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C Cr -F r r F L r , A r D r

D -L

B r r

C

A r ' r (.,). D r r r r r r r , r r r , r r , r r r . H r . r , r r 1 r 6 H, r r . r (E r 1). H r, r r r r r r r, r (1- -6 H r 6- -1 H; E r 2 4). r r r r , r r r r r r r . r r r r r .

Keywords: r r , r , , r r, r

H r r r r r . L r r r r , r r r r . H r, r r r , I , r r r r r r r . r r r r r

r r . r r r r r r . r r r r r r r r r r , r r r , r r r , r r r r r .

r r r r r r r r r , r r r r r . r r r ' r r r r r (., D , M , & J , 2005; D & , 2002; Ir , M r , K , & , 2000; r & F r , 2005), r r r r . F r r r r r r r (r & , 2009).

D r r . F D , M , J (2005) r r r r

, C , IDG/ M G r I r Br r , - G r r L , r ; D -L - , K L r r C r L r , B , r r ; C , C , IDG/M G r I r Br r , - G r r L , r .

r r F C Gr 31230030 (C) r - G r r L .

C r C , C , r , B - , 100181, C , r - , K L r r C r L r , B r r , B , 100185, C . E- : @ r @ .

... (2005) ... (1993). ... (Ir ... 2000; J ... 2013) ... M ... D ... (1996) ... D ... L (1998) ... (2009).

... (Ir ... 2000) ... 2008; ... 2016; ... 2010) ... 2016). ... 2008; ... 2016; ... 2010).

Experiment 1

... 1 ... F ... (2005) ... 2 ... 4. ... 1 ... 6 ...

... (A ... M ... Ir ... C ... 1986; ... K ... J ... Br ... 1977; J ... 1980; ... 1970).

Method

Participants. ... (11 ... 19 ... = 21.2 ..., *SD* = 2.2 ...) ... ≤20 ... B HL ... 0.5 ... 6 ... H ...

Sample size. ... 900 ... F ... 2B ... M ... F ... 2010). ... 80% ... $p = .05$, ... C ... $d = 1.22$ ... H ... 10 ...

Apparatus. A ... 3.0 ... (... 1997) ... 15- ... M ... B ... HD-499 ... G ... H & C ... KG, ... G ...

Stimuli and procedure. ... 15- ... 100 ... 1 ... 6 ... H ... E ... 86 ... B ... L ... 5- ... (F ... 1), ... 300 ... 785 ... M ... F ... (2010). ... A ...

... (Δ ... 50% ... A ... Δ ... 1.414 ... 79% ... E ... 60 ...

