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fi - ,*

Department of Psychology, Department of Machine Intelligence, Speech and Hearing Research Center, Key Laboratory on Machine Perception (Ministry of Education), Peking University, Beijing 100871, China
Beijing Anding Hospital, Capital Medical University, Beijing 100088, China

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ABSTRACT

“ - ” , fi - / , , , , . , - fi . . fi - ( ) ( ) / - - , , - , . , , - , - , (fi) - . , - , - , (=22) (=12). , , , , , . , “ - ” , , , , - , - . , , / . 2011 . .

1. Introduction

“ - ” - (, 1953), - fi : - (. ., ., 1999; ., 2001; ., 2004; , 2005, 2009; ., 2005; ., 2006; ., 2008, 2009). , - - (-). - , , (-), - /. , , , - , - (., 2007). - (. ., ., 1997, 2000; , 2001; ., 2002; ., 2002 , ; ., 2009) (. ., , 1974; , 2001; ., 2002; ., 2002 , ; ., 2004; , 2004; , 2005). , , / (., 1999; ., 2002), fi (., 2007), “ ”- (, ., 1999; ., 2004). , , , , , . (2007) fi

* : , , 100871, . : +86 10 6276 1081.
E-mail address: . . (.).

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2. Materials and methods

2.1. Participants

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Table 1
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[illegible] 1 [illegible] 125, 256, 512, 1024, 2048 [illegible]

2.2. Equipment and materials

[illegible] 824, [illegible] 450 97) [illegible] 200) [illegible] 60 [illegible] −8, −4, 0 4 [illegible] (1997). [illegible] 12 [illegible] 12 [illegible] (2007). [illegible] 10 [illegible] (2004). [illegible] 47- [illegible] (2007). [illegible] 2007).

2.3. Procedures

[illegible] (2004), [illegible] 2005; [illegible] 2006), [illegible] fi [illegible] : (1) [illegible] (2) [illegible] (3) (−8, −4, 0 4). [illegible] 16 [illegible] 12 [illegible] 12 [illegible] :5.8()-30 0 367: (1 0-1.3159 0 5.5(367:)16.849 0( )-2(.1(4.5([illegible])-302.4([illegible]96-220.8( )-305.4([illegible]

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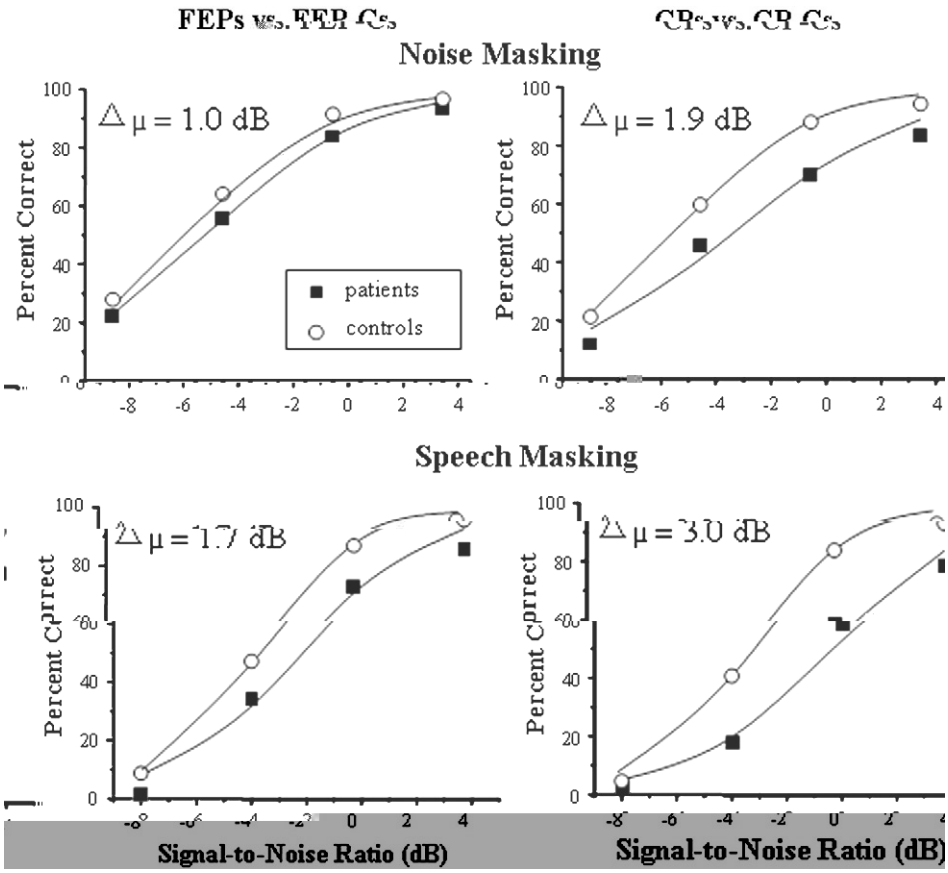

