



Black Americans' Concerns about White Americans' Nonprejudiced Motives Predicts Speech Anxiety

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Introduction

Despite the racial progress the United States has made, interracial interactions can still be stressful for both White and Black Americans.

“Individuals’ interpersonal concerns about how individuals will be evaluated and treated can impact the dynamics of intergroup encounters” (Shelton, 2003).

Table 1: Participant's Mean Ratings of Partner by Confederates' Race

"My partner is . . . "	<i>Confederate</i>		F
	<i>Black</i>	<i>White</i>	
Likable	3.0	1.6 ←	20.41***
Unintelligent	-3.2	-2.4	4.09*
Independent	1.6	0.8	3.90*
Trustworthy	1.6	0.8 ←	6.48**
Unfriendly	-3.0	-2.0 ←	6.24*
Hardworking	2.4	1.2	10.74**
Unhelpful	-2.5	-1.7	2.76†
Creative	2.0	1.5	2.00

NOTE: $df = 1, 55$. Scale ranges from -4 to +4, anchored at *strongly disagree* to *strongly agree*.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Limitations of Intergroup Research

- Studying Intergroup interactions can be difficult
 - Social desirability concerns can influence self-reports (Blascovich et al., 2002).
 - Claiming racial discrimination/bias comes at a social cost (i.e., being accused of 'playing the race card')
 - Thus, people may be unwilling to report anxiety or negative affect during intergroup interactions
 - Inaccurate reports on inner states due to limited conscious reflection (Seerey, 2011).
 - Psychological threat or stress may occur below conscious awareness
 - Some may be unaware they have been discriminated against
 - Participants tend to overestimate or underestimate during self-reports.
 - Perspective bias - something might seem **more** severe during anticipation and **less** severe after it happens

Addressing Limitations of Intergroup Research

To address these limitations we collected 2 unobtrusive measures of anxiety to examine intergroup stress, *in addition to* self-reported data.

- Linguistic data coded for anxiety
- Physiological data measuring sympathetic arousal

General Research Question

Can the perceived motivation of out-group behavior influence anxiety during a novel intergroup interaction?

Specific Research Question

Can the **perceived motivation of White Americans'** non-prejudiced behavior (i.e., egalitarianism or political correctness) influence **Black Americans' anxiety** during a novel interaction with out-group members?

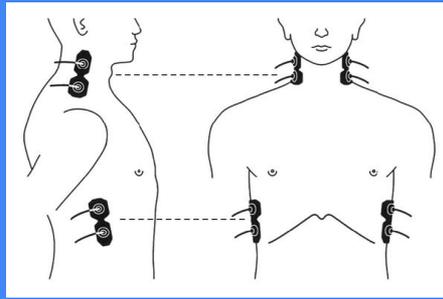
Hypothesis

When Black Americans' believe that White Americans' non-prejudiced behavior is motivated by external reasons (e.g., political correctness) versus internal reasons (e.g., commitment to egalitarianism), they will approach a novel interracial interaction with more anxiety.

Method: Participants and Procedure

- 195 self-identified Black Americans (51% female) from the New York Metropolitan Area
- Participants signed-up to participate in a physiological lab study through an online advertisement posted on craigslist
- Compensated \$51
- Participants were not aware of the true research question

Measures Operationalized:



Anxiety/Threat

Physiological Data: Biopsychosocial (BPS) model using data from impedance cardiography (ICG), electrocardiogram sensors (ECG) to measure the heart rate variability (HRV), Blood Pressure (BP) physiology sensors

Linguistic Data: Linguistic Inquiry and Word Count (LIWC)

Perceived motivation

10-item Perceived Internal/External Motivation to Avoid Prejudice Scale (Major et al., 2013)

Perceived **Internal** Motivation (e.g., It is personally important to them not to be prejudiced)

Perceived **External** Motivation (e.g., they want to avoid negative reactions from others).