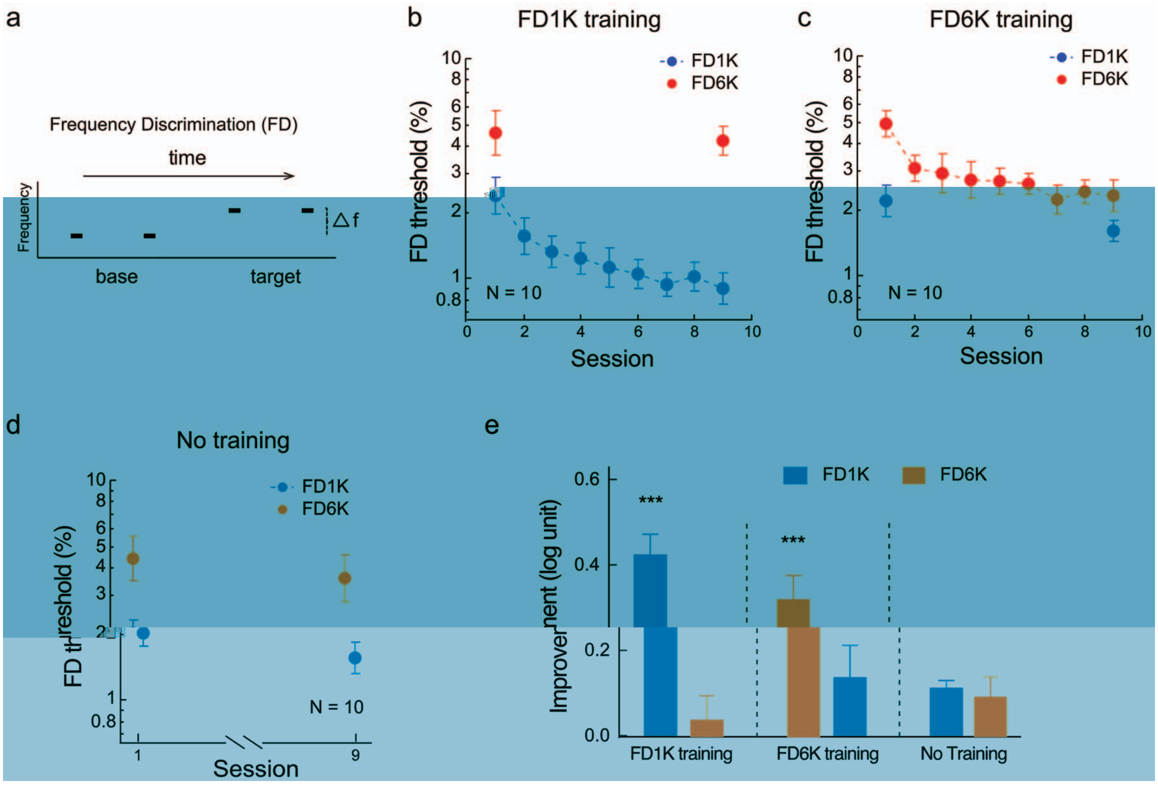

Figure 1. … ± 1 *SE*. FD: … *** $p < .001$.

… 10 …

Experimental design. … 1 … 6 kHz … FD1k … FD6k … 2 … 9 14 … 12 … (1 … 6 kHz). … 12 … 1 kHz … FD1k … 6 kHz … FD6k … 1 … 7 12 …

Data processing and statistical analysis. … 2015). … $p < .001$ … 1 kHz … $p < .001$ … 6 kHz … ; $p = .67$ … 1 kHz … $p = .10$ … 6 kHz …).

… (LME) … 1 3 … & B… 2000). … (1 … 6 kHz) … FD1k, FD6k … 1; FD6k … FD1k … ID1k … 2, … FD1k … 3) … 2004).

Results

1 H … FD1 … 0.42 ± 0.05 (± 1) … 1 H … 0.04 ± 0.06 … 6 H (F 1). … 6 H … FD6 … 0.32 ± 0.06 … 6 H … 0.14 ± 0.08 … 1 H (F 1). … 0.11 ± 0.02 … 1 H … 0.09 ± 0.05 … 6 H (F 1).

LME … E 1 3 … $F(1, 190) = 120.99, p < .001$; … $F(1, 190) = 141.90, p < .001$; … $F(6, 190) = 0.58, p = .75$. … $F(6, 190) = 6.87, p < .001$; … $F(6, 190) = 3.19, p = .005$; … $F(6, 190) = 3.89, p = .001$.

I E 1, … 1 H ($t = 6.06, p < .001$, 95% (CI) 0.29, 0.57, C d = 1.92), … 6 H ($t = 0.54, p = .59$, 95% CI −0.10, 0.18, C d = 0.17; F 1) … FD1 … I … FD6 … 6 H ($t = 4.60, p < .001$, 95% CI 0.18, 0.46, C d = 1.45), … 1 H ($t = 1.95, p = .053$, 95% CI −0.002, 0.27, C d = 0.62; F 1). … (1 H: $t = 1.59, p = .11$, 95% CI −0.03, 0.25, C d = 0.50; 6 H: $t = 1.32, p = .19$, 95% CI −0.04, 0.23, C d = 0.42; F 1) …

Discussion

… 1 … 6 H … (& F , 2005).

