

# Language Style Matching in Responses to Social Media-Style Posts as a Function of Subclinical Depression and Anxiety



Taleen Nalabandian, Micah Iserman, & Molly E. Ireland  
Department of Psychological Sciences, Texas Tech University  
E-mail: [taleen.nalabandian@ttu.edu](mailto:taleen.nalabandian@ttu.edu) or [molly.ireland@ttu.edu](mailto:molly.ireland@ttu.edu)

## Introduction

### Literature Review

- Negative attentional bias: Tendency for depressed individuals to attend to negative vs. positive or neutral stimuli (e.g., Beevers, 2005; Schnyer et al., 2015).
- Individuals at risk for depressive disorders perceive themselves and the world around them negatively (Beck, 1967).
- For example, depression is characterized by (Baddeley, 2012; Rude, Gortner, & Pennebaker, 2004)...
  - Increased negative emotion words (*cried, dread, idiot*) and self-focus (*I, me, my*).
  - Less social engagement, as indicated by lower language style matching (LSM) in emails.

### Research Questions

- Will anxious or depressed participants be more socially engaged with negative (vs. positive) posts?
- Will social comparison (feeling better/worse than or equal to prompt authors) relate to social engagement?

## Method

### Sample

- 104 participants recruited from Amazon's Mechanical Turk
  - 61.5% men
  - Age  $M = 36.8$ ,  $SD = 10.3$

## Measures & Materials

- **LIWC** (Pennebaker, Booth, Boyd, & Francis, 2015): % of total words:
  - LSM function word categories: Personal and impersonal pronouns, articles, auxiliary verbs, adverbs, prepositions, conjunctions, negations, quantifiers
  - Social words (e.g., *help, friend, chat*)
- **Social engagement**
  - **LSM:** Degree to which participants' style matched with prompts:
 
$$1 - \left( \frac{|\text{ppron}_p - \text{ppron}_{\text{prompt}}|}{\text{ppron}_p + \text{ppron}_{\text{prompt}} + .0001} \right)$$
  - **Self-report:** Desire to further engage with the author (e.g., "I want to talk with this person one-on-one in private messages.")
- **CESD-R** (Centers for Epidemiological Studies of Depression Scale-Revised): Assessed depression in 20 items, e.g.,
  - "Nothing made me happy"
- **GAD-7** (Generalized Anxiety Disorder scale): Evaluated frequency of recent anxiety symptoms in 7 items, e.g.,
  - "Trouble relaxing"
- **Downward/Upward Comparisons:** Participants' comparison with the prompt author's current state, e.g.,
  - "The author's situation right now is better than mine."
- **Writing task:** Participants read two (positive and negative) Reddit-style prompts then responded with advice.
  - *Topics:* Mental health, fitness, career/life goals, dating, finance.

## Results

- Effect of tone on LSM was moderated by anxiety ( $p = .030$ ), not depression:
  - Less anxious people matched more with the negative prompt,  $B = -.036$ ,  $SE = .01$ ,  $t = -3.55$ ,  $p < .001$ .
- Effect of prompt tone on LSM was partly mediated by downward comparison,  $p = .057$ , Indirect effect 95% CI (-.012, <.001) .
- Non-depressed participants used more social words than depressed participants,  $B = 1.95$ ,  $SE = .80$ ,  $t = 2.43$ ,  $p = .017$ .

### Negative Mental Health Prompt:

"I'm just going through the motions ... Maybe if I had someone who really loved me things would be different. I feel so alone. I wish someone would care about me, no one ever does. When I think about this, how I'm all alone with nobody there for me, by my side, my chest hurts so badly I can't even breathe. That's why I like sleeping so much..."

### Response (non-depressed, non-anxious 34-year-old man with high LSM and high downward comparison):

"How can anyone else love or respect you when you don't respect/love yourself? I don't mean to sound harsh, I do sympathize with you, but wallowing and being pessimistic isn't going to do anything but make your situation worse. Drag yourself out of bed and start exercising every day, and I mean vigorous exercise. Give it everything you have..."

