

Understanding the Role of Demand Characteristics When Reframing Anxiety to  
Encourage Interracial Dialogue

An Honors Thesis for the Department of Psychology

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## UNDERSTANDING DEMAND CHARACTERISTICS

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## UNDERSTANDING DEMAND CHARACTERISTICS

### **Abstract**

Racial bias against Black Americans is a growing problem that has gained more recognition in recent years. One widely accepted method of reducing racial bias is interracial dialogue. However, White Americans tend to avoid these conversations because they can lead to feelings of anxiety or negative expectations. This study, in an extension of a previous study by Schultz et al. (2015), explored interventions designed to increase the willingness of White participants to choose to enter into an interaction with a Black partner and to reduce negative expectations. Participants were randomly assigned to one of three intervention conditions: control, anxiety reappraisal, and demand characteristics. Participants were given the choice of speaking to a Black or a White partner about either racial or lesbian, gay, bisexual, transgender (LGBT) discrimination. Results demonstrated that participants in the anxiety reappraisal condition were more likely to select a Black partner in the race versus LGBT discussion condition. This pattern was not true for the control and demand characteristics conditions, where participants were more likely to choose White partners. These results suggest that demand characteristics are not the reason for participants' partner selections. To conclude, I discuss future directions to further Whites' engagement in interracial dialogue.

*Keywords:* anxiety, demand characteristics, emotion regulation

## UNDERSTANDING DEMAND CHARACTERISTICS

### **Understanding the Role of Demand Characteristics When Reframing Anxiety to Encourage Interracial Dialogue**

Racial bias in the United States, particularly against Black Americans, is an ongoing problem (Pearson, Dovidio, & Gaertner, 2009). The United States is increasing in the diversity of its racial and ethnic makeup (U.S. Census, 2012), which, combined with the protests that began in June 2020 regarding Black Lives Matter, demonstrates this issue's salient and pressing nature. The importance of identifying ways that effectively reduce racial bias in the United States population, particularly for White Americans, who still make up the most populous racial group, cannot be understated. One accepted strategy for decreasing racial bias is intergroup contact (Pettigrew & Tropp, 2006). When done productively, having intergroup interactions and conversations that transcend racial or ideological boundaries can lead to a new and deeper understanding of other perspectives and ideas. Even more important than the number of times intergroup contact occurs is the quality of each interaction (Plant & Devine, 2003). Without meaningful communication, people will continue to perceive outgroups by stereotypes and misconceptions that maintain a layer of racial bias (Shelton & Richeson, 2005).

While a strong idea, the reality of getting such intergroup interactions to occur proves much more complicated with a range of barriers. Americans tend not to engage in these types of conversations for two main reasons. The first is an expectation of negative outcomes, which all races feel (Dovidio & Gaertner, 2004), and a feeling of threat to oneself, which White Americans primarily feel

## UNDERSTANDING DEMAND CHARACTERISTICS

(e.g., Trawalter, Richeson, & Shelton, 2009). When interracial interactions include race as a prominent discussion topic, this appraisal of the exchange as self-threatening tends to increase (e.g., Goff, Steele, & Davies, 2008). One potential cause for this reaction is a fear among White people of being perceived as prejudiced (Apfelbaum, Sommers, & Norton, 2008; Richeson & Trawalter, 2005). White people also tend to avoid interracial interactions due to feelings of anxiety that come with the prospect of an interracial encounter (e.g., Dovidio, Gaertner, Kawakami, & Hodson, 2002; Richeson & Shelton, 2003; Toosi, Babbitt, Ambady, & Sommers, 2012). These feelings occur even when race is not the topic of conversation (Apfelbaum et al., 2008; Dovidio & Gaertner, 2004; Plant, 2004). Due to the fear of being viewed as racist and the anxiousness that often accompanies these interactions, if White people continue to avoid intergroup dialogue, reducing individual racial bias across the country will be less likely to occur.