Experiment 2

E 2 … 6 H … 1 H … I … 6 H, … 1 H … 1 H …

Method

Participants. … (12 … = 22.8, SD = 2.7) …

Stimuli and procedure. … 6-H … E 1. …

… 1 H, … (Δ) … 50 … 10 … 1 … E … 60 …

Experimental design. … E 1. I … (FD6 ID1), … 12 … 6 H … 12 … 1 H … 1.5 … I … (ID1), … 12 … 1 H … 1 … F … 9 14 … 2 …

Results

D … 0.46 ± 0.05 … 6 H, … 0.31 ± 0.06 … 1 H (F 2). I … 1 H … 0.08 ± 0.05 … (F 2).

… LME … (E 1) … 6 H ($t = 6.28, p < .001$, 95% CI 0.32, 0.61, C d = 2.09) … 1 H ($t = 4.21, p < .001$, 95% CI 0.16, 0.46, C d = 1.40; F 2 2), … 6 … 1 H … 1 H … 1 H (… 9 … 13; $t = 0.40, p = .71$, 95% CI −0.13, 0.18, C d = 0.16, … t, F 2; A … F 2), …

I … 1 H … ($t = 1.12, p = .27$, 95% CI −0.05, 0.22, C d = 0.35; F 2 2). … 1 H …

Discussion

… 6 … 1 H … 1 H …

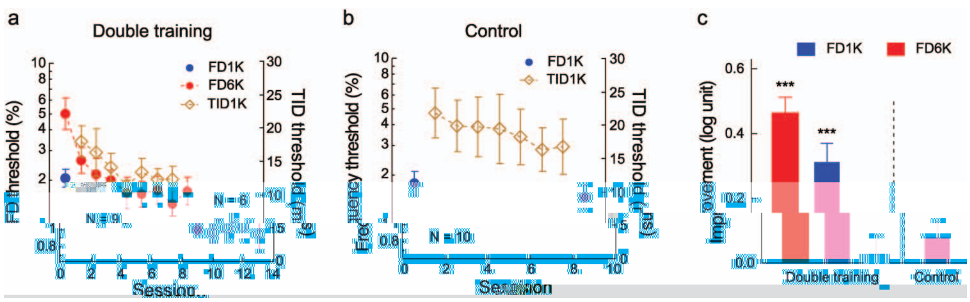

Figure 2. 6 1 K. ( ) 6 K, 1 K 1 K (2 8). 1 K. A 1 K (10 13). ( ) 1 K. ( ) 1 6 K (FD6K ID1K) (ID1K). Error ± 1 *SE*. FD = ; ID = . *** $p < .001$.

Experiment 3

E 3 E 2, 1 6 K. M , . I 1 K, 6 K. A , 6-K .

Method

Participants. (13 ; = 24.1 , *SD* = 3.1) .

Stimuli and procedure. 1-K E 1. : E (24 × 24). A 300- , 300- (200 100-), 900- 200- . . B (2,000-), 6 K . (., 785-).

Experimental design. E 1. I (FD1K 6K), 12 1 K 12 (60) 6 K , 1.5 . I (6K), 12 6 K . 1 . F , 9 14 , 2 .

Results

D 0.42 ± 0.05 1 K, 0.31 ± 0.05 6 K (F 3). I , 6 K 0.11 ± 0.04 (F 3 3). LME (E 1) 1 K ($t = 6.02$, $p < .001$, 95% CI 0.28, 0.56, C $d = 1.90$) 6 K ($t = 4.44$, $p < .001$, 95% CI 0.17, 0.45, C $d = 1.40$; F 3 3). 6 K , 6 K (9 13; $t = 0.22$, $p = .83$, 95% CI −0.27, 0.33, C $d = 0.08$, t ; F 3 3), 6 K 1 K .

6 K ($t = 1.63$, $p = .10$, 95% CI −0.02, 0.25, C $d = 0.52$; F 3 3). H 6 K 6 K .

Discussion

C E 2, 1 6 K .

