


Listen to my body talk: Gesture type and frequency as markers of depression

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RQ: How do depressed and non-depressed people differ in their use of gestures during a depression-screening interview?

Agenda

- Literature
- Method
- Results
- Discussion





Literature

Depression

- 16% of college students are affected by depression at some point in their college career (Aeselton, 2012)
- 120 million people worldwide (World Health Organization, 2011)
- 30%-50% cases misdiagnosed (Simon & Von Korff, 1955)

Current Depression Screening

- Patient Health Questionnaire – PHQ9
 - Effective to a degree (USPTF, 2002)
 - Social stigma
 - Self-report bias
- Need for objective behavior measures

Theoretical Framework

- Embodied Cognition proposes the general notion that there is a connection between thought & movement (Wilson, 2002)
- Internal states are manifested through bodily movements (Wilson, 2002)
 - Nonverbal behaviors can be indicative of the internal state depression
 - Reflexive & easily recognizable by others (DeGelder, 2006)

Thought & Gesture

- Some contradictory research regarding nonverbal behavior
 - Focus on movements in general, not specific types
- “Gestures directly transfer mental images to visible forms, conveying ideas that language cannot always express.” McNeill (1992)
 - Language (verbal & nonverbal) is directly tied to our inner thoughts or images (imagery) (McNeill, 2005)
 - This imagery is profoundly embodied in gestures (McNeill, 2005)

Thought, Gesture, & Depression

- Rumination is typically associated with depression
 - Tendency to engage in repetitive negative thinking (Papageorgian & Siegle, 2003)
 - Negative thoughts more likely to be reflected through nonverbal behaviors (Ekman & Fridland, 1987)
- Gestures embody our internal imagery (thoughts) (McNeill, 2005)
- Gestures will reflect these internal, negative thoughts



Method

Participants

- Recruitment through SONA
- $N = 31$
 - 11 depressed
 - 20 non-depressed
- Center for Epidemiologic Studies-Depressed Mood Scale (CES-D; Radloff, 1977)
 - Ran 85; 11 scored depressed
- $M \geq 16$ contacted
- Videotaped Interviews

Interview Questions

- Baseline Q's
 - BQ₂: What was the most pleasant thing you experienced this week?
 - BQ₃: What was the most unpleasant thing you experienced this week?
- Critical period Q's – PHQ9
 - HQ₁: Over the past two weeks have you felt little interest or pleasure in doing things?
 - HQ₂: In the past two weeks have you felt down depressed or hopeless?
 - HQ₄: Over the past few weeks how have you been feeling?

Coding

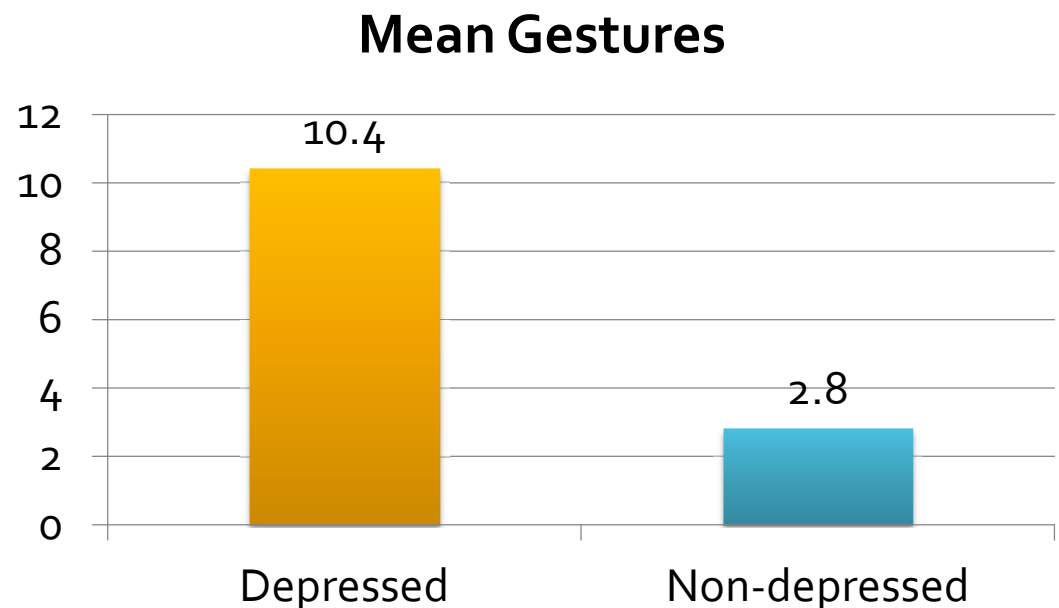
- **Body Action Coding System – BACS** (Sweet & Pazian, 2008; 2011; Sweet & Kroeger, 2014)
- **Illustrators**
 - Illustrators are located in head and hands that accompany speech & are tied to speech and thought (Ekman, 1980)
 - Baton, Diectic, Ideagraph