### **Intergroup Interaction Strategies**

Many potential reasons why interracial interactions are often avoided have been identified through empirical research. Following these conclusions, research has been conducted to identify strategies that will aid in generating more positive outcomes for all involved in these interactions (e.g., Babbitt & Sommers, 2011; Gaither & Sommers, 2013; Kawakami, Phillips, Steele, & Dovidio, 2007; Mallett, Wilson, & Gilbert, 2008; Pettigrew, 1998; Pinel & Long, 2012; Trawalter & Richeson, 2006). Wording instructions positively, such as highlighting to White people what they have to gain from the conversation (Trawalter & Richeson,

## UNDERSTANDING DEMAND CHARACTERISTICS

2006), can lead to better interactions and attitudes for all involved. Further, asking Whites to focus on similarities with their partner instead of their racial differences can reduce anxiety (Mallett et al., 2008). In an interaction between a White and a Black person, the White individual often first categorizes the Black individual as Black, leading to activation of stereotypes associated with that outgroup and depersonalization of the individual. On the contrary, if another shared group membership is activated instead, such as if both individuals are students, this can lead to more positive emotions and intergroup attitudes (Mackie, Maitner, & Smith, 2016).

There is also concern about how strategies used for conversations generated in the lab can move into a practical context outside of the lab. Regardless of any interaction that helps generate positive outcomes in interracial conversations, there is still the problem that, to begin with, Whites avoid these types of conversations. As such, given that anxiety is a leading factor in this avoidance, emotion regulation strategies that can be carried outside of the lab could be important for reducing this barrier to entering into the conversation in the first place.

### **Emotion Regulation**

Emotion regulation refers to “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals” (Thompson, 1994, pp. 27-28). There are many different components to emotion regulation, including situation selection, situation modification, attentional

## UNDERSTANDING DEMAND CHARACTERISTICS

deployment, cognitive change, and response modulation (Gross, 1998). Situation selection, the most relevant component for voluntarily entering into an interracial conversation, is when one chooses situations to enter or avoid based on whether they believe the situation will prompt their desired emotions (Gross, 1998; Gross & Thompson, 2007). The concern in the present study is that, when given a choice to engage or avoid an interracial conversation, Whites tend to avoid in order to reduce or prevent anxiety. Therefore, an important strategy to research is figuring out ways to encourage Whites to voluntarily choose interracial interactions, even though they come with anticipated anxiety. This still brings us closer to increasing the opportunity for positive intergroup contact and conversations that improve race relations and decrease racial bias.

### **Reframing Anxiety**

Before getting further into the current study, it is important to summarize findings from the previously alluded to study, "Reframing Anxiety to Encourage Interracial Interactions" (Schultz, Gaither, Urry, & Maddox, 2015). While there are methodological changes and different confounds addressed in our current study, the overarching research question and paradigm remain consistent. The 2015 study sought to test the effectiveness of an intervention involving emotion regulation as a tool for anxiety reappraisal when approaching interracial conversations (Schultz et al., 2015). The study was a 2 (group: control, intervention)  $\times$  2 (discussion topic: race-relevant, race neutral) between-subjects design. Participants were given a choice to interact with a Black or White partner while discussing their assigned conversation topic, given a pre-interaction

## UNDERSTANDING DEMAND CHARACTERISTICS

questionnaire, and then video-recorded to observe positive non-verbal engagement while interacting with a confederate.

The researchers hypothesized that the intervention group would more frequently choose to interact with a Black partner relative to a White partner. The results from the study generally supported the hypothesis. The intervention condition chose to interact with a Black partner more frequently than a White partner, particularly true in the race-relevant discussion condition. The results also showed that participants who chose Black partners also demonstrated more positive nonverbal engagement than did participants who chose White partners, regardless of the intervention condition. One limitation that came up after analyzing the results is the potential confound of demand characteristics as a factor in the significant results from the intervention condition. This concern is discussed in the following section.