Suspicion of Motives Index (**SOMI**) = **PIMS** - **PEMS**

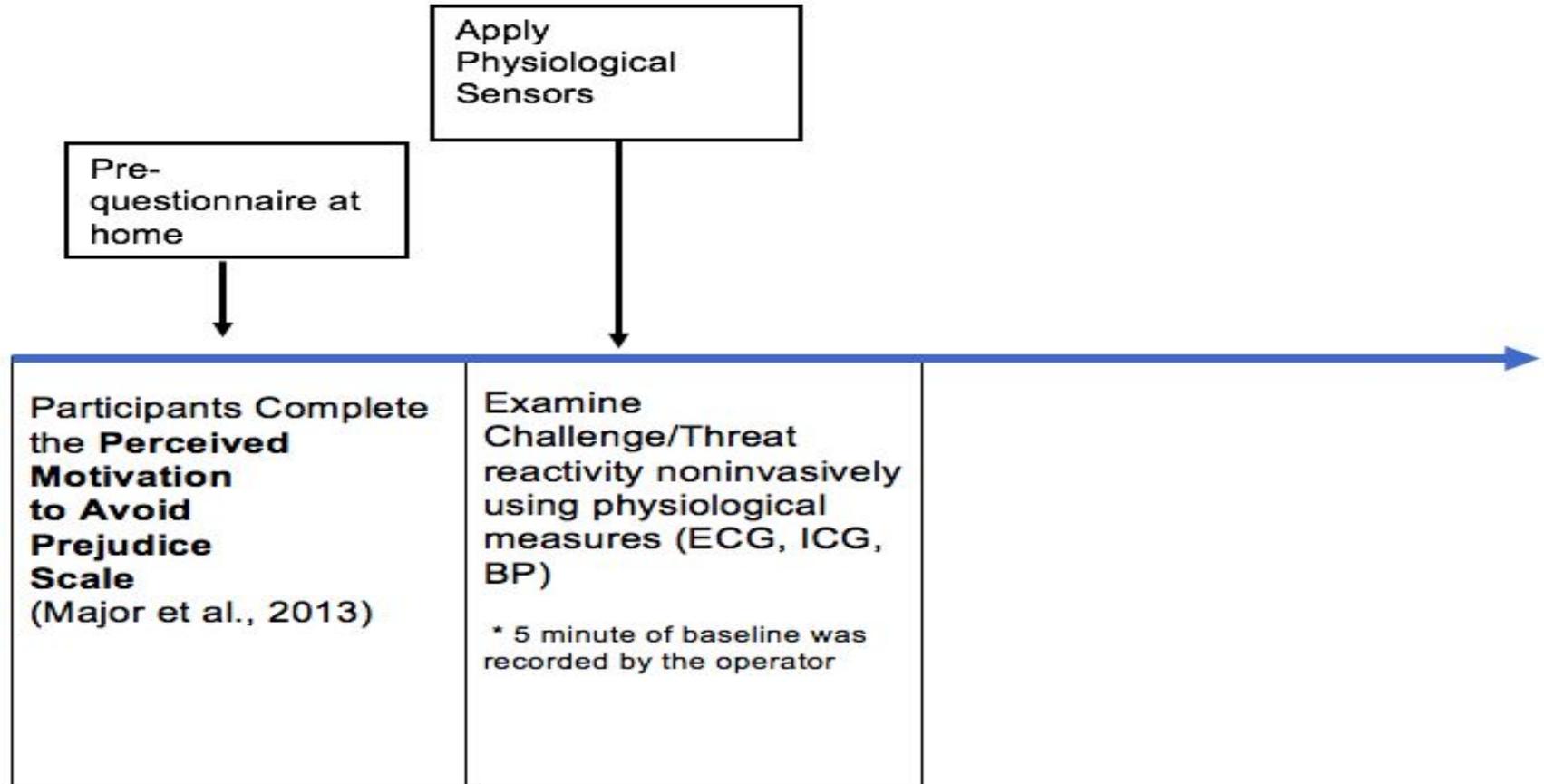
Procedure

Pre-
questionnaire at
home

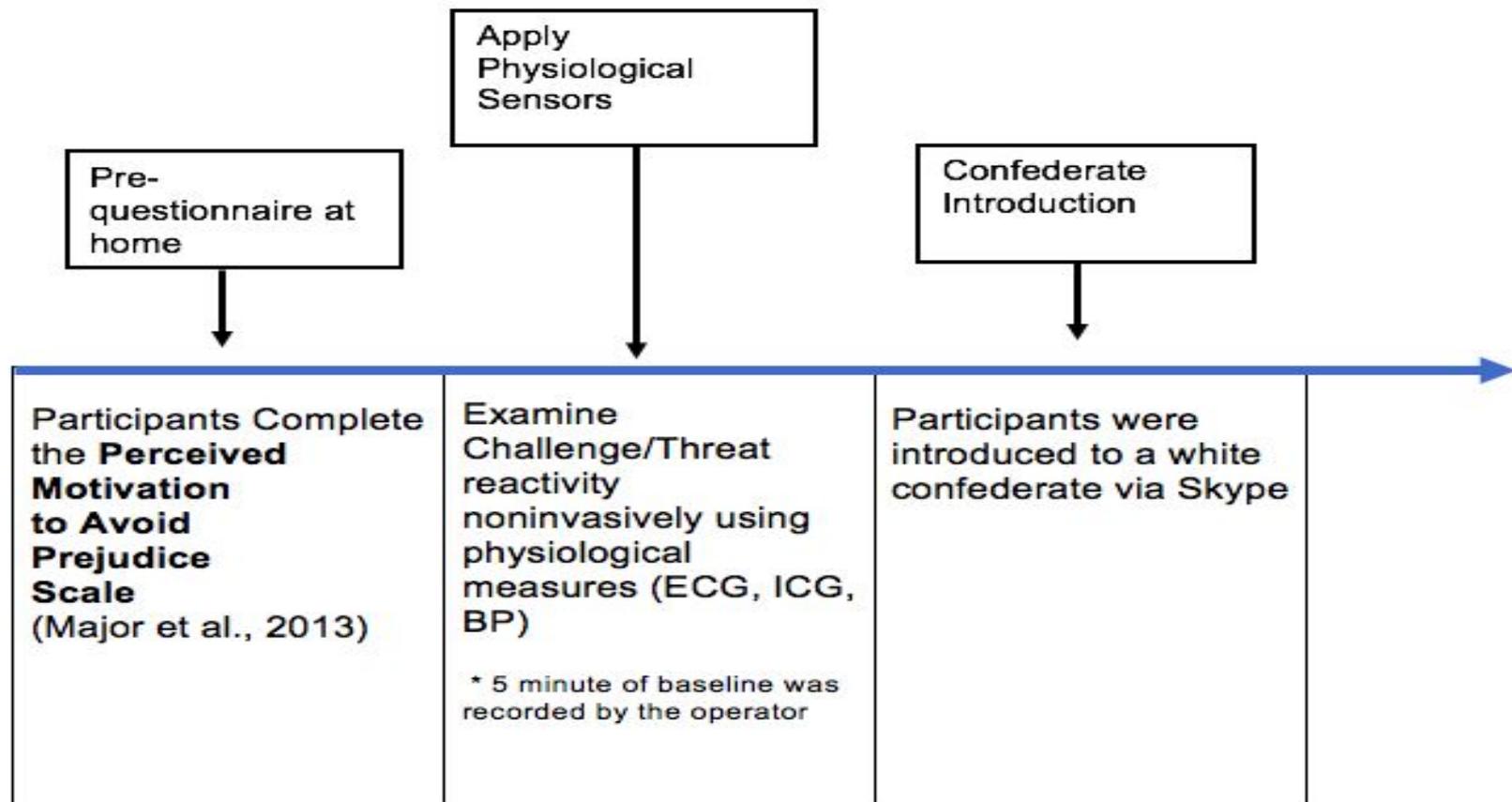
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graph TD; A[Pre-questionnaire at home] --> B[Participants Complete the Perceived Motivation to Avoid Prejudice Scale (Major et al., 2013)];
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Participants Complete
the **Perceived
Motivation
to Avoid
Prejudice
Scale**
(Major et al., 2013)