Hypotheses & Results

Hp: Non-depressed individuals are more likely to use gestures than depressed individuals

- ANCOVA → unexpected direction
 - $F(1,28), = 13.54, p = .001, \eta_p^2 = .326$
- dep M = 10.4, SD = 10.7
- non-dep M = 2.8, SD = 4.6

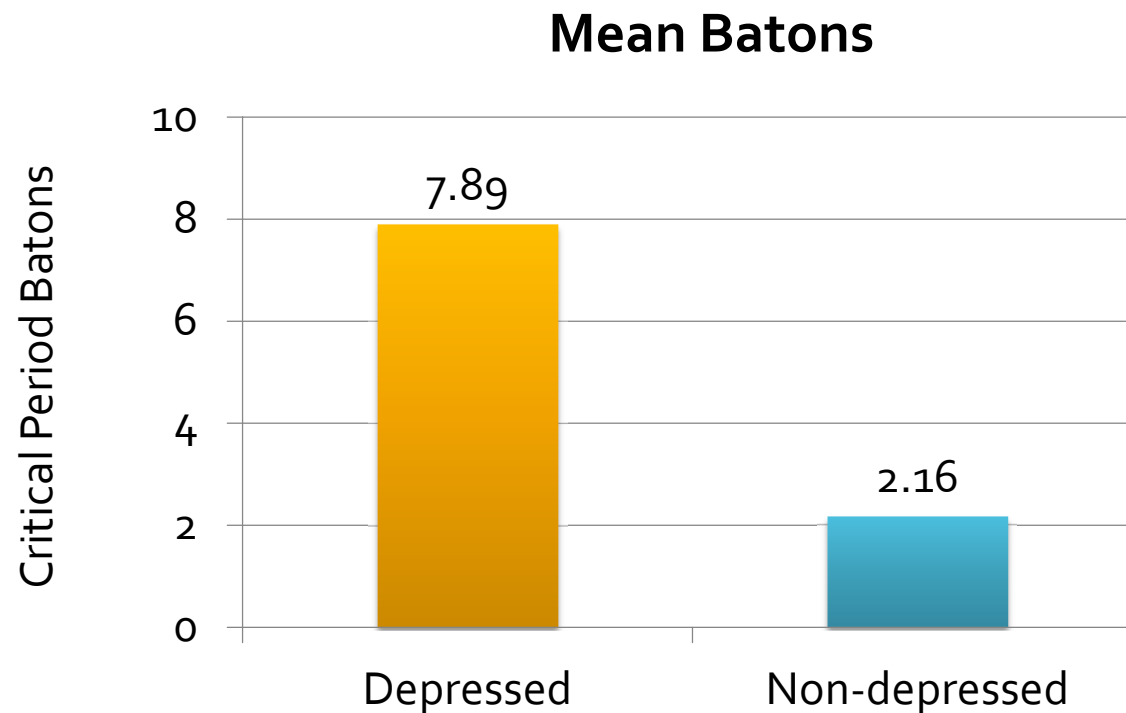


H₁: Non-depressed individuals are more likely to use batons than depressed individuals