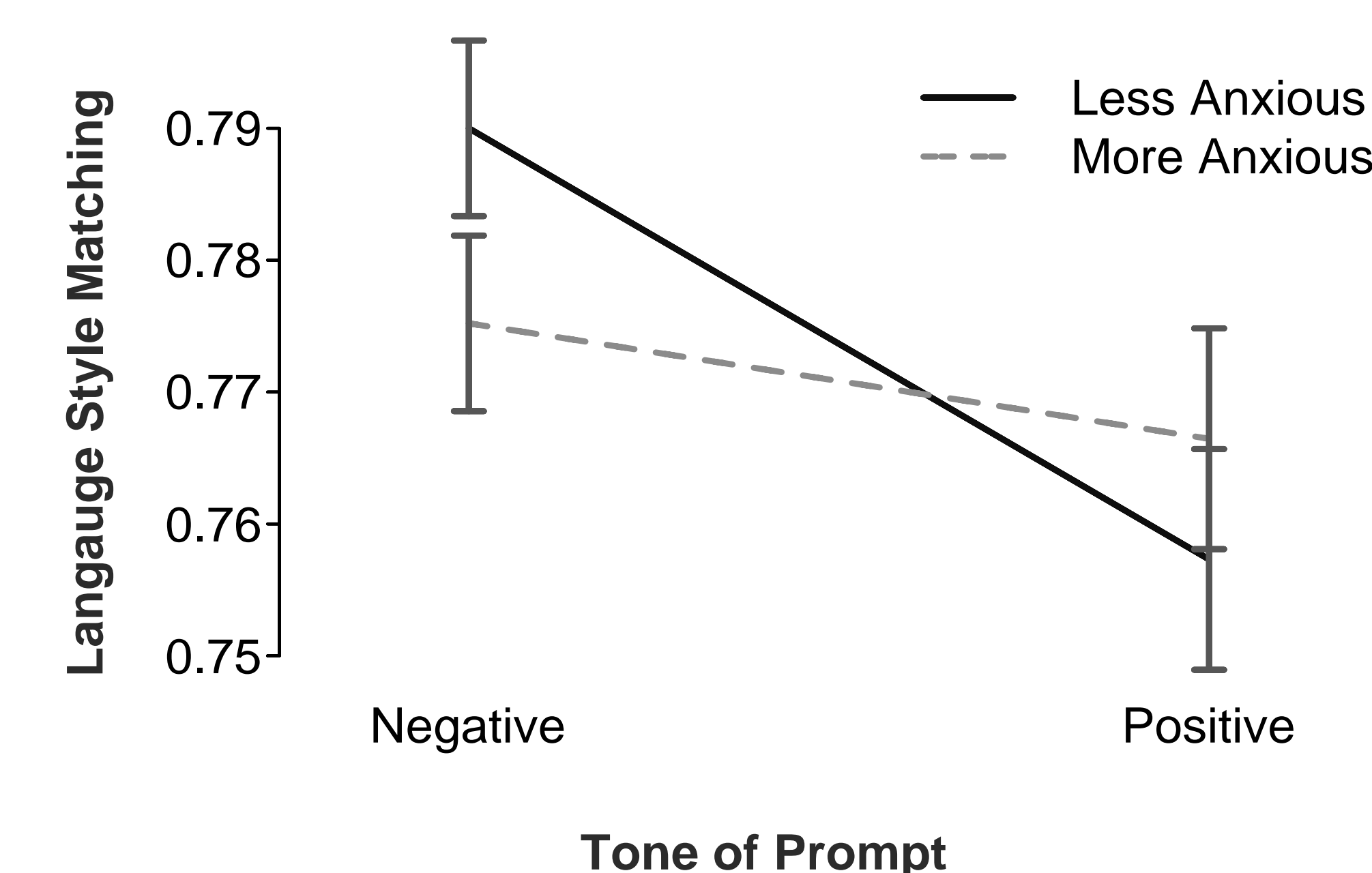


Figure 1. LSM as a function of prompts' affective tone and participants' anxiety (median split).

