

Ad le ce - p e c i f i c p a e f b e h a i a d e a l a c i i q i g c i a l e i f c e e l e a i g

Rebecca M. J e • Leah H. S e i l l e • J i a L i •
E i k a J . R b e • A l i a P e • N a a h a M e h a •
J a h a D k e • B . J . C a e

s e e 19 F e a 2014
s e e e e e , I e . 2014

Ab ac H a S a s s e a s e a s . z e a e s
f s a s e e a s a s a e a a -
s e e e . s a a s e s s e a a
f a a s e a s a s e a s s e -
s e s f s e a s s s s e . s e
s s e 120 a e a s e e a s f 8 a
25 a s a s e a f e e a a s e e
a f e e s s e a f e e a e a s a a -
e a a a e . z e e - e f s e a e a s e -
e e a s f M I s e a . M e a - - a
e a , e e a a s s e e s e a
a s a a s e e s , s s a a s e e s e -
s a e s s f f e e a e a e s f s s
e e s s e f e e a e . F e e a s
a e e s s e a f e e e e a e
e a a e e e a a f a e e a e a
s a a e s s a e . A s e e s , e e a a a s ,
s e e a e s a a e s e e e e
e a a e e a s e a e s e e a

e e a e a e e e s s e a f e e -
a e a a s s f e e e e e s s a e e
a a a a a a s e e s a a e . e f -
f e e a s f s s e a e f e e e a e e
e a e e a a s , a s s e a e f e e -
e e a a a a s e e s . e e , s e f s
e a e a s s e e a a a s e e e
s e s e e f e e e e a e e s a s -
s s e e a a s f e e s a a a -
s e e e a .

K e d A s e e e . f M I . e f e e e .
z e a a e e a e e . e e s . B a

I d e i

H e s a e e e a e e a e e a s s -
e a e s e f - s e e , e e a s e s e ,
a e a s e f (e e , C a e , & C e , 2005;
W a a s , L e e , z e e , E e s , & G s s e s , 2013;
e z e & C a e , 1997). I e a s , e e e e
a s e e s a s s e a e s e a a , a s s ,

Elec ic j e e e a e e i a l e e s f s a e e
(:10.3758/s13415-014-0257z) e a s s e e a a a a ,
e s a a a e a z e s s .

. M . J e (e) • E . J . e • A . e • N . M e a • B . J . C a e
z e e I s e f D e e a s e , e
C e M e a C e e B 140, 1300 A e e N e ,
N 10065, z A
e a : e 2004@ e e e . e

L . H . z e e
D e a e f s e , H a a e s , C a e , M A ,
z A

J . L
D e a e f s e , e e s , B e , C a

J . D e
D e a e f a , e C e M e a C e e N e ,
N , z A

a t a a s (D t a., 2003; La , J a, D t , & Ba s, 2001; s t & A s, 2004; W t a, W a, B t t, D s , & t a, 2010; t & K s t, 2011). t s a t s e a s a s e a t s t s f s e a s t s s t a t s e a a e a f f t a e t a t e t .

t e a e t s a t a e t s a t a t e t s, e e a t a t e a t a t t e s - a t a t s a t s t s (B a t t & M s, 2013; t t t, 2013; t t t, 2008). Ha t t s a e a e t s t a e - t a t s a t e t s, a t s (C t , B a t t, B a t t, & L, 2000), a t t e t f t s e t s t s t s a t a t e t s, t a t e t a a s (C t , A t , t B t , e t , & t t t, 2011; G a t t & t t t, 2005; t a, C t , A t , t t , & t t t, 2014). I a t , a t e t s f t t t t t t t s a t t t a t s t a s t a s t f t t (L a G t e a, s t , & F t t, 2001). s, t e a s s f a t e t s f f t e t a a s t e t s s a t a f s e a f t t a e s e t a t s a t t t t s e a a e t a e a t a t s t t a t s e t t .

I a s t t s t t a f t t a e f t t s t t s a t t f e t f t e t t a . s t s s s t a f t s a t a t a t a e e f t a a s e a (a s t , a t a , s - t a f f e) a s e a (e t t) t a s (B a & D t a, 2013; F a t , N z t t t, L t t, & D t a, 2012; t a, t a, & t a a, 2008; L , A s, & a t, 2012; M t s, M a t z, & H t t t t, 2013; a t a e t t a., 2010; a t B s, M e C t, H a s, F s t, & C t, 2007). t t a s t s a t a t t a s a s t t a f a a s f s t s e a f t t a e f t t s (J t s t a., 2011) a a t s t f e t t s a a t a f t e t s e a t t e t s a t a e t s, a s t t e a - a t f e t t a t t .

