

# Visual Recognition

## Tactile perception of dead and bearded faces

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### Abstract

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### Abstract

Facial recognition is a complex process that involves the integration of visual and tactile information. The present study investigated the ability to recognize faces using tactile information. Participants were asked to identify faces using a tactile stimulus. The results showed that participants were able to recognize faces using tactile information. The results also showed that participants were able to recognize faces using tactile information. The results also showed that participants were able to recognize faces using tactile information.

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### 1. Introduction

Visual perception of faces is a complex process that involves the integration of visual and tactile information. The present study investigated the ability to recognize faces using tactile information. Participants were asked to identify faces using a tactile stimulus. The results showed that participants were able to recognize faces using tactile information. The results also showed that participants were able to recognize faces using tactile information. The results also showed that participants were able to recognize faces using tactile information.

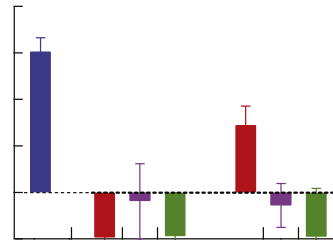
fac / a e e e e / , a e c / a c e c / ca  
 be e ed e abe / ea / ca / ad / e / ea / .  
 T e c / d a / a e d e a e a c ( e a e  
 / ) a d e d e a d ca / / a d / e / a e e /  
 / ac e e / ea e ( V e / ) e a / / a d a a  
 ad / e / a , e d . W e e d e e e a e a c e  
 ( a / e / e e , / e a , a d e e a ) a d e d e -  
 a d e e ( a / e / e e , / e d , a d e a /  
 e d ) / e c a / / . H e e a / e / e -  
 e a e a a e a a d e a d e a d / , a d a e e -  
 e d / b c a e e a b a e e . V e / e a / / /  
 d b e e e c / c e / e d c a / ( X / e a ,  
 2008 ) , / e / a e c a / d e / e a a e c e e  
 / d / a / e / ac c a / / d e / a / a e -  
 e a c a d d e a d c d / / . O / e a a b e /  
 e / ac / e a / / a / a a a e e c a / ,  
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 / e c e a / N e / e a / / e / M e e / a - / e -  
 a c a / / / e a / / e / e / e d  
 V e / e / e a / , b a e e a e e d / a V e /  
 e / a a a d / / a e a / / e / e / a /  
 e a / . I a d / / , e a e a / / e / a d e d  
 e d e a d e e / e c a / / a a e a e a /  
 e a d b e / / / c e d e ( / a e / e e e ) . I  
 e c e / e - b a e d e e a e a / / e / e e e -  
 c a e e d b e / / e e / e c / a c -  
 e c / b e e e a e a / e d / - e e d e c / / a d e / a  
 / / a / e d e / a c a / , e a e e e / -  
 e / e e a e a / / e .

## 2. Methods

### 2.1. Observers and apparatus

F / b e / e / ( d e / d a e d e / e / e a / e e /

... ed b <3%) a d ... ed ... ca ... e ... e ... -  
e ... de (TI), de ... da ... e ... e ... e ... e ... a ce  
... e e , a >0.5). Te ... a ... e ... e ... ed ... e ...  
... e e ... e ... a ce ... e ... e ... d ... ( ea  
TI = -0.15 0.14). We ... e ... abe ... ca ... e ... e ... e ...  
be ... e ... bac a d ... e ... e ... e ... e ... eac ... e ... e ...  
a ... e ... e ... d a ... e ... e ... e ... e ... e ... e ... e ... e ... e ...  
... Te ... e ... e ... e ... be ... e ... e ... e ... e ... e ... e ... e ...  
'd ed ... e ... e ... a ... Gab ... (F ... 2A, a ... e ... e ... a ...  
Gab ... F ... 1A, ... e ... ed 80% ... e ... e ... e ... e ... e ... e ... e ...  
e ... e ... e ... (20% ... e ... e ... e ... e ... e ... e ... e ... e ... e ...  
... e ... e ... e ... e ... He ... e ... be ... e ... e ... e ... e ... e ... e ...  
a ... e ... e ... e ... -de a d ... e ... e ... e ... d a ( ea acc -  
ac = 99.7%) a ... e ... e ... e ... ca ... e ... e ... e ... e ... be ... e ... e ...  
... e ... Ve ... e ... e ... e ... e ... e ... e ... e ... e ... e ... e ... e ...  
... c1 (MPI = 30.3 2.9%, p < 0.001, F ... 2B a d C), b ... ea ... e ... d ...  
... e ... e ... e ... e ... ed ... c2 (MPI = -9.7 8.0%, p = 0.85), ...  
... c2 (MPI = -1.9 8.1%, p = 0.59), a d ... c1 a ... e ... e ... e ...  
ca ... (MPI = -9.5 9.4%, p = 0.81) (F ... 2B a d C). A ... e ... e ...  
e ... Gab ... . E ... d ... e ... , Ve ... e ... e ... e ... e ... e ... e ... e ...  
a ... c2 (MPI = 4.5 4.0%, p = 0.012), b ... a ... e ... e ... e ...  
... c2 (MPI = -2.8 4.7%, p = 0.71) a d ... c1 (MPI = -9.6  
10.4%, p = 0.79) (F ... 2