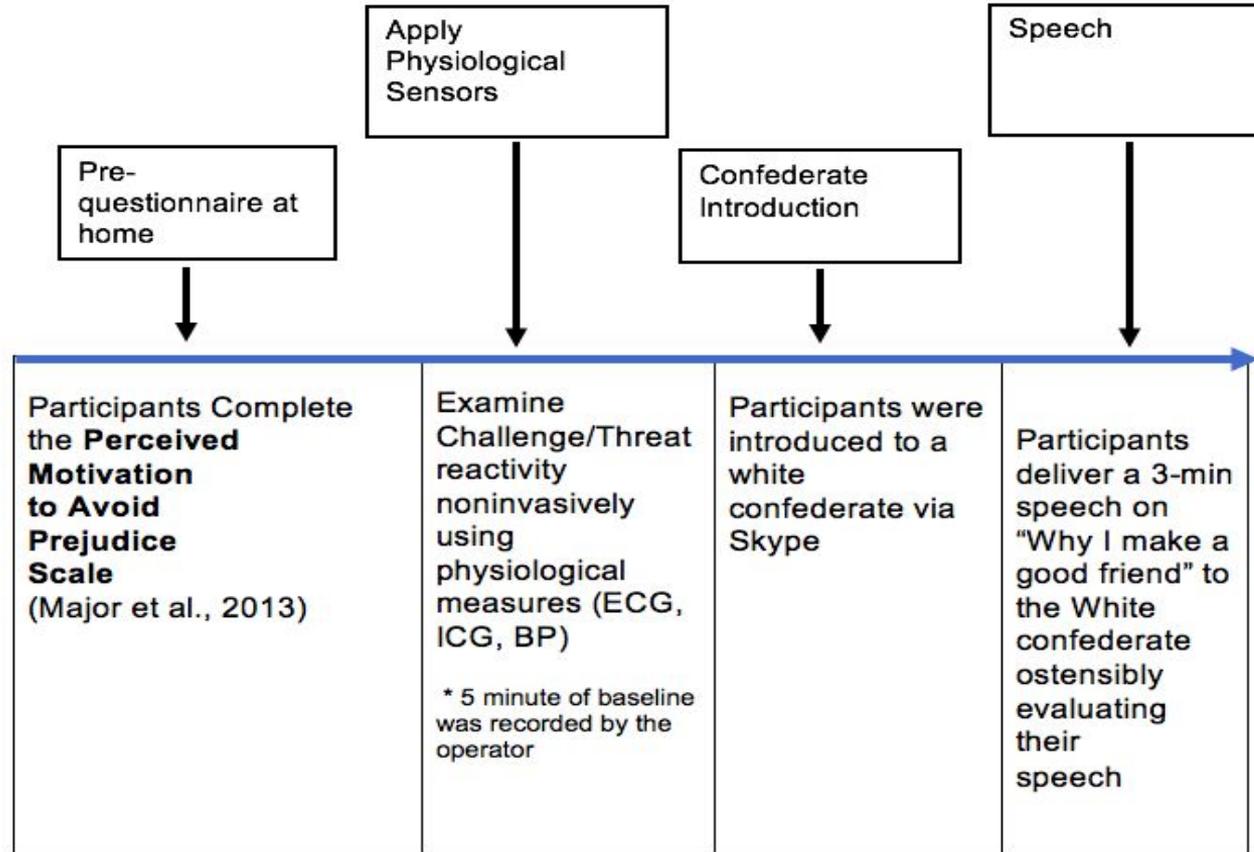
Procedure (Continued)