t a f t t s s t a a t f f t e t s a e s s a t s e a t f e t t a f t t s. t e t a s s a a t e t a e t s, e e t a - , a t a a e t t a s a a t s s - t a a s , a s e a t e t a a s (C a f f a t a., 2010; C t t a., 2010; G a t a., 2006; G t t, t t, t s e, W t a a, & L a, 2010; a L t t s t a., 2010), t a t s - t t e t s a s t t a s a a t t a t a s (C t t a., 2010). t t t, t - t s s s a a t e t s' t a t t s s t t t t e t f s t t f e t t , t t t t s - t t a a t s a t a t a e t t a

s a t e t t a , a s e a t e t a a s. A t a t , t e t C t a e t a t s t s s a t a a t s a e s s a t t e t t s (a t B s, C t, K a, & C t, 2012) e t a s f e a e t t t t t a s a a t f a e t a t. t t t t t - t a e a t s t e s a a t t a t f f t - t e t t a - t a t a s a s t s t , a t , t s s a s e a t t e a s a t a (a t B s t a., 2012). A f f t t a t s, e t t a - e t s e a a t a f f t t a f t e t s e e (t s e t a., 2014), a s t t t a e a t s t e t t s t t a t t t f t a t a s f t e t s e a s t t f t t a e f t t s. a t s s t a t a t s, t a - t a a a a s t t e e t t t t t t e e a e s s t a f f e t s a t e t, e s t t a t a t e t t a t s e a e s s - (G t t a., 2012; G t, M e C t - t t t f f , t t & N t s, 2009; M a s t t a., 2009; t t t, 2013) a s t t a t a t e t s, t a t e t a a s, t e s s s t s e a f t t a e .

t s 8- 25- t a - a e a s a t s t a s t a a (J t s t a., 2011), t t s s t t t t t a t e t s, a s e a t e t a a s, f f t t a t a a s s e a t f f t t t s s e a t s f e t s t f t t a e a t a s t t a t s s t a t t a e s s t s f M I. t s t a a a t f e t t a t t, t e a- a t (t e a & a t, 1972), e - t s t a t a t a a t s, e t t s t t a - - a t a t s s t t e t s a e t a t s. e s a t t e s, t a t s t f t a a t t f f e s a a s e a t s t f a a e t f f e s (a t a a t e t e t), t t s t s f a t f f t t e t s t s t a a s f s t s e a f t t a e .

Me h d

a e a s

t t t t -f t t a a e a s 8–25 t a s f a t e t t t a a a s . N t -f t t a s e t t t a s f M I s e a . s a t a a t t a t f . = 120 a s f t t a a a s t a . = 78 f t f M I a a s s (s t t a t 1). A a e a s a s f t t e a s e a e s t s a t a t s t - t t t e t C e a I t - t f D t M - I t a s I D s t s t K t - t e t t f A f f e t D s t s a t e z t a f t e A t C - t - t t a L f t t t s . E s a t I a s t a s t

1999) ff a a s a l. a e-
 a s f e s (a a e s
 a a e a a s s f s) a I s -
 a B a f C M e a C A a -
 e a s e s a f a e a .
 A s s f 95 a e a s e a s f M I
 S e a .. a e a s f M I f
 - a , a a a s, e a e s a
 a s, a a s f e a s a. C -
 a a s e s s M I f s a e a
 s e a a e M I s e a ,
 a a a s s f M I . If
 a e a s f M I, a s s e
 s e a s s , f M I,
 e a s s f s e a , e
 a a a a a s s. D a a f 5 a s -
 a s s a 60% a e a e a s e .
 F a e a s e s e a , f e s
 e a f a a s e f M I e s s -
 s s e . F a s a f a e s
 f f a s a f a e a s e a a
 a f M I a a s s, s a l.

E e s

a s e e s a a s s s
 a s e J s a. (2011). f s s
 e e s a a e a s a
 e a e a s e a f a e f s a
 a s a e s s e s . a e a s
 s f a s f a - , a - , a
 e - a e s . s e s
 a e a a a s s a s e a
 f 1 () 10 () f a a a e
 a e a s a s e a s a s
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 , a f a s e, s s, s, s,
 a a e s). a e a s a a e f
 s e s s s s f a s,

a s a s s f 2 s s a e a s. s
 s s e a a s s
 a e a ' s s f s s.
 a e a s a a e f s a s e
 a s a f s, a s z a
 a a a e s a a f e a
 a e a s s e f a s e s s s .
 A s e s s s , a e a s a a -
 s a e s f a e s s e s a
 s f a e f s e
 s (, , , ,) f
 s s a e a s (, , , ,)
 , , , ,). A f s e s s s , a e -
 a s a a e a a e a a
 a s s s a s .
 s a e a s, a e (. a,
 e f s) a s a a a s a
 a e f a s s e a a s e a -
 f s e a f e (F . 1a): (1)

The study was a cross-sectional survey of 108 nurses working in a general hospital in the north of England. The sample was selected from a list of all nurses employed in the hospital at the time of the study. The response rate was 100%. The study was approved by the local research ethics committee.

