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Loss of consciousness during the Trier Social Stress Test



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ABSTRACT

Stress-induced loss of consciousness (LOC) is a common phenomenon during the Trier Social Stress Test (TSST). The present study investigated the physiological and psychological changes associated with LOC during the TSST. The results showed that LOC was associated with a significant decrease in heart rate (HR) and an increase in heart rate variability (HRV). In addition, LOC was associated with a significant increase in skin conductance level (SCL) and a decrease in skin conductance response (SCR). The results also showed that LOC was associated with a significant increase in the number of blinks and a decrease in the number of saccades. The results suggest that LOC during the TSST is associated with a decrease in HR and an increase in HRV, SCL, and the number of blinks, and a decrease in SCR, SCR, and the number of saccades.

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1. Introduction

Loss of consciousness (LOC) during the Trier Social Stress Test (TSST) is a common phenomenon. The present study investigated the physiological and psychological changes associated with LOC during the TSST. The results showed that LOC was associated with a significant decrease in heart rate (HR) and an increase in heart rate variability (HRV). In addition, LOC was associated with a significant increase in skin conductance level (SCL) and a decrease in skin conductance response (SCR). The results also showed that LOC was associated with a significant increase in the number of blinks and a decrease in the number of saccades. The results suggest that LOC during the TSST is associated with a decrease in HR and an increase in HRV, SCL, and the number of blinks, and a decrease in SCR, SCR, and the number of saccades.

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K (2002); L (2010); M, H, & K (2009); , H, M, & , 2010; , , & M (2007).

A (K & L, 1988; M & M, 2010; S & J, 1997; , , & S, 2011). M (K & L, 1988; M & M, 2010; S & J, 1997; , , & S, 2011).

(N & N, 1983; R & S, 1993; R & D, 2004; R, 2009; V (2004). S (2004; , 2011). F, V, F (2003). (1PP) (1PP) (3PP) (3PP).

I (1000) (3PP). T (1PP).

A (1PP, 3PP) (A, R, T, & G, 1999). F (3PP, M) (M) (A, J & M, 2011), (D & B, 2011; G & M, 2005; M, C, A, & D, 2010). T (SRE) (1PP) (3PP) (C) (D-C, 1997). I (D'A, 2007; O, 2005; R, 2009). H (F: O, 2005) (D'A, 2007) (D'A, 2007) (3PP) (MPFC) (MRI) (T) (I) (3PP) (SRE) (1PP) (3PP). T (3PP) (T, 2012). B (F) (3PP) (M) (3PP) (S, M) (S) (A, T, T, T) (A, T, T) (Us) (F) (3PP) (S, S) (1) (1PP) (B, D, M, A, & , 2009). I (1PP) (SRE) (3PP) (A) (1PP) (SRE)

2. Method

2.1. Participants and design

A total of 42 Chinese students (26 males; 16 females; 22 years old) participated in the study. They were divided into three groups: 1PP (13 males; 8 females; 22 years old), 3PP (13 males; 8 females; 22 years old), and T (13 males; 8 females; 22 years old). The study was approved by the Institutional Review Board of the University of Pennsylvania. Each participant received a monetary reward of \$200 for completing the study. The study was conducted in a laboratory setting. The design was a 2 (Condition: 1PP, 3PP) × 3 (Task: T, S, P) × 2 (Gender: Male, Female) × 2 (Age: 20-25, 26-30) factorial design.

2.2. Procedure and stimulus materials

The study was conducted in a laboratory setting. The procedure was as follows: Participants were randomly assigned to one of the three groups (1PP, 3PP, or T). They were then presented with a series of stimuli (1PP, 3PP, or T) and were required to respond to them. The stimuli were presented in a random order. The study was conducted in a laboratory setting. The design was a 2 (Condition: 1PP, 3PP) × 3 (Task: T, S, P) × 2 (Gender: Male, Female) × 2 (Age: 20-25, 26-30) factorial design.

3PP, $t(40) = -.735; p = .467$. T. s. 1PP ($M = 23.1; SD$

$F(2,40) = 18.57; p < .001$. H $F(2,40) = 3.41; p < .05$. H $F(1,40) = 1.02, ns$, $F(1,40) = .12, ns$, $F(1,40) = 1.62, ns$.

