accuracy on 1–1 2AFC Trials (Percentage of Trials on Which the HCM Strength Exceeds That of HCCRs) in the DPSD Model

Note. The solid line indicates $d' = 0, 0.5, 1, 1.5, 2$, and 2.5 (dark to light). Horizontal dashed line indicates 50% correct. 2AFC = two-alternative forced choice; HCM = high-confidence miss; HCCR = high-confidence correct rejection; DPSD = dual-process signal detection; Ro = probability with which an old item is recollected; C1 = the criterion value. See the online article for the color version of this figure.

obtained via the School of Psychology Ethics Committee, Faculty of Health, University of Plymouth.

Materials As in Tekin and Roediger (2017), the stimuli were 200 neutral faces of individuals between 19 and 50 years of age, taken from the Minear and Park (2004) database; 160 of the faces were white (80 male, 80 female) and 40 were black (20 male, 20 female). The faces were divided into two lists, matched in terms of the proportion of Black/White $\times$ Male/Female faces. One of the lists was randomly assigned to act as the studied stimuli for each participant, with the other list acting as the nonstudied stimuli. The experiment was written in OpenSesame (Mathôt et al., 2012) and the OSWeb functionality of the program was used to run it on a web browser on a desktop personal computer for each participant, via hosting on a JATOS server (Lange et al., 2015).

Procedure Participants were tested individually in a quiet laboratory room. After reading a brief introduction and giving consent, participants read the instructions for the study phase, which told them that they

would see faces presented one at a time, each for a few seconds, and that they should try to memorize each one for an upcoming but unspecified memory test. On each trial of the study phase, a face was presented for 4 s, followed by a central fixation point for 500 ms. After the study phase, there was a 10-min retention interval during which participants engaged in an unrelated task (word searches of countries of the world or counties in the United Kingdom). Next, the instructions for the single-item recognition memory test phase were presented. Participants were told that they would see a previously studied or nonstudied face on each trial, and for each one they must decide whether it was presented in the first stage or not by responding “old” (if they thought it was studied) or “new” (if they thought it was not), after which they must indicate how confident they are in their decision on a 4-point scale, where 1 corresponds to not at all confident and 4 corresponds to totally confident. The single-item recognition phase consisted of 200 trials, comprising 100 old and 100 new faces in a random order. On each trial, a face was shown in the center of the screen, with the cue “Was this shown in the first phase? Z = New/M = Old” displayed below it. All responses were self-paced, and once participants had pressed Z or M, the cue was replaced with the text “How confident are you in your decision?” with the numbers 1–4 shown below this,

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Figure 6 Schematic of the Task

Note. (a) Experiment 1a task and (b) Experiment 3 task. Photos of faces are from “A Lifespan Database of Adult Facial Stimuli,” by M. Minear and D. C. Park, 2004, *Behavior Research Methods, Instruments, & Computers*, 36(4), pp. 630–633 (<https://doi.org/10.3758/BF03206543>). Copyright 2004 by Springer (Research Database). See the online article for the color version of this figure.

and the text not at all confident below number 1 and totally confident shown below number 4. After participants made their confidence rating, there was a 200 ms blank interval before the next trial was presented. On completion of the single-item recognition memory phase, instructions for the 2AFC phase were presented. Participants were told that they would see a pair of faces side-by-side on each trial, and that one was presented in both the first stage (the study phase) and also the previous phase (the recognition task), whereas the other was not presented in the first phase and was only shown in the phase just completed. Their task was to select the face from the pair that they thought had been presented in the first phase. After making their selection they were to once again indicate how confident they were in their decision on a 4-point scale. On each 2AFC trial, a pair of faces was presented, side-by-side. Each pair consisted of one studied face and one nonstudied face. Below the two faces, the question "Which one was presented in the first phase? Left/Right" was presented with the keypress response prompt "D = Left, J = Right" beneath. Crucially, the faces on each trial had been given identical ratings in the single-item recognition stage. An

algorithm was built into the experimental program whereby, before the 2AFC phase commenced, studied and nonstudied items that had received the same old/new decision and rating were randomly paired, for as many pairings as the responses made would allow. Following Roediger and Tekin (2020), responses at the lowest two confidence ratings (1 and 2) were binned. There were, therefore, six possible types of 2AFC trial, arising from 2 decisions (old, new) $\times$ 3 ratings (1 or 2, 3, 4), henceforth referred to as 1–1, 2–2, 3–3, 4–4, 5–5, and 6–6 trial types, where the number denotes the rating of the studied and nonstudied alternatives on each 2AFC trial and the responses have been remapped to a 1–6 scale, with endpoints 1 = totally confident new and 6 = totally confident old. Thus, the items on 1–1 trials had both received a "new" decision and a "4—totally confident" rating, those on 2–2 trials received a "new" decision and a medium confidence "3" rating, those on 3–3 trials received a "new" decision and a "1—not at all confident" or "2" rating, those on 4–4 trials received an "old" decision and a "1—not at all confident" or "2" rating, those on 5–5 trials received an "old" decision and a "3" rating, and those on 6–6 trials received an "old" decision and a "4—totally confident" rating. Hence the total number of

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2AFC trials was variable across participants. 2AFC trials were randomly ordered for a given participant. Similarly, the left–right position of the studied item was randomly determined on each trial. Trials were self-paced. On completion of the final phase, participants were debriefed. The entire experiment took approximately 45 min, depending on the pace of the participant.

Transparency and Openness An α level of .05 was used for all statistical tests. Data were analyzed in R (R Core Team, 2023) and Bayes factors (BFs) were obtained using the BayesFactor package (Morey & Rouder, 2022) using the default priors. The experiment was not preregistered (only Experiment 2 was preregistered, see <https://osf.io/2q5yw/>). The data, analysis scripts, and materials are available on the Open Science Framework at <https://osf.io/2q5yw/> (Berry & Shanks, 2023).