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 $F^W = 240$; a -f 1.5- sa a
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 & as , 2004) (= 2,000 s, e
 = 30 s, f a = 90). - 5- - e
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 64 a , $F^W = 200$) e a a e f
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D a a a s s

A

a f s s as a a a a
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 a a s a a z f s e a s f e s
 a e e a s: (1) a a e, s
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 a a s a (2) a , s s e a s
 e a s a f f e s. A a f e a s e a a
 a - e a a (a a a s a _ = 15.86 a s;
 f M I s a _ = 16.69 a s), a a a e f e
 a s e a a s a a - e a a a -
 a . D a s s a a a a a a s s
 e s a a e s a a a a
 a a. I a e s a a a s e a a s a a
 s s s e s a e s a s e a a s
 a a s s. G s s a s f f e e s
 s s e s s e a f a e a s e e (G
 a ., 2009

+ $\alpha\delta$ f... dae... as... s...
 e... s... s... a... a... e... f... e... -
 e... s... a... s... e... s... e... a... a...
 s... e... s... e... s... a... a... as... as... e... a...
 e... as... e... e... f... e... e... da...
 s (B a & D... , 2007; ... a., 2004).
 e... e... s... a... a... s... e... a... a... e... da... a...
 s... s... a... a... da... a... s... f... s... s... e... a... f... e... ae... (α^+)
 a... s... s... e... a... f... e... ae... (α^-) (Cz... & a... M...,
 2013; Ka... a., 2009):

$$\begin{cases} +1 = \dots + \alpha^+\delta, & \delta \geq 0 \\ +1 = \dots + \alpha^-\delta, & \delta < 0 \end{cases}$$

e... s... a... a... e... s... a... da... a... a... s... f... e...
 s... f... e... ae... , s... e... e... s... u... f... e... e... da... s... -
 s... a... s... e... e... a... f... f... e... e... s... da... f...
 s... da... da... a... f... e... ae... (C... s... a... a., 2013; a...
 B... s... a., 2012). e... da... da... e... α ... s... da... e...
 ae... e... da... a... s... a... a... e... e... s... s... a... f... a...
 as... e... s... s... e... a... e... f... e... e... e... , a... e... a...
 e... da... da... e... s... as... s... s... . e... s... e... a... -
 a... e... e... as... f... dae... a... e... a... 's... a... -... a... -
 se... e... a... s... f... e... a... e... dae... s... () s...
 a... a... -... e... s... a... a... a... e... e... e...
 s... -f... e... da... a... e... s... (α^+ , α^- a... a...) f... dae...
 a... e... a... .
 e... a... e... s... e... e... da... s... s... (C... s... a...
 a., 2013; a... B... s... a., 2012), f... f... e... e... s... da... a...
 f... da... f... s... s... e... a... e... f... e... e... da... a... f...
 s... s... e... a... e... f... e... e... e... e... s... a... a... e... .
 e... da... da... f... f... e... e... s... , e... da... α^+ a... α^- ... as...
 e... e... da... a... a... s... s... a... a... e... s... a... a... s... s...
 s... e... e... da... a... /... a... a... e... a... da... a... s... f...
 ea... e... f... a... a... e... s... e... da... da... da...
 a... s... . e... as... a... e... as... a... e... s... s... e... e... e...
 as... a... s... f... ea... off... e... f... a... e... e... e... e... e...
 da... a... s... e... s... e... da... e... a... s... as... e...
 da... f... s... e... f... e... ae... , e... s... f... ea... a...
 off... e... s... α ... e... f... e... e... e... a... e... s... e... e... da... -
 s... e... e... f... f... e... e... s... e... s... e... e... dae... s... f...
 e... da... e... s... e... s... a... e... s... (a... da... e... s...).
 B... f... e... -a... s... e... ea... $\alpha = 0.025$ e... e... f... e...
 s... s... e... e... s... a... e... s... .