, a - / ,

d be- /ced f, b  
e /ced f.

ee / e / a e e / a  
a / a / e / a / a-

I add / , e / a c / e e / e / k, e e  
be / e / e / ed e a e / f d Ve / f / a  
( e / e e ea f- / / f d) a p- c2 / /

e . T d e a ad i ac e Ve / / /  
 e d a c2, p\_ c2, a d p\_ c1 (F, 3F), e c d-  
 i e b i i a e e / de c ped ab e e e ca ed  
 b e e d Ve / / / a a e.

3.4. Double training: feature training plus location training with an  
 irrelevant but demanding near-threshold task

We / / / / d a ea / / ca e /  
 c ee a e ca / / ea e / / / acc a / d  
 i / / e a b de a d / ea / / d / / a e  
 e ca / (X e a., 2008). He e e a / ed e e / /  
 c ee e / a / ec / c e / ed e a / . N / e  
 e be e / ac ped Ve / / d / c / / a / a / \_ c1 a d  
 ea / / d c / d / c / / a / / a e / / e  
 a e Ve / / / / ( ee Sec / / 2) a p\_ c2 / a e / a / .  
 b c / e e / . T / / / / / ed Ve / / / e da /  
 p\_ c1 (MPI=29.7 2.4%, p<0.001) a d c / e da /  
 p\_ c2 (MPI=35.9 4.1%, p<0.001). Ve / / d / c / / a / a  
 p\_ c2 a / / ed (MPI=31.2 3.0%, p<0.001), a c a  
 a a / ed p\_ c1 (MPI a p\_ c1 . p\_ c2, p=  
 0.26), / c ee ea / / e / H ee e / ea / / d /  
 e / e c / / a p\_ c2 (MPI=5.0 9.4%,  
 p=0.30) a d p\_ c1 (MPI=6.8 4.8%, p=0.10), / e  
 a e e a / ec / c / / F / . 2.

4. Discussion

T / d e ea ed ee e ac e a / / d be / / / a  
 e e / / . Ac / e ca / / / / / de ed e ce -  
 a / e ab e ea / / e ac / e / a ca / . H ee e / /  
 ca / / / a - / / e a , a / / / e / d (X e  
 e a., 2008), ea / / e / a be / / ed e / ed ea e  
 e a / . H ee e / a e a / e d a a e  
 / ed e a / / a c e e a d e / e a -  
 / ed e a / / e e a e / ed ca / . T e a e / e e -  
 ca / e e / beca e / a e a / ec / c / ca  
 be dec ed / e e e a ea / / b a / e / a d / e e  
 e / a ca / . I / a / / / a / ec / e d  
 ea / / e / ed a d a ad / / e / ed / a  
 e / ed, e / e a e e / ad / / e a e e / ed  
 (X e a., 2008). T e / e e / e e e / ea / / / -  
 / de add / / a e / e ce a e e e a ea / / cc / / -  
 e / / - e e b / / a e a .  
 O e e / a d, e e a / ec / c / ea / / e -  
 e / / a - / / e a ca / / / a ea / be a dd /  
 / e / TPE / / / da a (Z a ., Z a ., e a., 2010). T e

a e / a ea ea / / e a / d / c / / a /  
 a d c / d / c / / a / ca c ee e / e / a / / -  
 a e a / a e be e / a e a / e e ed / a  
 / / e a a . T / d / c / e a c / / ca ed b a d / e e ce  
 beca e e TPE / / / a e ab ed ea / / e / ea  
 Ve / / / ea / / a / / a e a / / ( / / b / ed  
 da a). O e b / / / a e / e / e / ea / / / e  
 c / e d a / / a e a / / ed a a ad-  
 / / / e ee e / e c / a c ec / / , / c /  
 ea ea / / a c ec a / / a e a / a  
 e a e ca / . T e / / ce / / / e / ed ac / a e  
 e / / a / e ce a / / e / e / ee e / c -  
 / a c ec / a de ab / ea / / e / e /  
 I add / / , e e a / / / e / ed ac / a e

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