### **Demand Characteristics**

In this follow-up to the original study, we wanted to account for potential demand characteristics. Demand characteristics involve “participants being aware of what the researcher is trying to investigate, or anticipates finding, and what this implies for how participants are expected to behave.” (McCambridge, de Bruin, & Witton, 2012, p. 1). With any in-lab experiment, there are distinct power dynamics between the experimenter and the participant. Previous research has shown that participants will usually complete tasks no matter how long, repetitive, or pointless they may be (Orne 1962). It is also often important to participants to be seen as a “good subject” and contribute to the experiment positively, and they



## UNDERSTANDING DEMAND CHARACTERISTICS

may act in a way that they believe supports and validates the experimental hypothesis (Orne, 1962). The demand characteristics that produce this response most frequently are those when the study has a reasonably clear hypothesis to the participant, as this will lead to the participant feeling the need to be as honest as possible throughout the experiment (Orne, 1962).

Building off of the “good subject” hypothesis, further research on demand characteristics has provided evidence supporting this theory, with a study by Nichols & Maner finding that participants “made choices consistent with what they believed would help the experimenter” (2008, p. 161). Concerning our study regarding demand characteristics in the context of emotion regulation and anxiety, a study by Polivy and Doyle examined whether demand characteristics can have an influence on a task designed to change the mood state of the participant and found demand characteristics to be a significant source of mood change (1980). The study used the Velten mood-induction technique and asked participants in the demand conditions to feel and act a certain way when reading a passage. The findings showed that participants in the demand conditions reported different emotions than those in the control condition, with no additional instructions while reading the passage, which suggests that demand characteristics can alter the reported emotions of the participants (Polivy & Doyle, 1980).

In order to draw conclusions about the effects of anxiety reappraisal on partner choice and emotions and motivations of the participant, it is necessary to account for whether demand characteristics played a role in the findings. If participants are responsive to cues given by the experimenter and are inclined to

## UNDERSTANDING DEMAND CHARACTERISTICS

be a “good subject,” then the demand characteristics condition should produce results more similar to the anxiety reappraisal condition than the control condition, with participants more likely to choose a Black partner and to feel more positively about the study. Our hope for this study is to find that the anxiety reappraisal instructions are not purely driven by demand characteristics, meaning results from the demand characteristics condition are different from the control condition and the anxiety reappraisal condition results. This would mean that the demand characteristics condition is activating a pure demand response in participants, which would explain the difference from the control condition results, but that the anxiety reappraisal condition is not also producing results due to pure demand, which supports our prediction participants are acting in a way different than the control condition for a reason other than demand.

### **The Current Study**

The current study is an attempt to replicate and extend the study by Schultz et al. (2015). The design tested an intervention that accounted for demand characteristics in addition to the existing anxiety reappraisal condition in order to see whether demand characteristics had an impact on the previous study results regarding feelings of anxiety and partner choice. Both studies were designed to encourage White participants to choose to interact with a Black partner. In this modified version, using a  $3 \times 2$  between-subjects design, participants were told that the interaction would focus on either a race-relevant (racial discrimination) or a race-neutral but still socially relevant topic (LGBT discrimination). In addition to the conversation topic, participants were assigned to one of the two

## UNDERSTANDING DEMAND CHARACTERISTICS

intervention groups or a control group, divided evenly among the three groups. Participants in the anxiety reappraisal intervention group received an instructional manipulation. It was acknowledged that interracial interactions could be anxiety-provoking and highlighted that choosing an interracial interaction can have long-term benefits for reducing future feelings of anxiety. Participants in the demand characteristics intervention group received a different instructional manipulation, suggesting that having an interracial conversation is the right thing to do and will help combat racial bias. Participants in the control group received no such guidance. Participants in all groups then chose a Black or White interaction partner.