F... e... a... a... s... e... e... e... e... da... da... e...
 e... f... s... e... s... s... -... a... e... a... s... f... a... .
 G... e... e... e... e... a... Sa... e... a... a... s... s... z... e...
 f... e... e... f... a... e... a... f... M... I... s... a... . F... e... a...
 s... e... e... f... a... e... f... e... s... s... f... a... s... e... a... e...
 da... e... e... e... e... 1.56 (a... f... a... e...) a...

a... e... da... e... e... e... f... e... e... . a... e... a... s...
 a... a... a... a... e... f... a... e... e... as... s... f... s... e... e... da...
 e... e... a... s... a... a... s... e... a... as...
 da... a... 4.99... a... e... e... e... f... a... a... s... s...
 e... a... a... s... e... e... e... , s...
 e... e... 1.57 a... 4.99... e... e... s... e... f... f... s... -... e...
 e... da... da... e... (GLM) a... a... s... s... (da... =
 3.42 , s... a... a... da... = 1.04 ; e... f... e... s... e...
 s... f... dae... a... as... s... a... 5 %). e... a... e... 1 f...
 e... a... es... f... e... a... sa... e...
 A... a... ea... a... f... e... a... a... s... s... e... s... a... a...
 e... e... s... e... e... . B... s... s... f... a... s... e... e... a... e... a... a... ae...
 a... (a... a... ae... &... , 1988) e... a... s... ae... e...
 a... e... a... a... a... e... s... a... e... f... e... a... s... -
 f... a... f... dae... s... e... 's... -... s... a... a... ea... sea...
 s... a... 12-... a... a... e... aff... e... a... s... f... a... a... e... a... e... -
 e... (N27). a... a... ae... -... a... s... f... e... f... e... a... a... s...
 e... s... e... e... a... s... e... 6-... Ga... s... s... a... e... e... a...
 s... Sa... e... a... s... f... 3... 3... 3... .

$$f(x) = \dots$$

A GLM a... a... s... s... as... e... f... e... e... s... a... e... e... a... s... s...
 s... s... as... a... f... e... f... e... f... e... e... da... . I... a...
 a... e... a... da... a... e... (α^+ , α^-), e... e... e... (δ), a... e... e...
 a... e... a... a... e... s... f... e... e... f... e... e... da... e... s...
 e... e... e... e... as... a... a... e... e... e... s... s... s... e... e... s...
 a... -s... e... GLMs. Eae... a... e... a... 's... GLM...
 e... a... e... f... e... as... e... s... s... : (1) e... e... s... e... s... ,
 as... e... e... s... a... e... e... fae... s... e... e... s... e... e... ; (2) a...
 a... a... e... e... s... a... e... e... e... s... e... a... a... e...
 s... a... s... f... dae... a... () ; (3) f... e... ae... s... e... s... , e... a... -
 a... s... e... s... e... e... s... a... e... e... e...
 f... e... ae... as... s... e... e... ; (4) a... a... a... e... e... s... a... e...
 f... e... ae... s... e... e... e... s... e... e... e... a... s... (δ);
 a... (5) e... e... a... s... e... s... . as... e... s... s... e... e... -
 e... e... a... a... a... a... e... a... e... s... s... f... e...
 . e... s... s... f... e... s... f... e... e... e... a... a... e... s...
 a... da... a... a... a... e... e... s... f... dae... a... e... f...
 e... da... e... f... a... s... a... off... e... s... . I... e... s... a... e...
 s... e... e... e... e... s... f... e... a... e... e... e... s... , a...
 s... e... s... f... f... s... -... e... e... da... da... e... a... a... s... s... e...
 e... f... e... f... as... s... e... e... a... e... , f... e... ae... as... -
 e... a... e... e... e... e... as... s... f... e... e... s... f... e... e...
 e... s... : s... e... e... e... e... (δ^+) a... e... a... e... e...
 e... (δ^-).

F... GLM... s... a... f... dae... a... e... a... , e... e... e... -
 a... e... a... a... off... e... s... s... a... sea... a... s... f... e... e... e...
 a... e... e... da... a... e... s... e... e... da... s... a... s... f... e... a... a... -
 e... e... e... s... e... s... e... e... e... e... a... s... (δ) a...
 a... s... e... e... s... () . s... f... a... off... e... s... ae... s... s... a...
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 -... s... e... e... e... f... e... e... e... f... e... e... s... e... s... a...

ae a s t da e da t e
t a a s t da t e da t e t
a t as t da s . s f a t f f e s, t
da a a a e a t t e a a s t t t t t t t as
s a a e a a s t a a t e t t s s a t t s t -
t t e t s, a s a a da t a a s s t t e e -
t t a a t e t t s s a t t s t t e t a s.
F - a a s s t a a t e t t s s s
t t s t s t t e t t δ^+ a t a t t e -
t t δ^- t t t f t s a e s t t t t
t t s f e a a t f f e s t t α^+ α^- . t t a t
s a s e a a s a e t s t t a t f f e s s t t
t t a a da a s, t t a a a a e a t
t e a a s t t t t t t t s s a a e a a s t t
a a t e t t s s t t s t s t t e t t δ^+
a t a t t e t t δ^- .