Fig. 1. [illegible] μ (Δμ) [illegible]

[illegible] . 1. [illegible] 4 ([illegible]) 2 ([illegible]) [illegible] μ [illegible] fi [illegible] ($_{3,128}$ = 26.366, p<0.01), [illegible] fi [illegible] ($_{1,128}$ = 46.060, p<0.01), [illegible] fi [illegible] ($_{3,128}$ = 0.549, p = 0.650). [illegible]

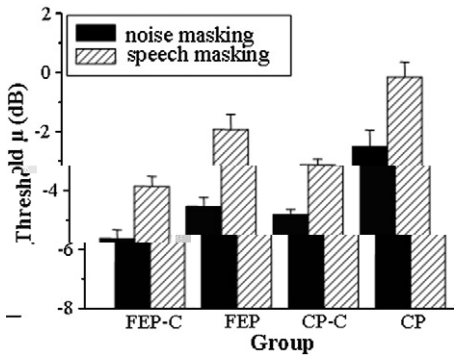

Fig. 2. [illegible] (μ) [illegible]

fi [illegible] (p<0.01), [illegible] fi [illegible] (p<0.01), [illegible] fi [illegible] (p<0.01), [illegible] fi [illegible] (p = 0.084).

3.2. Recognition of the prime keywords under the priming condition

[illegible] . 3 [illegible] fi [illegible] 2 ([illegible]) 2 ([illegible]) 4 ([illegible]) [illegible] fi [illegible] ($_{1,176}$ = 7.875, p = 0.006). [illegible] fi [illegible] (p>0.800). 2 ([illegible]) 4 ([illegible])

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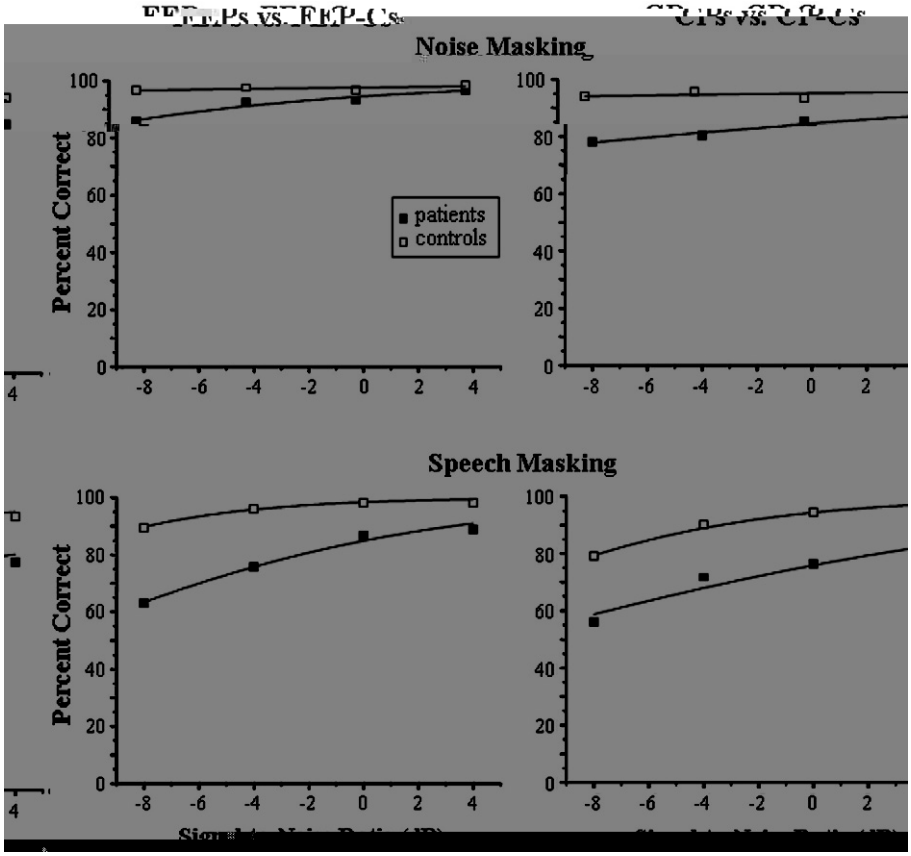