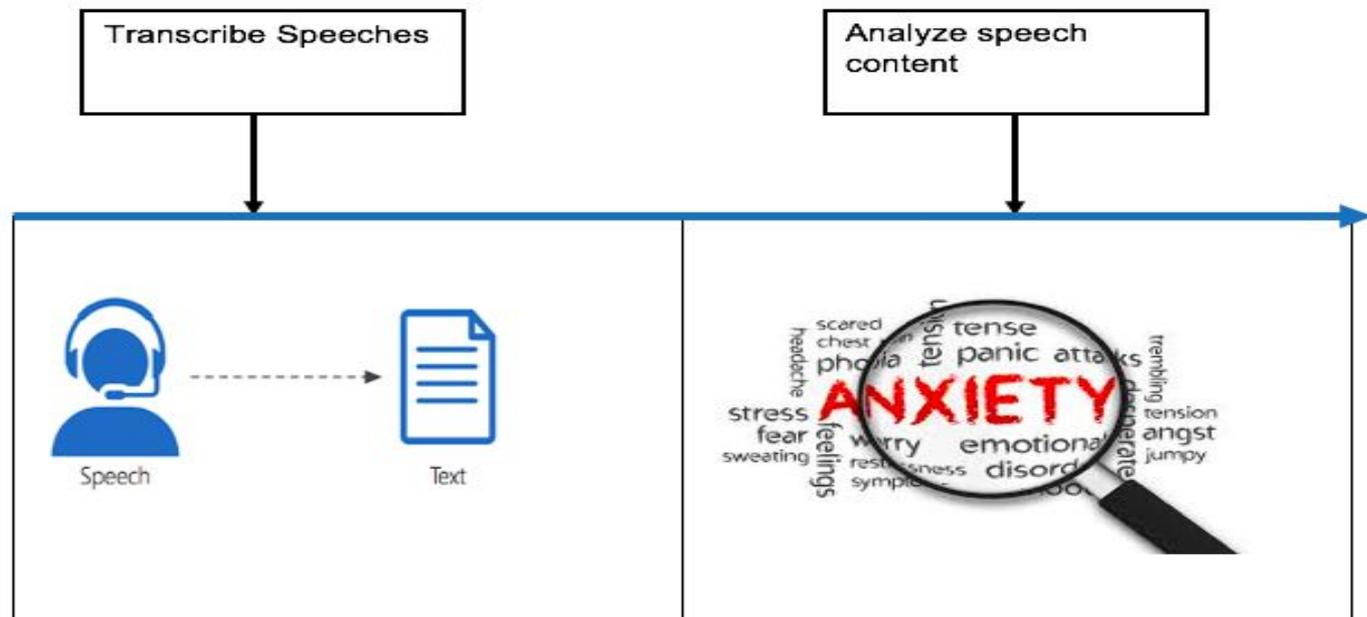


Procedure (Continued)



Procedure (Continued)





LIWC OUTPUT VARIABLE INFORMATION			
CATEGORY	ABBREV	EXAMPLES	WORDS IN CATEGORY
ANXIETY	ANX	WORRIED, FEARFUL	116

Results

Analysis

- Linear Model
- Testing if scores on SOMI predict:
 - 1) Scores on LIWC anxiety
 - 2) Heart Rate reactivity during the first minute of the speech
- lm function in R

R Code for linear models:

- `lm(y = speech_anxiety ~ x = suspicion, data = liwc_data)`
- `lm(hr_reactivity ~ suspicion, data = hr_data)`

Summary

- There was a positive relationship between SOMI and LIWC Anxiety
 - The more suspicious Black Americans were about the motivation behind White Americans' behavior, the more anxious words they used during their speech, $t(136) = 2.73$, $p = .007$.
- There was a no relationship between SOMI and Heart Rate Reactivity
 - Scores on the SOMI scale did not significantly predict heart rate reactivity during the first minute of the speech, $t(155) = 0.86$, $p = .389$.

Results: Speech

Residuals:

Min	1Q	Median	3Q	Max
-0.3962	-0.1830	-0.1164	0.1662	1.1670

Coefficients:

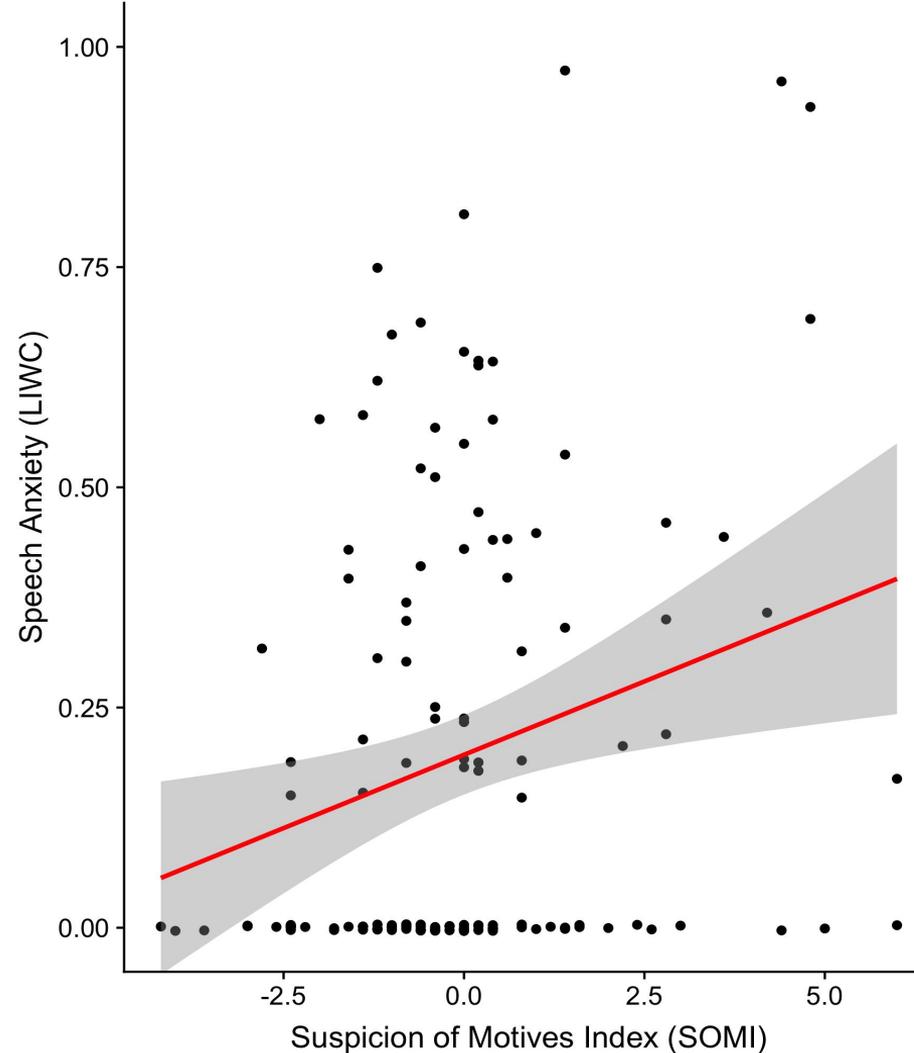
	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	0.19635	0.02285	8.592	1.77e-14	***
suspicion	0.03330	0.01223	2.723	0.00732	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2682 on 136 degrees of freedom
(57 observations deleted due to missingness)