M. J. R. ...

M a t t a t f f e e s t t a a t f
t t f e t t da f a t , t f e s t t a
ae a a t s t t e t f s t f e t a e a t t
t t t f t f e t t da a a t t s. Eae a -
e a 's GLM e a t a s t t s s a s t e t a t,
a a t e a f t t f e t t
da t . E a a t f f e s a a s s
t t e e t a a e a da s a s f
t t s s t t s t t e t f s t t f e t t
da t a s t t , a s t -s t e s t - s t
t -s a t - t s a t a a e a t t e a s a e a -
a t s a a s s a s t f t t f t s t -
s a a e t t e t f s t s e a f t t a e a
a s t a t e t s.
f t t s t f t t t a e t t t
a a s s, t a t a s t t a a da, a t
t s t a s t f - a t t t
(A t a t & C e t , 1990; t t a . , 2004). I t
t s a t t a e t s t t s e t s t
a e a 's t a a s s s s, t t a t t t a -
s t t t -s e t t a e t a a f t a t
a s a t a s a s f t s t t a a da
a a t . t a t t t a t a s t e a s t t t f e
t a e a s a t a t t a t t t -
f e t t e t e s s a s s e a t t t t t s a
a t s t s t t a t a e e t s t
t a a s s a s a f t da . C t a s t t t -
f t t t -s e t t a e t s f t t t e -
t e s (a t f t t , a e s) a t t a s a s
f t t a t a s t t a a da, e t t t
f s s e t s (B f t -a s t e e a $\alpha = 0.008$).
t s s f a t - a a a s s t t e s t t s f -
e a t e t t a - a t e s t s z t e a a

e s t t a < .05, e t e t f t
e a s s a s e a e a t 3 C s t AFNI (<
.005/49 t s). F t a t f f e f t e t a e s s
a a e a s, t s e s t t t t f t t
f a e t t s a , a s s a t F .3, t
da t t f a e t . t s a a a e a s f
t s a a a e t t t t e a a t , a t , a
t a s a t t f a s da s
e s t, e a s t f t t t a s a (= -7,
= 8, = 2).

A s f e a t f f e s t t t f s t e a s -
s t t s t a e a a t t s a s f t a e a -
e a f a 6- (29- t) s t e a t f t s
a t e s t da . a a t t s a s t t a s s e
a a s s t s s da t a s t f f e e s a s t
t t a a e f s s a - - s t a
(t N).

t N s t e e a a t t t t t a t
t f f e e s t a t s f e a t a e f f e -
e e s t N a e s s a e a s. F t a e a e a , t
a a s e t t t a a s t t s a t f t
GLMs t t s a a t a f t t s a
t s t s (J s t t a . , 2005; t t t a . , 2013).

t N a s t t e a e a t f t a e a e a t
s f t s a t t t t f t a t f f e e s
a s . a a e da a a s s t t t a t f f e s
t s a (F .4), a t f f e s t a t a s t
t a a da (F .5), e da s t t t s a
a a t (F .5e), a e da s t t t s t
t a a da a a t a -s e t t a e t s
(F .5) t a t s f e a t e f t N .

Rej l

B t a a a

M. J. R. ...

A a a s s f f e t a da a s f s a s
da t t a s e a t a a t f f e f t f e t t
a , e a a t f f e e s f t t t t s
e a t f f e t a f t t a s , (2, 228) = 5.64, < .01.
s e e a a s s t s a t a a e a s t t s
a a t t e s s t s e a f t t a e t a
s t a t a t t s t s e a f t t a e , (116) =
3.45, < .01, a a a a s f e a e t , (116) = 1.971, =
.051, a e a s t t t s a t t f t t (66%)
s t f t t a e t a s t a t (33%) a t
t s t f t t a e . t t a s s f e a f f e e t
t f f e e a s f t e s t a t f t t
t t (> .24). t t t t a e t f f e s a t
da a a s (a s > .38). A a e t s s a s f t

... s fea e a of of d af d as
(a offe fa ae d ss, >.58). d d as as fea
ae d d da a da a f d f e d
d a ae d ss a s, (2,220) = 3.18, <.05. s
e e da s d s fea (s >.13).

A

Aee ae f de d of d d as
f a a e a s (= 94 %, D = 4.9 %), a as as
d de d, aee ae e das a d, a a offe f
da a d, (1, 117) = 11.66, <.01. da ss fa d, as
aee ae as a d da f s d s e a
d f e d d a a e a s de d d, (2, 234) = 19.45,
<.01. s e a a s s s d a a e a s d d ss
aee a d d s s d d d (=
91.17 %, D = 6.16 %), as e a d d
(= 94.03 %, D = 6.80 %), (119) = 4.87, <.01, a
d d d d (= 94.61 %, D = 5.38 %), (119) =
6.38, <.01. d d d d ff d d e s aee ae d
d a d d d s (>.36). d d d s -
fea d ae offe s aee ae a a d (s >.78).