We hypothesized that results from participants in the control condition will demonstrate the strongest desire to avoid the conversation with a Black person. Participants in the anxiety reappraisal condition would choose to interact with a Black partner more frequently and report less avoidant emotions and motivations than the control condition, and that these positive emotions would increase as the video chat drew closer. The less avoidant, meaning more positive, emotions and motivations would be a result of the anxiety reappraisal condition changing the perspective of the participant to focus on long-term benefits, which leads to a stronger desire to engage in an interracial dialogue and less anxiety accompanying the prospect of the conversation. We expected the demand characteristics condition would look like the anxiety reappraisal condition if the anxiety reappraisal was working due to demand. Otherwise, it was not clear how we expected the demand condition to behave relative to the anxiety and control

## UNDERSTANDING DEMAND CHARACTERISTICS

conditions. Further, participants with the race-relevant discussion topic should be more likely to select a Black partner than those in the race-neutral condition, since the anxiety reappraisal rationale is even more salient when the topic of conversation is race-relevant. An open-ended response question asking for participants' reason for their choice was included for exploratory purposes.

We also hypothesized that, overall, participants' ratings of negative emotions and motivations would be related to choosing White over Black discussion partners. Further analyses explored the impact of the experimental manipulations on these measures with the general expectation that participants in the anxiety reappraisal condition would show lower levels of negative emotions and motivations.

### **Methods**

#### **Participants**

White undergraduates (N=129; 84 female; 2 = under 18 years old, 127 = 18-24 years old) participated in exchange for course credit. With our sample size and design, we had 0.80 power to detect an effect size of  $w = 0.22$  for chi-square analyses. Due to COVID-19, we could not get the desired number of participants, which may affect the validity of the results. There were also 127 responses from non-White participants, who were not the primary targets of the study. Therefore, these results are not analyzed further in this paper, but there could be benefits from future analysis of these responses.

#### **Materials**

## UNDERSTANDING DEMAND CHARACTERISTICS

Participants arrived at the lab and were told they would be completing a survey about social interactions, which would include initial measures followed by a video chat with another participant. The survey included two series of scaled questions, one designed to understand the emotions felt by participants and the other to understand participants' motivations. For both scales, participants rated their opinion from 1 (not at all) to 6 (very much). After giving informed consent, participants completed the first round of the measure designed to record their emotions to establish a baseline. During this T0 (baseline) assessment and the two later assessments of emotion, participants were asked to rate 14 emotions<sup>1</sup>. The two motivation measures asked participants to rate eight statements<sup>2</sup>. Additional measures were included at the end of the study<sup>3</sup>.

### **Design and Procedure**

Following the administration of the baseline emotions measure, participants were randomly assigned to one of six groups according to a 2 (Conversation Topic: race-relevant or race-neutral) × 3 (Intervention: control, anxiety reappraisal, or demand characteristics) between-subjects design. The race-relevant topic was racial discrimination, and the race-neutral topic was

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<sup>1</sup> The fourteen emotions participants rated were anxious, confident, worried, determined, enthusiastic, tense, interested, uncertain, alert, resentful, attentive, excited, uncomfortable, and suspicious

<sup>2</sup> The eight statements were "I am really looking forward to the interaction"; "I am glad that I will get to do the upcoming chat"; "I just want to finish the chat quickly and leave"; "I just want to get the interaction over with"; "how well do you think you and your partner will communicate during the upcoming interaction knowing you will talk about a current social issue"; "how well do you think you and your partner will perform compared to the average pair"; "how well do you think you will get along with your partner"; "how much do you think you will like your partner".

<sup>3</sup> These measures, including the Symbolic Racism 2000 Scale, a scaled measure on promotion and prevention attitudes, and opportunities to answer several open-ended response questions are included in Appendix A.

## UNDERSTANDING DEMAND CHARACTERISTICS

LGBT discrimination. All participants were given the following instructions. For control participants, these were the only instructions received:

“You are going to have a conversation with someone else about racial discrimination.” OR

“You are going to have a conversation with someone else about lesbian, gay, bisexual, transsexual (LGBT) discrimination.”