Multiple R-squared: 0.05169, Adjusted R-squared: 0.04472

F-statistic: 7.414 on 1 and 136 DF, p-value: 0.007322



Results: Heart Rate

Residuals:

Min	1Q	Median	3Q	Max
-20.911	-8.363	-2.060	5.500	52.620

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	18.5967	1.0143	18.334	<2e-16	***
suspicion	0.4698	0.5438	0.864	0.389	

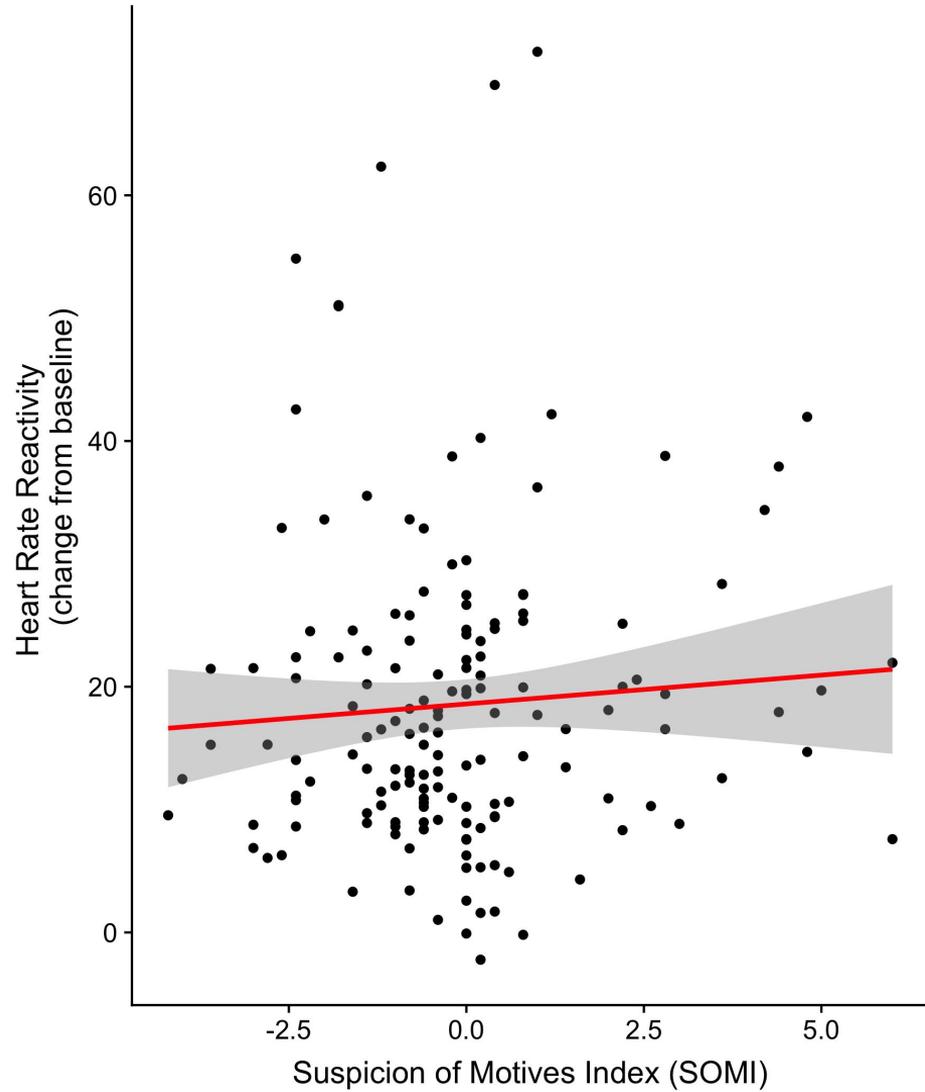
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 12.68 on 155 degrees of freedom

(38 observations deleted due to missingness)

Multiple R-squared: 0.004792, Adjusted R-squared: -0.001629

F-statistic: 0.7463 on 1 and 155 DF, p-value: 0.389



Next Steps

My research question was can the perceived motivation of out-group behavior influence anxiety during a novel intergroup interaction?

- Score Blood Pressure and Impedance Cardiography Data.

Conclusion

The Linguistic Inquiry and Word Count (LIWC) is capturing Black Americans suspicion of White Americans' behavior, through the use of anxious words during a speech ostensibly evaluated by a White confederate.

Future work should examine whether a specific task can lower the suspicion of Black Americans towards White Americans.