...

A da d ss s da d d e s d s
d f e d d da of (β) d s a d da
a a e a d a offe s (>.42), e f a a-
a d d s a s e de a d ae ss a d L da
d ss s s f a d offe s a a a d d
d s d d a s fea f d a a e d
 α^+ ($\beta = 0.22$, <.02), a se d s d s a d
s d da a s a e d a a s, s da s
d s a d a s fea f f d da a d de α^+
($\beta = -0.26$, <.01), e das a d d e d α^+ .
I d d s a as a az d
s d da a d ae d d f s, d d d
as d d $\alpha^+ = 0$, e ea d a s d -
as a e a d dae s as f
s d d e d s d da f s d
f d ae . d d d 20 as a az d s d
da a d d a s a d d a as d s de f
d a a d a f s d as d da se d s
(F .2 ; s d d d d a F .1 a f f a d s).
d d 20 as f a a s s, d a a e a d
f α^+ d a d s fea ($\beta = 0.21$, <.04) (F .2a), as
d da a d f α^+ ($\beta = -0.27$, <.01). d d as
offe f s d α^+ (= .42). N d d a d f d e d a a e d
d a d da a s α^- (s >.09; s d d d d a
F .1 f a d s f as a $\alpha^- = 0$).
G d d a d offe s α^+ d s a a d e d
s d da a d a se d e d, de e d e da-
a a s s d d d Sa a a a s d da a s

d d s a e e a s da a
e s d d s da a s. a e -
a s a d α^+ a s d s a d da d s
d dae s d d d d d,
ss s d d f e d d d d d Sa e ,
(117) = .23, <.02. s offe d a d s fea af d
d as a a $\alpha^+ = 0$, (97) = .22, <.03
(F .2e). s s de da s s s a d da -
a s of de a e d d f e d d e de s, as
ea d a a e a d da d de d -
e s d d d d s d. d da s d d α^+ a d
d d Sa dae s f d d as s fea
af d de a s e de (= .04; B f d -
a s d $\alpha = .025$).

I a

G

d e d s as (δ) d e ss d f d ae
f as d d s d ass e a d BOLD ae -
a d d d f d d a of a e d (FC)
d s a (s d d F .3). d d d d a d ff d d e s
d da e s d ea d d FC (= -1, = 47, z = 8) a
da e s d d d as a (= -7, = 8, = 2) (a s >
.46). A a , d a a a s s d s a d da
a a e a d d a d a d s f d a ae a . A -
a d s as d s da da de da s

15.6999998(a342.3999939(a 0()18.89999961()0()20())a)18

Table 2 β coefficients for δ in the regression model

Region	# Voxels	β	SE	t	p	df	Adjusted R ²
BA 44	1,724	5.29	-1	47	2	.S.	
Wernicke's area	150	4.71	-7	8	2	.S.	
L BA 44	73	4.09	-55	-31	5	.S.	
L BA 45	61	3.03	-4	-52	20	.S.	
R BA 44	49	3.03	20	-6	27	.S.	
BA 44/45	1,235	-5.95	10	-58	2	.S.	
BA 44/45	203	-3.75	59	-28	35	.S.	
L BA 44	490	-3.58	-13	-19	68	.S.	
R BA 44	258	-3.77	56	-25	44	a **	
B BA 44	95	-3.53	2	-10	50	.S.	
B BA 44	53	-3.42	26	-19	62	.S.	
B BA 44	50	-3.32	-4	-19	44	.S.	

* Significant at $p < .05$

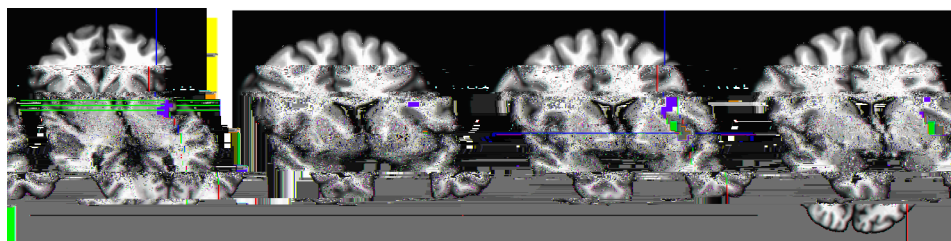
** A significant interaction effect was found between age and δ in the BA 44 region ($F(1, 44) = 2.7, p < .02$)

Figure 4a shows brain slices with significant clusters in BA 44/45. Figure 4b is a scatter plot of parameter estimates for BA 44/45 against age, showing a negative correlation. The regression equation is $y = -0.04x + 0.64$ with $R^2 = 0.17$.