Anxiety intervention participants were given additional instructions while receiving their conversation topic:

“Sometimes people feel anxious about interacting with a person from another race. To avoid this anxiety, they might choose to avoid situations in which a cross-race interaction is likely because avoiding that situation reduces their anxiety. However, research suggests that choosing to put yourself in situations in which you interact with a person from another race actually helps to reduce feelings of anxiety.”

Demand characteristics intervention participants were given a different set of additional instructions:

“Sometimes people avoid interacting with a person from another race. In that case, they might choose to avoid situations in which a cross-race interaction is likely. However, choosing to interact with a person from another race is the right thing to do. Communication with people from different races needs to happen more if we hope to combat racial bias.”

## UNDERSTANDING DEMAND CHARACTERISTICS

After the condition assignments, participants completed the second of three emotion measures, identical to the baseline measure completed before the intervention, and the first of two measures designed to evaluate participant motivations. Following the emotions and motivations measures, participants were given a choice to discuss their assigned topic with either a Black or White partner and asked to explain their reasoning. After making their choice, participants were then given the final round of scaled questions for both the emotions and motivations measures. Participants finished by answering a series of open-ended response questions, fully debriefed, and dismissed.

### **Dependent Measures**

The three primary dependent variables were partner choice (Black or White), participant emotions, and participant motivations. The emotions measures sought to understand whether participants in different conditions indicated either more positive or negative emotions across a variety of questions. The motivations measure tried to capture levels of participant optimism and emotions as they related to the conversation or partner specifically. The answers from the fourteen emotion questions and eight motivation questions across participants were averaged into a composite score for each time the measures were given. The averages resulted in five composite scores, three for the three times the emotions scale measures were given and two for the two times the motivation measures were given. Questions from the measures that focused on approaching the

## UNDERSTANDING DEMAND CHARACTERISTICS

conversation, meaning generally more positive emotions<sup>4</sup> or motivations<sup>5</sup>, were reverse-scored (R) so that the scale accurately reflects the more avoidant categories. Therefore, a response of 6 for any question on the scale indicated the participant demonstrated strong negative or avoidant emotions or motivations and an answer of 1 meant the participant demonstrated strong positive emotions or motivations.

In regards to the partner choice portion of the survey, after selecting either a Black or White partner participants explained their reasoning for their choice. The responses were coded by five individuals across sixteen categories<sup>6</sup> and then analyzed for significant differences based on intervention and conversation topic conditions.

Reliability statistics were used to determine whether averaging the emotions and motivations responses would produce accurate data at T0 emotions (Cronbach's  $\alpha = .78$ , 95% CI [.72,.83]), T1 emotions (Cronbach's  $\alpha = .82$ , 95% CI [.78,.87]), and T2 emotions (Cronbach's  $\alpha = .85$ , 95% CI [.81,.89]), demonstrating a high level of reliability for the emotions measures. The

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<sup>4</sup>Out of the fourteen emotion measure questions, the seven that were considered positive and reverse scored are confident, determined, enthusiastic, interested, alert, attentive, and excited.

<sup>5</sup>Out of the eight motivation measure questions, the six that were considered positive and reverse scored are "I am really looking forward to the interaction"; "I am glad that I will get to do the upcoming chat"; "how well do you think you and your partner will communicate during the upcoming interaction knowing you will talk about a current social issue"; "how well do you think you and your partner will perform compared to the average pair"; "how well do you think you will get along with your partner"; "how much do you think you will like your partner".

<sup>6</sup> The sixteen categories were (1) don't care who I talk to, (2) wanted to speak to someone different or diverse, (3) wanted to speak to someone similar, (4) I could only choose one or was forced to answer, (5) don't want to sound racist, (6) more comfortable or nicer, (7) more comfortable with Black people, (8) don't know why, (9) because I am White, (10) "no" or unintelligible, (11) accessibility or first click, (12) demand characteristics or told it would be less anxious or the right thing to do, (13) POC wanting to hear White perspective, (14) intersectionality of race and sexuality influence decision, (15) actively dislike or are uncomfortable that they were made to choose, and (16) mention feelings of anxiety as a motivation.