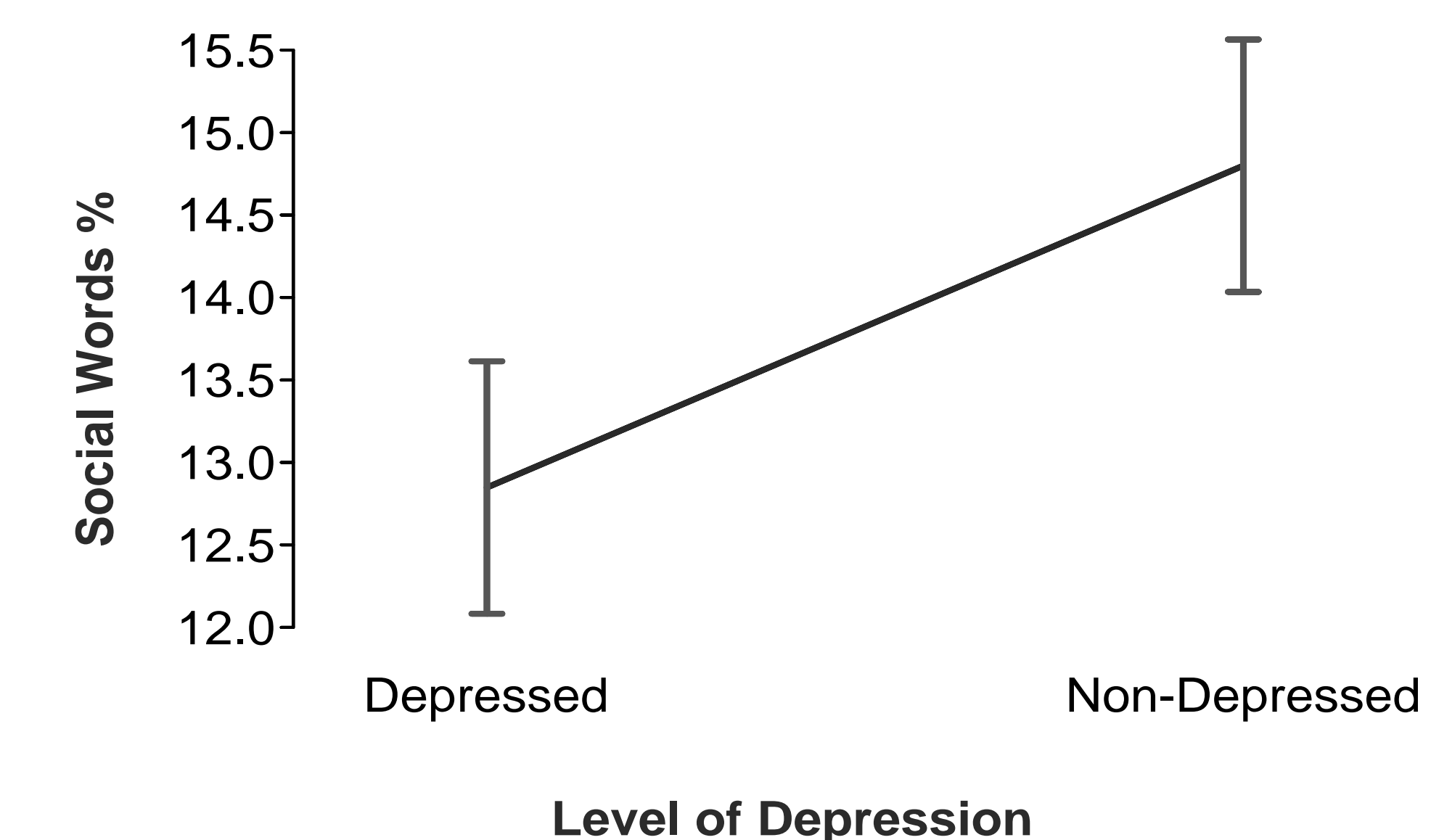


Figure 2. Social language for subclinically depressed ( $\geq 16$  on the CESD-R) and non-depressed participants. All error bars are SEs.

## Discussion

- Downward comparison may buttress mental health by allowing people to feel both helpful and better-than-average:
  - Self-esteem threats lead people to derogate others to restore self-esteem (e.g., Crocker & Parker, 2004)
  - People at all self-esteem levels benefit from negative validation or commiseration (Marigold et al., 2014)
  - Viewing positive Facebook posts decreases well-being (Kross et al., 2013)
- Are LSM-by-tone effects moderated by relation to authors (stranger vs. friend)?