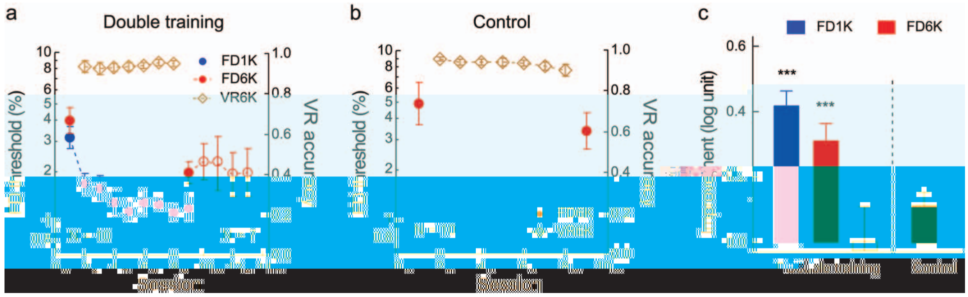

Figure 3. [illegible] FD1K [illegible] FD6K [illegible] ± 1 *SE*. FD = [illegible] *** $p < .001$. [illegible]

[illegible]

Experiment 4

[illegible] (2003). [illegible]

Method

Participants. [illegible] 14 [illegible] = 23.6 [illegible], *SD* = 3.0 [illegible]

Tasks. [illegible] Experiment 2 [illegible]

Experimental design. [illegible] 18 [illegible] (1, 4, [illegible] 6 [illegible]), [illegible] 1.5 [illegible] 1 [illegible] 12 [illegible] 17 [illegible] 2 [illegible]

Data analysis. A LME [illegible] (1, 4, [illegible] 6 [illegible]), [illegible] (2000). [illegible] LME [illegible] (2004).

Results

[illegible] 6 [illegible] 0.11 ± 0.06 [illegible] 1 [illegible], 0.12 ± 0.06 [illegible] 4 [illegible], [illegible] 0.39 ± 0.06 [illegible] 6 [illegible]. [illegible] 1 [illegible] 0.20 ± 0.07 [illegible] 1 [illegible], 0.05 ± 0.03 [illegible] 4 [illegible], [illegible] −0.01 ± 0.03 [illegible] 6 [illegible] (F[illegible] 4 [illegible]).

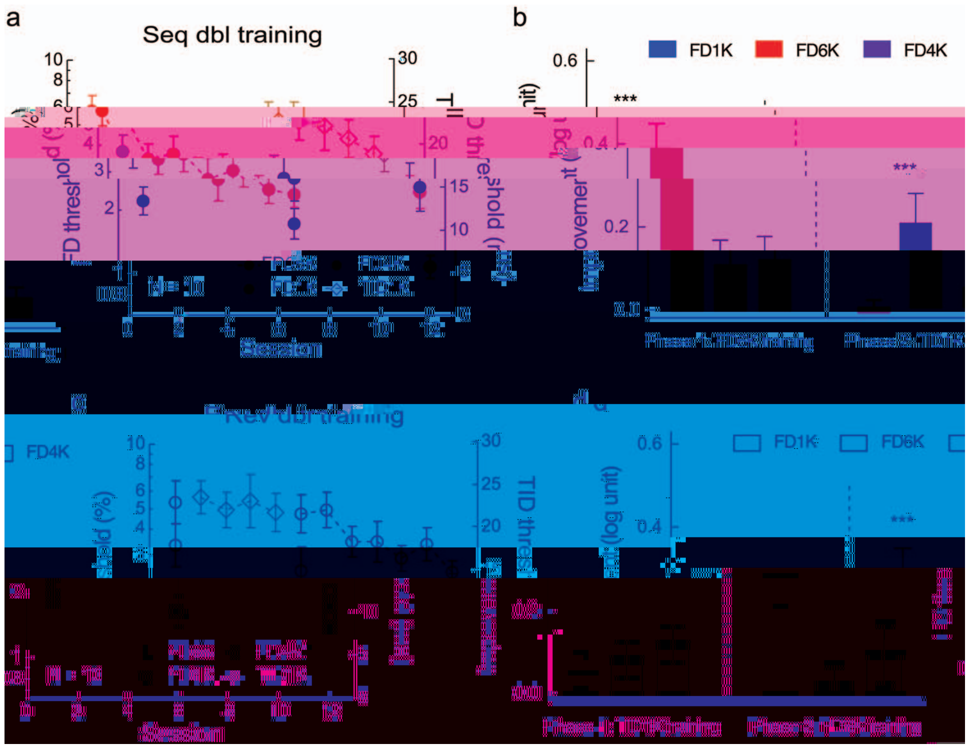

Figure 4. [illegible] 6 kHz [illegible] 1 kHz [illegible] 6, 4, [illegible] 1 kHz [illegible] 6, 4, [illegible] 1 kHz [illegible] 1 kHz [illegible] 6 kHz [illegible] 6, 4, [illegible] 1 kHz [illegible] 6, 4, [illegible] 1 kHz [illegible] Error [illegible] ± 1 *SE*. FD = [illegible]; TID = [illegible]. *** $p < .001$. [illegible]