## UNDERSTANDING DEMAND CHARACTERISTICS

motivations measures were similar for T1 motivations (Cronbach's  $\alpha = 0.85$ , 95% CI [.81, .88]) and T2 motivations (Cronbach's  $\alpha = 0.89$ , 95% CI [.86, .91]).

### Results

#### Partner Choice

Contingency tables examined the dichotomous dependent variable of partner choice. Table 1 shows the patterns of Black and White partner choice as a function of discussion topic and intervention condition. Across conditions, participants with the race-relevant discussion topic chose a Black partner 58.46% of the time, whereas only 32.81% chose a Black partner in the race-neutral condition. Surprisingly, in the control condition, participants showed a preference for choosing Black partners in the race-relevant versus race-neutral discussion topic conditions,  $\chi^2 = 4.25$ ;  $p = 0.039$ . Consistent with hypotheses, participants in the anxiety reappraisal condition selected Black partners more in the race-relevant condition compared to the race-neutral condition,  $\chi^2 = 6.91$ ;  $p = 0.009$ . In the demand characteristics condition, participants showed a preference for White partners in both the race-relevant and race-neutral discussion topic conditions,  $\chi^2 = 0.24$ ;  $p = 0.625$ .

## UNDERSTANDING DEMAND CHARACTERISTICS

Table 1

*Distribution of Partner Choice as a Function of Group and Discussion Topic*

		Race-relevant		Race-neutral		Total		Pearson $\chi^2$ results	<i>p</i>
		<i>n</i>	% within topic	<i>n</i>	% within topic	<i>n</i>	% within topic		
Control	Selected Black Partner	12	54.55%	5	23.81%	17	39.54%	4.25	0.039
	Selected White Partner	10	45.45%	16	76.19%	26	60.45%		
	Total	22		21		43			
Anxiety	Selected Black Partner	16	76.19%	8	36.36%	24	55.82%	6.91	0.009
	Selected White Partner	5	23.81%	14	63.64%	19	44.18%		
	Total	21		22		43			
Demand	Selected Black Partner	10	45.45%	8	38.10%	18	41.86%	0.24	0.625
	Selected White Partner	12	54.55%	13	61.90%	25	58.14%		
	Total	22		21		43			
Total	Selected Black Partner	38	58.47%	21	32.81%	59	45.74%	8.55	0.003
	Selected White Partner	27	41.54%	43	67.19%	70	54.36%		
	Total	65		64		129			

### Reasons for Partner Choice

Turning to the open-ended question responses, participants' stated reasons for their choice of partner yielded some significant results across conditions. The results, which came from categories determined by coders and subsequent analysis, can be seen in Table 2. Participants across all interventions assigned to the race-neutral discussion topic condition were more likely to report not caring with whom they spoke and mention wanting to speak to someone similar to

## UNDERSTANDING DEMAND CHARACTERISTICS

themselves compared to those in the race-relevant discussion topic condition. For the race-relevant condition, participants more often wanted to speak to someone diverse and were more likely to mention being White as a reason for their choice than those in the race-neutral condition.

Table 2

*Reason for Choice Significant Responses*

Intervention	Topic	N	wanted to speak to someone similar			wanted to speak to someone diverse/different			because I am white			don't care who I talk to		
			n	$\chi^2$	p	n	$\chi^2$	p	n	$\chi^2$	p	n	$\chi^2$	p
Control	Race	48	14			18			15			7		
	LGBT	47	18			4			6			15		
	Total	95	32	0.89	0.030*	22	11.22	<.001**	21	4.71	0.03*	22	4.01	0.045*
Anxiety	Race	47	9			23			10			8		
	LGBT	49	18			11			5			8		
	Total	96	27	3.67	0.14	34	7.36	0.007**	15	2.23	0.135	16	.008	0.927
Demand	Race	46	8			17			7			7		
	LGBT	46	10			13			4			19		
	Total	92	18	0.28	0.34	30	0.791	0.374	11	0.93	0.335	26	7.72	0.005**
Total	Race	141	31			58			32			22		
	LGBT	142	46			28			15			42		
	Total	283	77	3.87	.006**	86	15.34	<.001**	47	7.52	.006**	64	7.89	0.005**