Acknowledgements



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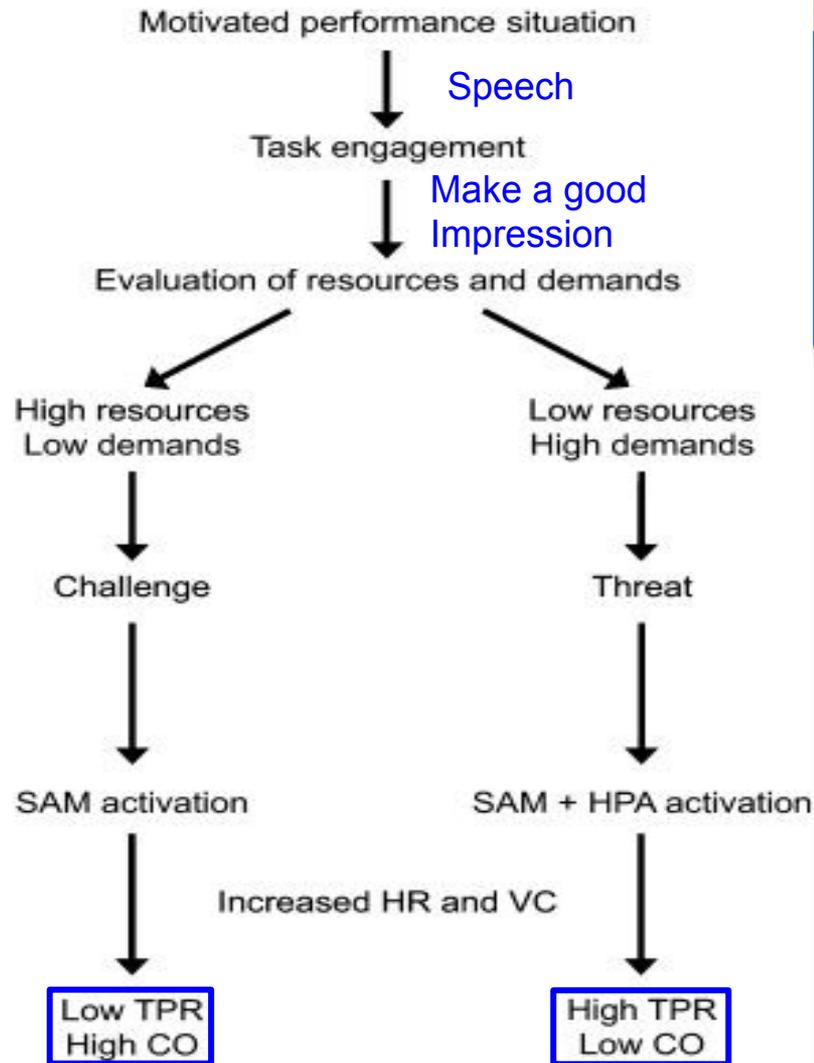
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Backup Slides Next

Psychological processes

Physiological responses



The Biopsychosocial Model

SAM - Sympathetic adrenomedullary axis

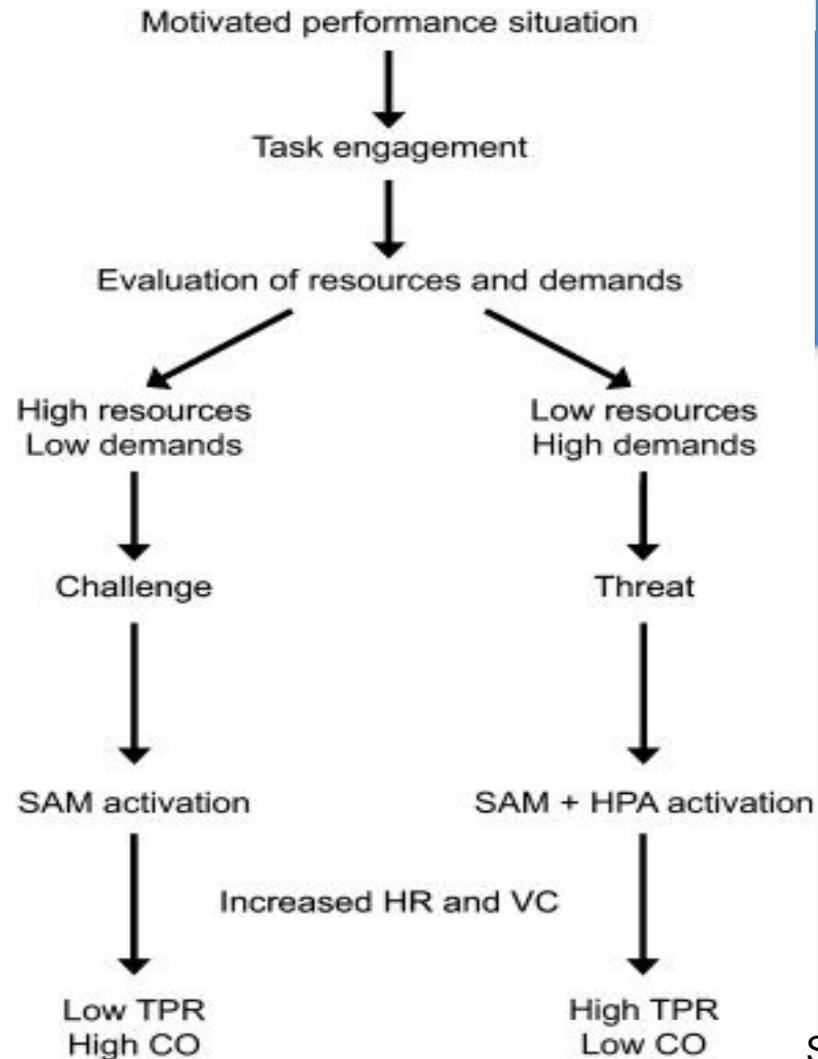
HPA - Hypothalamic Pituitary Adrenal

TPR - Total Peripheral Resistance

CO - Cardiac Output

Low \downarrow TPR & High \uparrow CO = Challenge Reactivity

High \uparrow TPR & Low \downarrow CO = Threat Reactivity



The Biopsychosocial Model

Compute the Threat-Challenge Reactivity Index (TCRI) by analyzing participant's TPR and CO reactivity values.

Higher scores on the TCRI reflect greater threat/avoidance motivation relative to challenge/approach motivation (Major et al., 2016).

