

# Couples' Language Use and Vocal Pitch During Everyday Relationship Distress: Links with Dating Aggression



Alyssa J. Del Campo, Pablo Gomez, Caroline D. Griffin, Graciela Hernandez,  
Adriana Mejías Fernández, Gabriella Morey, and Adela C. Timmons

Florida International University, Miami, FL. USA

Email: tieslab@fiu.edu



## INTRODUCTION

- The quality of our relationships is an important factor impacting overall psychological health and well-being (Bolger, DeLongis, Kessler, and Schilling, 1989).
- Interpersonal conflicts are one of the most common and upsetting daily stressors, accounting for more than 80% of variance in daily mood (Bolger, DeLongis, Kessler, and Schilling, 1989).
- The way we communicate with our romantic partners, including what we say and how we say it, could affect the quality of our relationships (Baucom et.al., 2012; Simmons, Gordon, and Chambless, 2005).
- Prior research has explored associations between adolescents' fundamental frequency, cortisol output, speech, and self-reported negative emotions during laboratory-based family conflict discussions (Ramos, Spies, Iturralde, Duman, & Margolin, 2012).
- Beyond laboratory-based conflicts, applying ambulatory assessment methodologies to couple conflict could be useful in mapping fluctuating, multimodal, and interconnected dimensions of naturally occurring interpersonal dynamics, as well as testing theoretically driven questions about couple processes (Timmons, Baucom, Han, Perrone, Chaspari, Narayanan, & Margolin, 2017).
- The purpose of this study is to examine the association between vocal pitch, language use (negative emotion words, anger words, swear words [NAS]), and relationship distress in romantic couples' everyday lives.

## HYPOTHESES

- H01:** Moments of everyday relationship distress will be associated with heightened NAS language use and vocal pitch.
- H02:** This association will be greater among couples with higher levels of dating aggression.

## PARTICIPANTS

- 218 young-adults (3 female same-sex and 106 opposite sex couples) were recruited via word of mouth, flyers, and advertisements posted online and in the community ( $M$  age = 23.1;  $SD$  = 3.0;  $M$  months together = 32.2;  $SD$  = 26.8).
- 27.5% Caucasian, 23.9% Hispanic/Latino, 16.1% African American, 12.8% Asian, 0.5% Native Hawaiian or Pacific Islander, 15.6% multiracial, and 3.7% other.