3.3. Corrected “remember” recognition scores

F $(2, 40) = 40.54; p < .001$. M $(2, 40) = 21.27; p < .001$. T $(2, 40) = 43.10; p < .001$. 3PP $(2, 40) = 18.71; p < .001$. H $(2, 40) = 6.33; p < .001$. H $(2, 40) = 2.298; p < .05$. T $(1, 40) = 11.40; p = .002$. F $(1, 40) = 4.24; p < .05$. T $(1, 40) = 1.85; p = .072$. H $(1, 40) = 1.02, ns$. ANOVA. I $(2, 40) = 38.09; p < .001$. H $(2, 40) = 12.42; p < .001$. H $(1, 40) = 2.67, ns$; $F(1, 40) = .14, ns$; $F(1, 40) = 3.28, ns$.

3.4. Corrected “know” recognition scores

F $(2, 40) = 3.12; p = .05$. H $(2, 40) = 17.37; p < .001$. T $(2, 40) = 15.90; p < .001$. 3PP $(2, 40) = 4.58; p < .05$. T $(2, 40) = 17.37; p < .001$. H $(2, 40) = 15.90; p < .001$. 3PP $(2, 40) = 4.58; p < .05$. H $(2, 40) = 17.37; p < .001$. T $(2, 40) = 15.90; p < .001$. 3PP $(2, 40) = 4.58; p < .05$. ANOVA. I $(2, 40) = 6.91; p < .01$. H $(2, 40) = 6.28, ns$.

$p < .01$. H $F(1,40) = .76$, ns , $F(1,40) = 1.28$, ns , $F(1,40) = 1.21$, ns .

4. Discussion

T. $1PP$, $3PP$ C $(K \& L, 1988; K, 2002; R, 1977; , 2007)$, $1PP$. M . $T. SRES$ $1PP$.

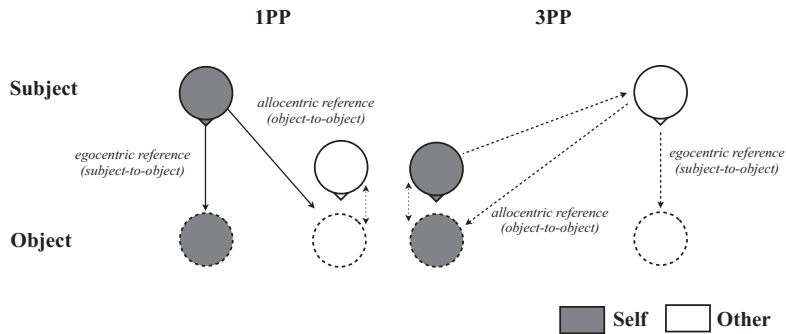


Fig. 2. A

1PP

3PP

Subject

Object

egocentric reference (subject-to-object)

allocentric reference (object-to-object)

egocentric reference (subject-to-object)

allocentric reference (object-to-object)

Self Other

... I 1PP ... () ... 3PP ...

... 's ... 3PP ... T. ...

... 3PP ... 3PP

... ? M ... 1PP ... ?

... (V & F, 2003; V ... (2004), ...

... () ... I 1PP ...

... O ... 3PP ...

... (K ... 1998; V & F, 2003).

T. ... (F. 2). P ...

... (A & B, 2002; C ... ss, M ...

& F, 2012; C & A ... 2002; ... 2002).

... A V F (2003)'s ...

...) ...

O ...

... S ...

... (H, 2001; M & K ... 1991). S ...

... (C ... 2009; ...

... H ... G ... C ... & S ... 2008; ... 2007). F ...

... SRE ...

... (...) ...

... (S & M, 2007); ...

... H ...

... (...) ...

... SRE. N ... F ...

I ... 3PP ...

... 3PP ... 1PP ...

... O ... 1PP ...

1PP ... (... , 2000; V & F, 2003).

Acknowledgments

... P. M. ... P. ...

D. ... D. Q. C. ... T. ... O. R. ... F. ... S.

K. Zhang, C. N. S., Lab (CNL B1316), S. F. C. (31371054), S. S., F. C. (12A D116).

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