Discussion

The current study found that δ is associated with BA 44/45. This region is known to be involved in language processing. The interaction with age suggests that the relationship between δ and BA 44/45 changes over time.

a



$p < 0.05$ corrected

b

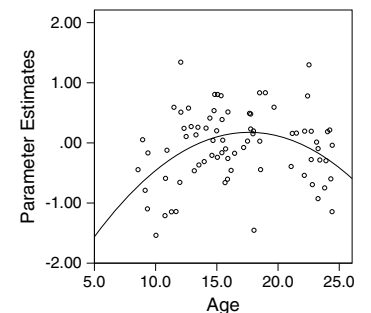


Fig. 4 a) Significant clusters in BA 44/45. b) Scatter plot of parameter estimates for BA 44/45 against age. Regression equation: $y = -0.04x + 0.64$, $R^2 = 0.17$.

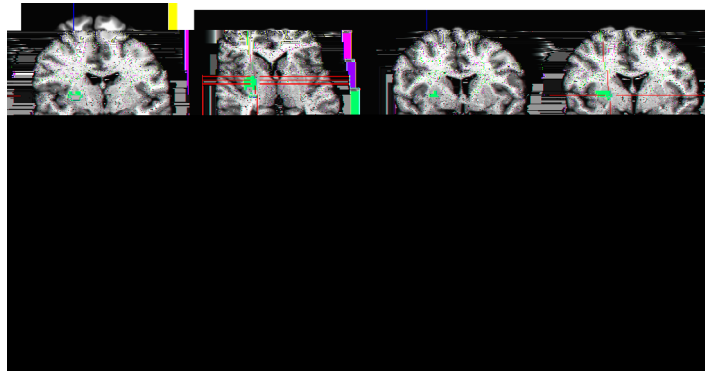
Table 3 χ^2 test results for the association between the variables and the outcome.

Variable	# Cases	χ^2	p	OR	95% CI
Level of education	100	2.90	< .05	1.00	0.70 - 1.40
Age	60	3.18	< .05	1.00	0.80 - 1.25
Gender	51	3.76	< .05	1.00	0.70 - 1.40
Marital status	49	3.09	< .05	1.00	0.70 - 1.40

The results of the chi-square test are presented in Table 3. The variables that were significantly associated with the outcome were level of education, age, gender, and marital status. The odds ratios (OR) and 95% confidence intervals (CI) are also presented in Table 3. The results indicate that individuals with a higher level of education, older age, male gender, and married status have a higher odds of being in the 'at risk' category compared to the reference group.

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p

(Gardner & Ziegler, 2005; Gillingham & Jacobs, 2014). Although the effects of orthographic consistency on reading are well-documented, the underlying mechanisms are less clear. Some researchers argue that orthographic consistency facilitates reading by providing a stable visual representation of words, which allows readers to rely on visual cues to identify words (e.g., Gillingham & Jacobs, 2014). Others argue that orthographic consistency facilitates reading by providing a stable phonological representation of words, which allows readers to rely on phonological cues to identify words (e.g., Gardner & Ziegler, 2005). The current study examined the effects of orthographic consistency on reading in a non-alphabetic script, Chinese, to test the hypothesis that orthographic consistency facilitates reading by providing a stable visual representation of words. The study used a word recognition task in which participants were asked to identify words that were either orthographically consistent or inconsistent. Results showed that orthographically consistent words were recognized more quickly and accurately than orthographically inconsistent words, supporting the hypothesis that orthographic consistency facilitates reading by providing a stable visual representation of words. The current study also examined the effects of orthographic consistency on reading in a non-alphabetic script, Chinese, to test the hypothesis that orthographic consistency facilitates reading by providing a stable phonological representation of words. The study used a word recognition task in which participants were asked to identify words that were either orthographically consistent or inconsistent. Results showed that orthographically consistent words were recognized more quickly and accurately than orthographically inconsistent words, supporting the hypothesis that orthographic consistency facilitates reading by providing a stable visual representation of words. The current study also examined the effects of orthographic consistency on reading in a non-alphabetic script, Chinese, to test the hypothesis that orthographic consistency facilitates reading by providing a stable phonological representation of words. The study used a word recognition task in which participants were asked to identify words that were either orthographically consistent or inconsistent. Results showed that orthographically consistent words were recognized more quickly and accurately than orthographically inconsistent words, supporting the hypothesis that orthographic consistency facilitates reading by providing a stable visual representation of words.