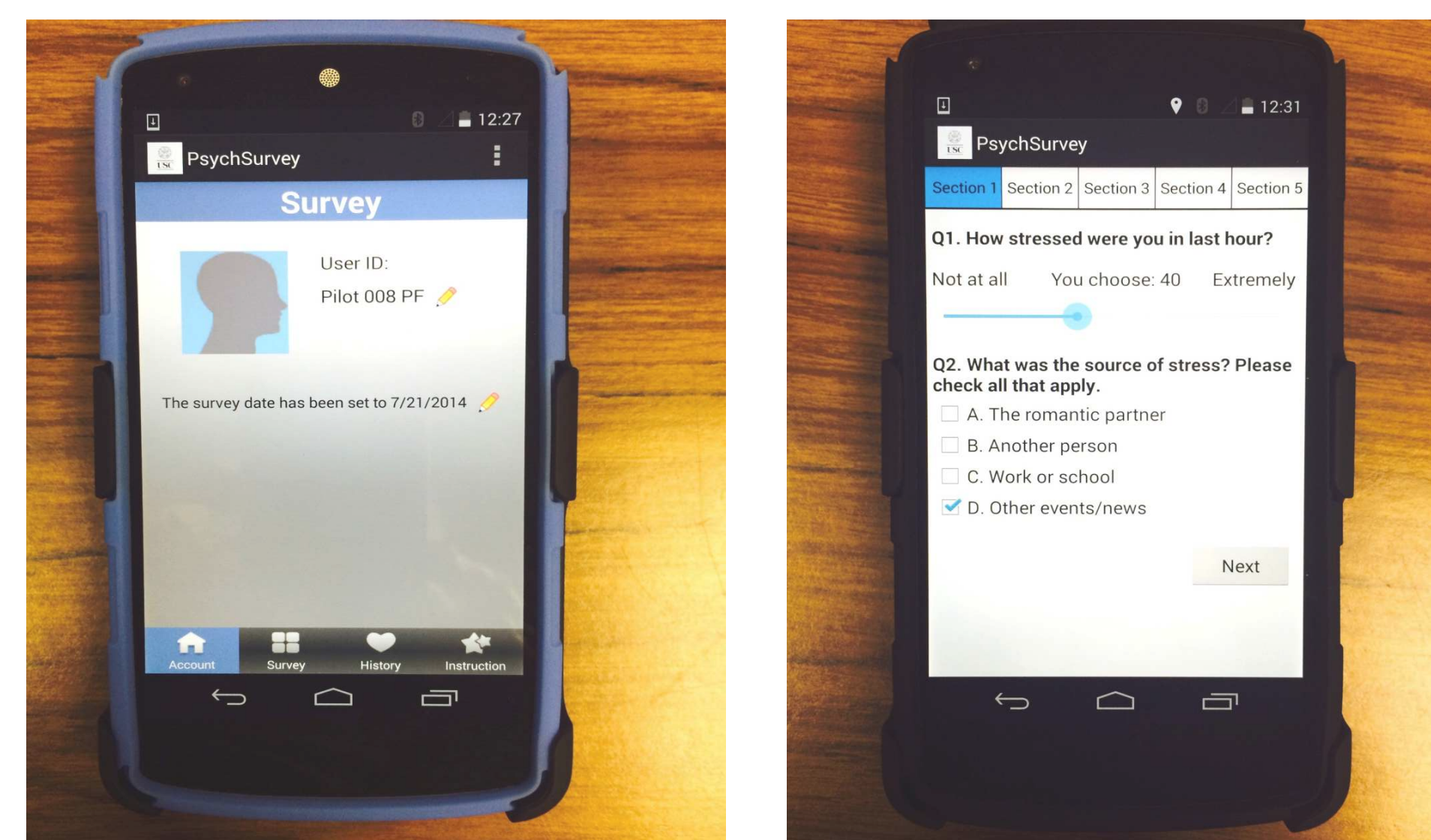
## METHODS

### Procedures:

- Couples responding to the advertisements were screened for eligibility.
- At the visit, partners separately completed questionnaires assessing dating aggression.
- On the day of home data collection, couples came to the laboratory at 10:00am and were each given a smartphone.
- Couples were instructed to go about their daily lives, spend at least five hours together, and fill out a brief survey on the phone every hour.

### Measurements and Instruments:

- Smartphone Nexus-5s collected 3-minute audio files every 12 minutes from 10:00 am until bedtime.
- Participants were unaware of when they were being recorded but could mute the microphone at any time.
- They also completed short surveys assessing their moods and feelings toward their partners every hour.
- Feelings of everyday relationship distress were measured by assessing annoyance towards his or her partner on a scale from 0 (not at all) to 100 (extremely annoyed).
- Participants also filled out a one-time questionnaire in the lab assessing aggression in their current dating relationship within the last year (How Dating Partners Treat Each Other Scale; HDPTTEO; Bennett, Guran, Ramos & Margolin, 2011).



The smartphones used to collect the audio samples and take hourly phone surveys about relationship distress

### Data Processing:

- We manually transcribed the audio recordings to obtain the frequency of NAS observed in each audio recording every hour of the day.
- To measure vocal pitch, we extracted the fundamental frequency of each person per hour.
- Examples of language use:
  - Negative emotion words: "hurt," "nasty"
  - Swear words: "damn," "fuck"
  - Anger words: "hate," "annoyed"