Introduction

- Despite the racial progress the United States has made, interracial interactions can still be stressful for both White and Black Americans.
- Attributional ambiguity is the notion that ethnic minorities' find it difficult to discern whether Whites' overly friendly feedback is internally motivated (e.g., dedicated to social equality) or externally motivated (e.g., evade from appearing prejudiced).

10-item Perceived Internal/External Motivation to Avoid Prejudice Scale (Major et al., 2013)

When White people act in a nonprejudiced way toward members of racial/ethnic minority groups, it is because...

Perceived *Internal* Motivation Subscale (PIMS):

1. It is personally important to them not to be prejudiced.
2. It is in accordance with their personal values to be unprejudiced.
3. They are personally motivated by their beliefs.

Perceived *External* Motivation Subscale (PEMS):

1. They want to avoid negative reactions from others.
2. They feel pressure from others to act nonprejudiced.
3. They want to avoid disapproval from others.

Methods: Procedure

Step 1: Complete the **Perceived Motivation to Avoid Prejudice Scale** (Major et al., 2013).

Step 2: Participants were introduced to a white confederate via Skype

Step 3: Examine Challenge/Threat reactivity noninvasively using physiological measures

Procedure

Step 1: Complete the **Perceived Motivation to Avoid Prejudice Scale** (Major et al., 2013).

Step 2: Participants were introduced to a white confederate via Skype.

Step 3: Examine Challenge/Threat reactivity noninvasively using physiological measures

* 5 minute of baseline was recorded by the operator.

Cover Story

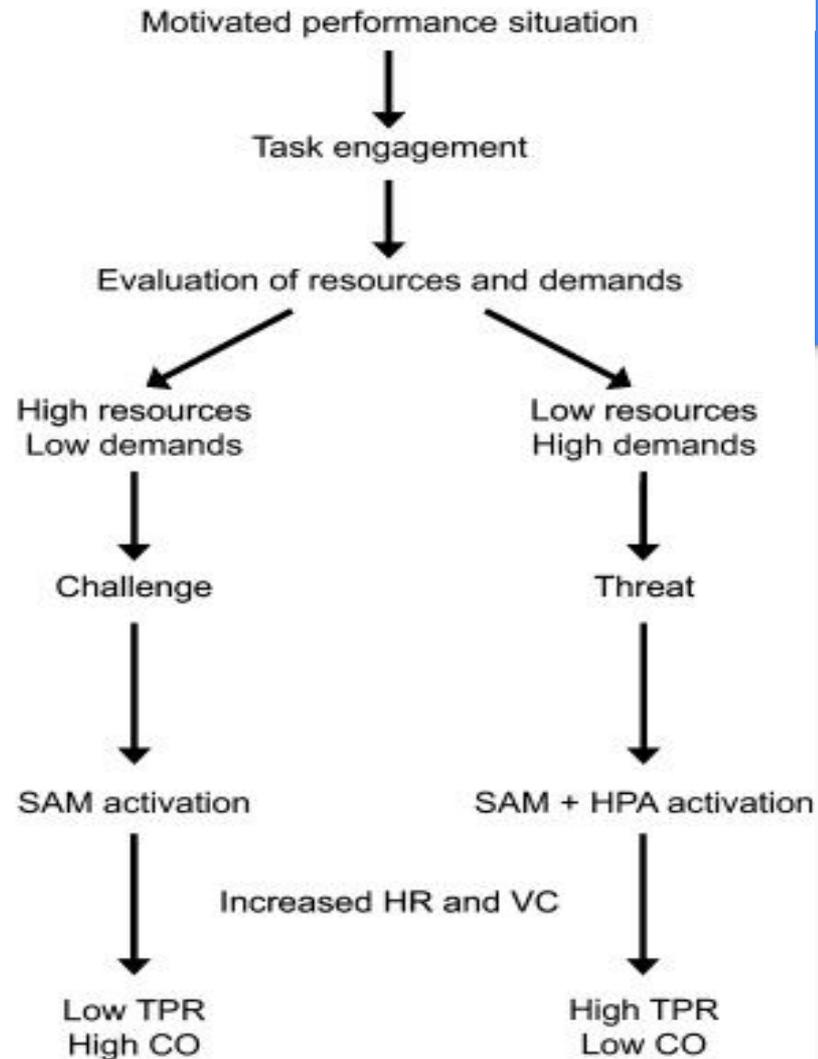
Participants deliver a 3-min speech on “Why I make a good friend” to the White confederate ostensibly evaluating their speech

The participant becomes the performer, and the confederate becomes the “evaluator”

Word Cloud Results

The Biopsychosocial Model

Psychological processes



Physiological responses

Motivated performance situation



Speech

The Biopsychosocial Model

Motivated Performance Situation - (e.g., social interactions, public speaking, etc.)