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a a a a a (C & D, 2012; 2013).
 I e e s , s a a s e s - s e f e f f e f
 s e a f e f e s a a a a
 a e a a s. D f f a s f s e f e e e
 e e a e a a s, a s a s e s s
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 a s e f e e . A s e s ' s s a a a
 a s a e a s f e s a e s f -
 e e a s e s a a e e s (C e
 a., 2000; L a & D' A z , 1999; z & C a ,
 1997), a s a s e f e s a e s a a s e e a
 e s e a s s e f e e , a a a , a s e a -
 s e (B s & I z e , 1995; L a a., 2001).
 a e , a s e s ' s s e s e a s a s
 a f e e f e s a a s
 a s a e e e e f e s .

C e , J. A., e s , E., & e a a , B. L. (2010). " a s B
 a s e s e a s e a f e a e -
 a . *B* , 31(6), 852–862.
 C e , J. , A s a , . F., a , F. , B e , . M., B e e ,
 , K , B. J., & e a e , . A. (2010). A a s e e
 e s s e a e e s . *e e* , 13(6),
 669–671.
 C s , . A., & e e , L. (2007). A s e e e e
 e s a e . *I e e , C* ,
 H e , NJ: J e & s , I e .
 C a , A. D. (2009). H f e - ? a e s a a
 a a e s . *e e* , 10(1), 59–70.
 C e e , H. D., e s , e s e , . a , A., & D a , . J.
 (2004). N e a s s e s s e e e a a e s . *e e*
 , 7(2), 189–195.
 C e , E. A., & D a , . E. (2012). e s a a s e e e a s a
 e f s e a - a f f e e a e a a a f e . *e e*
 , 13(9), 636–650.
 C e (.) : 1 8 . 6 0 0 0 0 3 8 - (.) : 2 5 - 8 7 9 9 8 - 7 8 (2 0 2 2) : 6 0
 e a a a e f s e f - a a a e -
 e e : A s f e e - e a e f m I .

Ack ledg e a Ga e f a s s a e e a e -
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 e a I a C e a B e a I a C e a C e
 M e a C e a 32 DA0072774 (. M.J.), 01
 DA018879 (B.J.C.), a M e D. e a e , MD fa .

Ref e e c e

A a a , G. E., & C e e , M. D. (1990). a a f e
 e : N e a e s e a s f e e e
 a e s f e . *e e* , 64(1), 133–150.
 B a , J. , & D e a , M. . (2013). e s e a a a a :
 e e a f a e e s s e a s a . *E*
C , 5(1), 61–73.
 B s , J. A., & I z e , H. M. (1995). e e e a e e a f e -
 s : A e s a f e a s e f e e . *e e* ,
E / A , 15(4), 476–489.
 B a e , J., & M s , K. L. (2013). Is a s e e e a s s e
 e f s e e a e e s s ? *A e e* , 65,
 187–207.
 B a , e , & D e e , J. (2007). N e a e f e a - e
 e s a s e a s s e e a e a e e f a e s .
 e e , 97(4), 3036–3045.
 C a f f a , E., e a , E. , e e , L., C a s , E., B a e ,
 M. , G a a , e , & a , J. (2010). A e f f e e s
 a f f e e e s a a s e e f a e e
 I a G a a s . *D e e* , 46(1), 193–207.
 C z e , D., & a e M e e , M. A. (2013). A a e e s f
 f e e a e a s f s a e a e e s .
B e e C , 107(6), 711–719.
 C e , J., A e , D., B e , L., e e , K., & e e , L. (2011).
 e s e a s a s e e s a e e a e e
 a ' s a e e . *D e e* , 14(2), F1–F10.
 C e , L. H., B a e , e , B a e , E. , & L , G. (2000). C a
 a s s e s a s f a e f e a s f a a 16 - a 17 - e a -
 e s . *A A* , 283(12), 1578–1582.
 C s a , A., G e s a , e . J., N , . , e
 a , K. (2013). N e a a s e e a a a f e s -
 a a a s e e e a a . *e e* , C
 , 25(11), 1807–1823.

Wéba, M. H., Wá, F., Búú, M., Ds, . J., & á, . E. (2010). a Sae a a a S S f ú ú - ea s ú ú ú ú ú ú ú ú ú a aea ú e ae ú ú - ú f ú e ú e ú a a ú Se ú e ú. *D*, *46*(4), 773-790.

de s ú, D. (1999). : ú se ea C a .

á, A., C ú, J., A ú, D., ú, A., & ú, L. (2014). Effes fa s ú s a a ú s' ú ú ú f ú a ú a s. *D*, *17*(1), 71-78.

ú z ú, K. ., & Ca ú, K. (1997). F ú s s, ú aee ú a e ú a ú ú S : ú a s aea ú e ae ú ú ú se . *C*, *68*(6), 1198-1209. E78) s ú s