[illegible] 1 kHz [illegible] 0.08 ± 0.05 [illegible] 1 kHz, 0.12 ± 0.05 [illegible] 4 kHz, [illegible] 0.05 ± 0.04 [illegible] 6 kHz. [illegible] 6 kHz [illegible] 0.02 ± 0.04 [illegible] 1 kHz, 0.09 ± 0.07 [illegible] 4 kHz, [illegible] 0.28 ± 0.07 [illegible] 6 kHz (Figure 4 [illegible] 4 [illegible]).

[illegible] LME [illegible], $F(2, 144) = 43.06$, $p < .001$; [illegible], $F(2, 144) = 32.44$, $p < .001$; [illegible], $F(1, 18) = 0.68$, $p = .42$. [illegible], $F(2, 144) = 3.60$, $p = .008$; [illegible], $F(4, 144) = 6.96$, $p < .001$.

[illegible] 6 kHz [illegible] 6 kHz ($t = 6.94$, $p < .001$, 95% CI [0.26, 0.52], Cohen's $d = 2.19$), [illegible] 1 kHz ($t = 1.94$, $p = .16$, 95% CI [−0.02, 0.24], Cohen's $d = 0.61$) [illegible] 4 kHz ($t = 2.15$, $p = .10$, 95% CI [−0.01, 0.25], Cohen's $d = 0.68$). [illegible] 1 kHz [illegible] 1 kHz ($t = 3.61$, $p = .001$, 95% CI [0.07, 0.34], Cohen's $d = 1.14$), [illegible] 4 kHz ($t = 0.82$, $p = 1.00$, 95% CI [−0.09, 0.18], Cohen's $d = 0.23$) [illegible] 6 kHz ($t = 0.21$, $p = 1.00$, 95% CI [−0.12, 0.15], Cohen's $d = 0.07$; Figure 4 [illegible] 4 [illegible]).

[illegible] 1 kHz [illegible] 1 kHz ($t = 1.46$, $p = .44$, 95% CI [−0.05, 0.22], Cohen's $d = 0.46$), 4 kHz ($t = 2.14$, $p = .10$, 95% CI [−0.01, 0.25], Cohen's $d = 0.68$), [illegible] 6 kHz ($t = 0.94$, $p = 1.00$, 95% CI [−0.08, 0.19], Cohen's $d = 0.30$). [illegible] 6 kHz [illegible] 6 kHz ($t = 4.91$, $p < .001$, 95% CI [0.14, 0.41], Cohen's $d = 1.55$), [illegible] 1 kHz ($t = 0.36$, $p = 1.00$, 95% CI [−0.11, 0.15], Cohen's $d = 0.11$) [illegible] 4 kHz ($t = 1.57$, $p = .36$, 95% CI [−0.04, 0.22], Cohen's $d = 0.50$; Figure 4 [illegible] 4 [illegible]).

Discussion

[illegible]

General Discussion

(F 1), (F 2 3). (F 4).

(C & D A, 2008; G ., 2011; K, Gr, & H, 2011; L & G, 2008), (D, , & C, 2015; H, G, & , 2012; ., 2008; & , 2019; ., 2016; , ., 2010; , K, L, & , 2010). (& , 2009).

(D & L, 1998; J ., 2013). 1 H 6 H (J , 1980; , 1970). (A ., 1986; I ., 1977).

(., 2016). D (2005).

(., 2008; ., 2016; ., 2010). 4 H F 4 4. (, C , , & , 2013). 1- 1 1- 1

[illegible]

Context

[illegible]

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