Motivated performance situation



Speech

Task engagement



Make a good
Impression

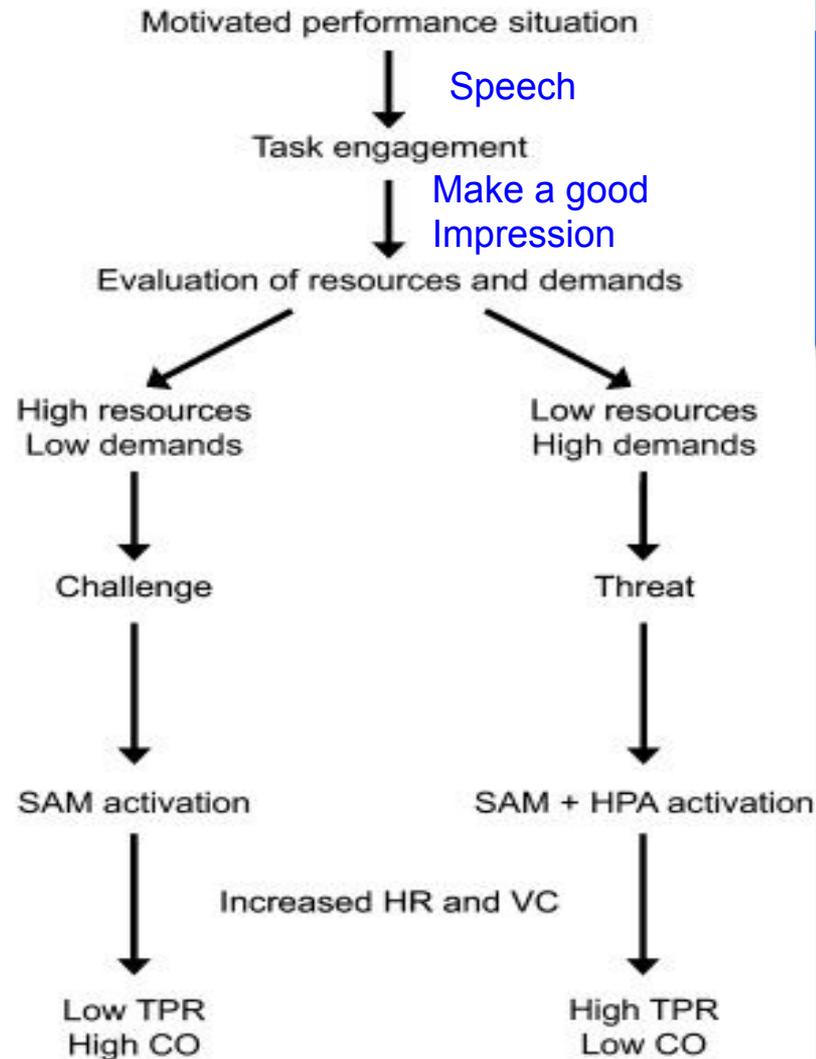
Psychological processes

Physiological responses

The Biopsychosocial Model

Motivated Performance Situation - (e.g., social interactions, public speaking, etc.)

Task engagement - self relevance (e.g., good impression) or goal importance results

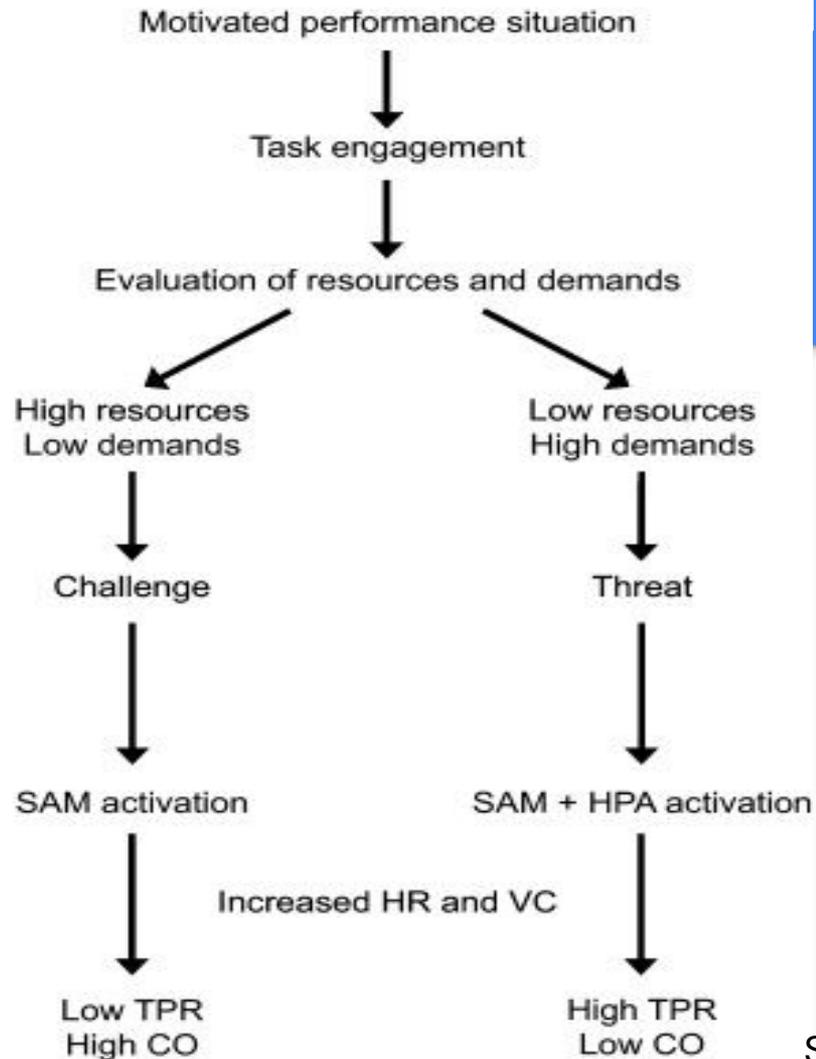


The Biopsychosocial Model

Challenge - “Occurs when evaluated resources meet or exceed evaluated demands” (Seery, 2011)

Threat - “Occurs when demands exceed resources” (Seery, 2011).

Psychological processes



Physiological responses

The Biopsychosocial Model

Compute the Threat-Challenge Reactivity Index (TCRI) by analyzing participant's physiological responses.

Higher scores on the TCRI reflect greater threat/avoidance motivation relative to challenge/approach motivation (Major et al., 2016).