Fig. 3. [illegible] (fi [illegible]) [illegible] fi [illegible] ([illegible]) [illegible] (fi [illegible]) [illegible] ([illegible]) [illegible] ([illegible]). [illegible] . 2.

[illegible] fi ($_{3,88}=1.961, p=0.126$), [illegible] fi ($_{1,88}=7.602, p=0.001$), [illegible] fi ($_{3,88}=1.027, p=0.385$). [illegible] fi ($_{3,88}=4.590, p=0.005$), [illegible] fi ($_{3,88}=20.854, p<0.001$), [illegible] fi ($_{3,88}=1.143, p=0.336$). (1) [illegible] (2) [illegible] fi [illegible] (1). [illegible] fi , 2 ([illegible]) 2 ([illegible]) 4 ([illegible]) [illegible] fi ($_{3,335}=4.982, p=0.002$) [illegible] ($_{1,335}=4.878, p=0.023$). [illegible] fi ($p>0.3$). 2 ([illegible]) 4 ([illegible]) [illegible] fi ($_{3,168}=1.743, p=0.160$), [illegible] fi ($_{1,168}=47.891, p=0.001$), [illegible] fi ($_{3,168}=1.219, p=0.304$). [illegible] fi ($_{3,168}=12.617, p<0.001$), [illegible] fi ($_{3,168}=56.463, p<0.001$), [illegible] ($_{3,168}=0.409, p=0.746$). (1) [illegible] , (2) [illegible] , [illegible] . 3 [illegible] “ [illegible] ” [illegible] “ [illegible] ” [illegible] (1).

3.3. Priming effect on recognition of the last (third) keyword

. 4 5 [illegible] ([illegible]) [illegible] -fi [illegible] ([illegible]) [illegible] ([illegible]) [illegible] ([illegible]). . 6 [illegible] 2 ([illegible]) 4 ([illegible]) 2 ([illegible]) [illegible] μ [illegible] fi ($_{3,256}=39.564, p<0.001$), [illegible] fi ($_{1,256}=59.588, p<0.001$), [illegible] fi ($_{1,256}=20.337, p<0.001$). [illegible] fi ([illegible] , $p>0.100$). [illegible]

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- fi ($p = 0.003$),
- fi ($p < 0.001$),
fi ($p < 0.001$),
- fi ($p = 0.235$).

4. Discussion

4.1. Recognition of target-speech keywords under the no-priming condition

/ - fi fi . fi , fi fi (., 1999; ., 2002; ., 2004) / fi (, 1974; , 2001; ., 2002; ., 2002 , ; ., 2004; , 2004; , 2005). (, -) (, -), - 1.0 , - 1.9 . , - 1.7 , - 3.0 .

- . (= 35), (= 39) fi - , , - (., 1999; ., 2001; ., 2004; , 2005, 2009; ., 2005; ., 2006; ., 2008, 2009). - - fl / (., 2007).