$t(26) = 2.6, p > n.s.$

Depressed: $M=7.89, SD=8.964$

Non-depressed: $M=2.16, SD=2.834$

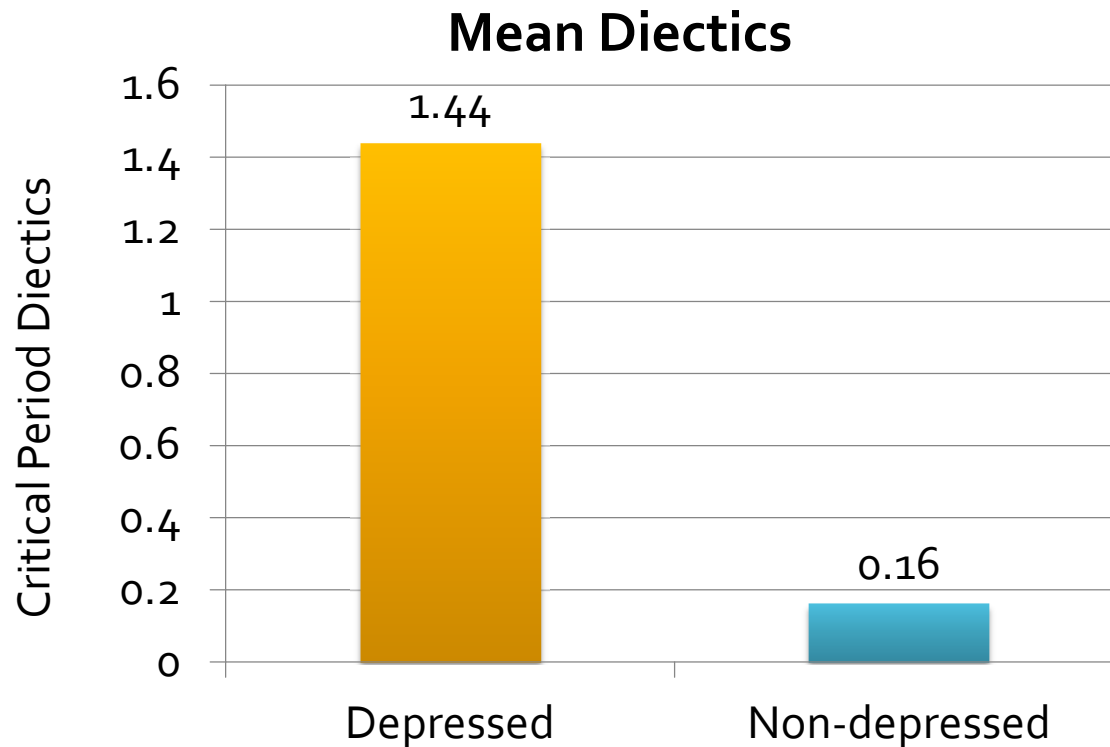


H3: Non-depressed individuals are more likely to use diectic gestures than depressed individuals

$t(28) = 3.6, p < .05$

Depressed: $M=1.44, SD=1.014$

Non-depressed: $M=.16, SD=.501$



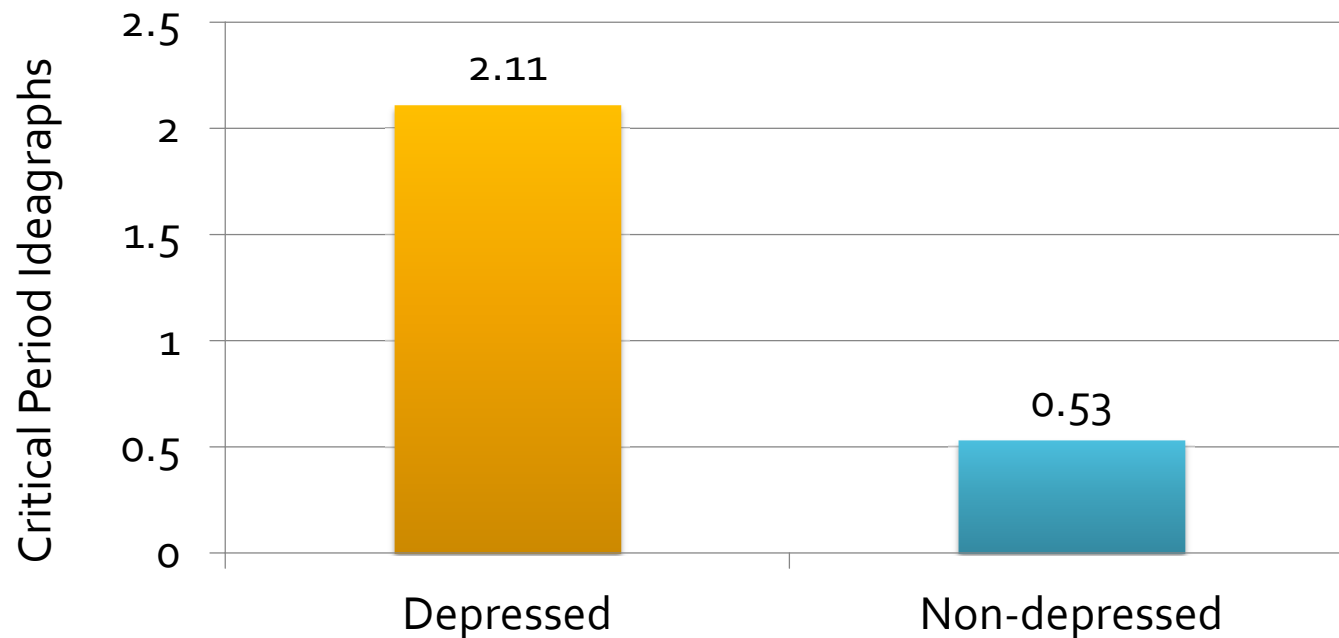
H₄: Depressed individuals are more likely to use ideagraphs than non-depressed individuals

$t(26) = 2.3, p < .05$

Depressed: $M=2.11, SD=2.522$

Non-depressed: $M=.53, SD=1.219$

Mean Ideagraphs





Discussion

Discussion

- Baton usage not significant, still notable that depressed individuals use 4x more
- Depressed used significantly more diectics
 - Rumination (Papageorgian & Siegle, 2003)
 - Emphasizing/referencing negative feelings
 - Negative thoughts more likely to be reflected through nonverbal behaviors (Ekman & Fridland, 1987)
- Depressed used significantly more ideagraphs
 - Socially desirable responses
 - Harder to express feelings

Conclusion

- Objective behavioral measures are promising
- Future research will investigate training primary care physicians and mental health professionals