## RESULTS

### Everyday Relationship Distress and NAS Language/Vocal Pitch

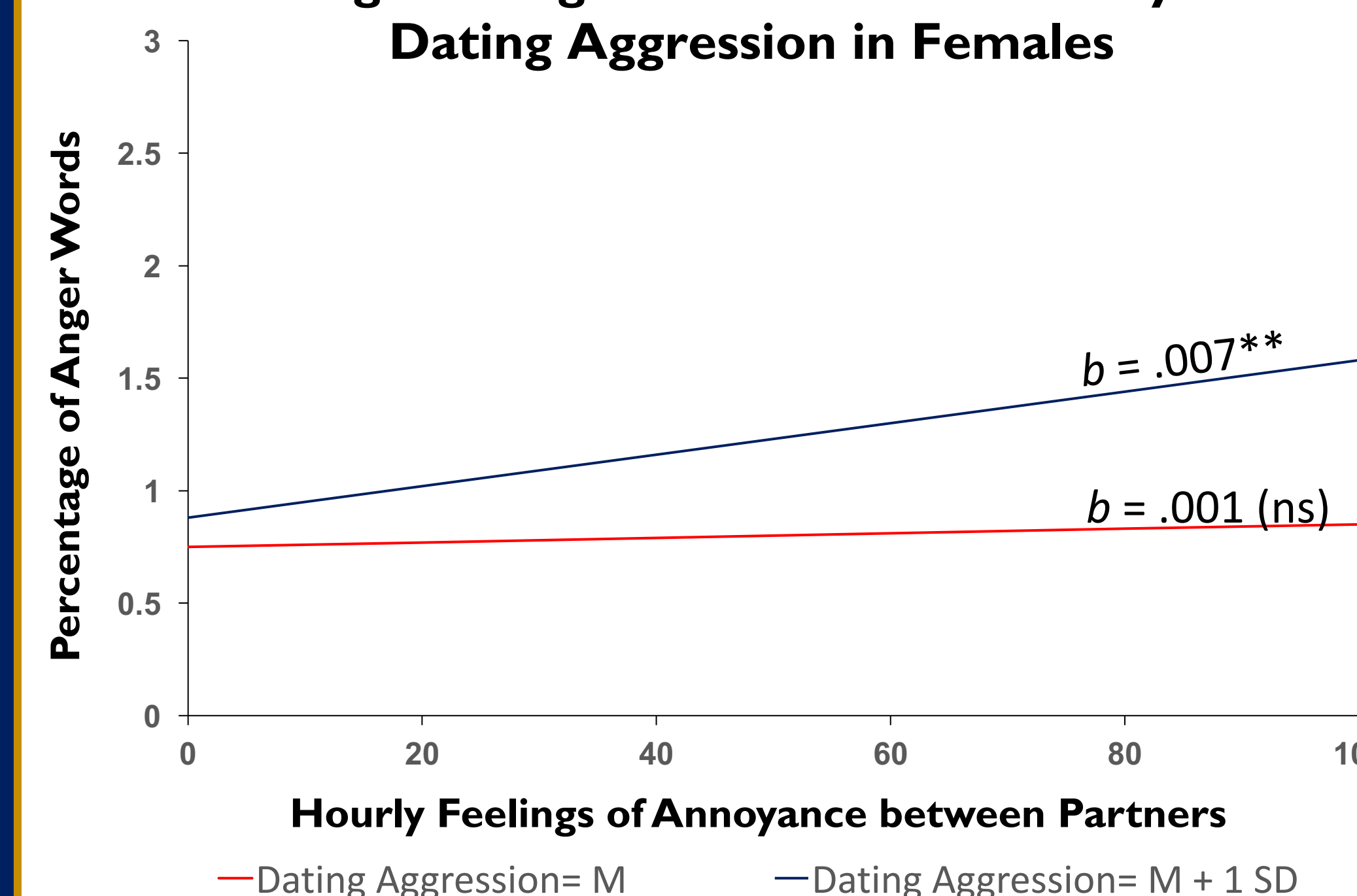
Outcomes	<i>b</i>	<i>SE</i>	<i>b/SE</i>	<i>p</i>
Female Negative Emotion Words	0.001	0.003	0.331	0.741
Male Negative Emotion Words	-0.002	0.004	-0.442	0.658
Female Anger Words	0.002	0.002	0.834	0.405
Male Anger Words	-0.003	0.002	-1.036	0.300
Females Swear Words	-0.000	0.001	-0.413	0.679
Male Swear Words	0.001	0.002	0.711	0.478
Female Pitch	-0.117	0.098	-1.193	0.233
Male Pitch	-0.202	0.140	-1.442	0.150

### Dating Aggression and NAS Language Use/Vocal Pitch

Outcomes	<i>b</i>	<i>SE</i>	<i>b/SE</i>	<i>p</i>
Female Negative Emotion Words	0.834	0.424	1.965	0.053
Male Negative Emotion Words	2.651	0.946	2.800	<b>0.006</b>
Female Anger Words	0.531	0.306	1.736	0.086
Male Anger Words	2.270	0.813	2.790	<b>0.007</b>
Female Swear Words	0.414	0.237	1.747	0.862
Male Swear Words	2.049	.819	2.501	<b>0.015</b>
Female Pitch	16.366	16.537	0.989	0.325
Male Pitch	9.192	45.028	0.204	0.839

- Multilevel models showed that for females, dating aggression moderated the association between percentage of anger words and hourly feelings of annoyance ( $b = .03, p = .002$ ).

### Hourly Feelings of Annoyance between Partners and Percentage of Anger Words Moderated by Overall Dating Aggression in Females



## DISCUSSION



- Our findings show that moments of everyday relationship distress were not associated with heightened NAS use and vocal pitch for the sample as a whole.
- Females showed a marginal association between dating aggression and negative emotion words, as well as anger words.
- Males with higher levels of dating aggression used more NAS language in daily life.
- Only females with high levels of dating aggression used more anger words when feeling annoyed.
- Our findings are unique in that couples' behavior was captured in real-life settings, rather than in the laboratory, providing a more accurate picture of relationship communication patterns.
- Future research should collect longer audio samples across a longer time frame to gather more information about couples' language use, vocal pitch, and dating aggression behaviors.
- These data could provide information that will aid in the design of interventions to improve couples' functioning, including Just-in-time-Adaptive Interventions (JITAI) that aim to help couples in real time through mobile devices.

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