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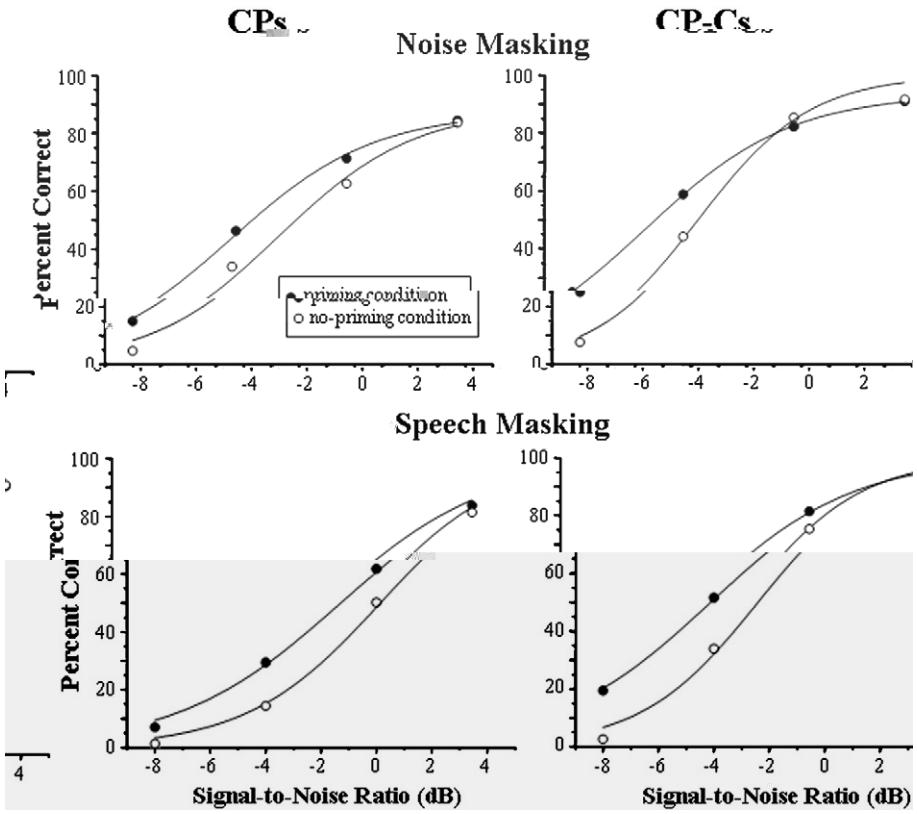

Fig. 5. [illegible] 2.

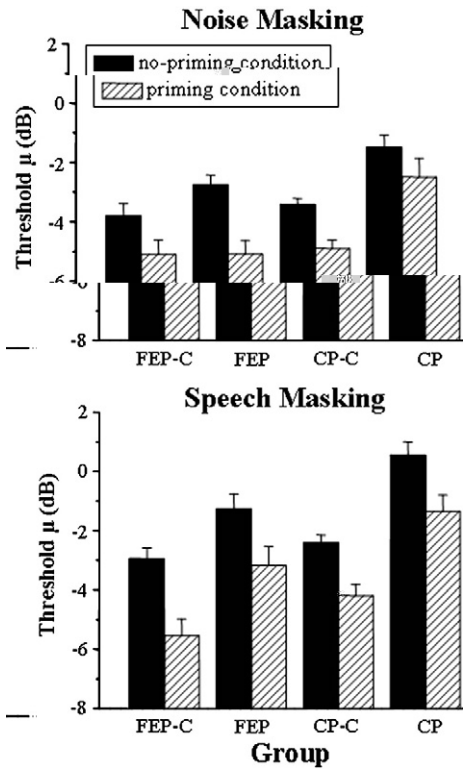

Fig. 6. [illegible] 2.

4.2. Working memory of the prime-content information under the priming condition

[illegible] 1, [illegible] 2006). [illegible] 2007; [illegible] 2009; [illegible] 2009; [illegible] 2009). [illegible]

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4.3. Using the prime to unmask the last keyword in target speech

5. Conclusions

Role of funding source

Contributors

Conflict of interests

Acknowledgments

References

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., 2002 .
159, 546–555.
., 2002 .
59, 159–172.
., 2005.
. 118, 3804–3815.
., 2004.
. 163, 154–159.
., 2004.
. 30, 1077–1091.
., 2001.
. 42, 177–194.
., 2007.
. 35, 85–103.
., 2007.
. 41, 625–634.
., 1998.
. 24, 643–652.
., 2002.
. 252, 120–123.
., 2009.
. 112, 104–113.
., 2000.
57, 1149–1155.
., 2006.
119, 1597–1605.
., 1996.
. 39, 1159–1170.
., 2007.
. 97, 173–183.
., 2003.
45, 329–336.
., 2007.
. 18, 559–572.
., 2005.
. 19, 343–346.
., 2004.
. 18, 45–47.
., 1954.
. 26, 212–215.
., 1979.
36, 314–331.
., 2004.
. 68, 75–85.
., 2006.
. 21, 53–76.
., 1991.
., 2003.
64, 663–667.
., 2005.
. 199, 1–10.
., 2007.
49, 892–904.
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. 165, 10–18.