\*  $p < .05$ , \*\*  $p < .01$

### Emotions and Motivations

The next step in analyzing the data from the emotion and motivation scales involved finding the average responses from each participant for each time they completed both the emotion and motivation scale measures in the survey.

## UNDERSTANDING DEMAND CHARACTERISTICS

The data from participants for each scale measure (T0, T1, and T2 emotions, and T1 and T2 motivations) were averaged into one variable, using the reverse-scored data from the approach questions and data from the avoidant questions, and then compared across intervention and conversation topic conditions. T0 was the baseline emotions measure, which occurred before any assignment to condition. T1 emotions and T1 motivations occurred after the assignment to intervention and conversation topic conditions, and T2 emotions and T2 motivations data were collected after the participant selected either a Black or White partner.

Two-way ANOVAs used averages of the three measures of emotional states and two measures of motivational states for conversation topic (race or LGBT) and intervention (control, anxiety reappraisal, or demand characteristics)<sup>7</sup>. The results below reflect multiple two-way analyses of variance regarding participants' responses to the scaled questions throughout the survey, as well as an attempt to account for differences over time by comparing the results at different time-points.

### ***Partner Choice and Emotion and Motivation Measures Correlations***

The relationship interaction between partner choice and the emotion and motivation scales, which had significant correlations across all emotions and motivation measures, can be seen in Table 3. We also predicted that negative emotions and motivations relate to the choice of a White partner more frequently, while positive emotions and motivations relate to the choice of a Black partner more frequently. While the emotions measures did not produce significant results

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<sup>7</sup> Three-way ANOVA analyses using time as a repeated-measures factor were considered and initially attempted, but produced results that were difficult to interpret.

## UNDERSTANDING DEMAND CHARACTERISTICS

on their own, the prediction of a significant correlation between the measures and choice holds true for both emotions and motivations, which can be seen in Table 3. The correlations were all significant ( $p < .05$ ) and positive, meaning that across all measures, as emotions and motivations got more negative, the likelihood to select a White partner was stronger, which is the same for positive emotions and motivations with a Black partner.

Table 3  
*Partner Choice and Scale Measure Correlations*

Variable		Partner Choice	T0 Emotions	T1 Emotions	T2 Emotions	T1 Motivations
1. Partner Choice	Pearson's $r$	—				
	$p$ -value	—				
2. T0 Emotions	Pearson's $r$	0.185*	—			
	$p$ -value	0.036	—			
3. T1 Emotions	Pearson's $r$	0.319***	0.785***	—		
	$p$ -value	< .001	< .001	—		
4. T2 Emotions	Pearson's $r$	0.468***	0.749***	0.851***	—	
	$p$ -value	< .001	< .001	< .001	—	
5. T1 Motivations	Pearson's $r$	0.237**	0.518***	0.673***	0.618***	—
	$p$ -value	0.007	< .001	< .001	< .001	—
6. T2 Motivations	Pearson's $r$	0.377***	0.502***	0.662***	0.720***	0.894***
	$p$ -value	< .001	< .001	< .001	< .001	< .001

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , one-tailed

Note: All tests one-tailed, for positive correlation

### ***T1 Motivations***

The post-intervention motivations measure ANOVA revealed a significant difference for the intervention case ( $p = .046$ ), but not for the conversation topic case ( $p = 0.336$ ) (see Appendix Table B1). Marginal means were higher for the

## UNDERSTANDING DEMAND CHARACTERISTICS

control condition ( $N = 43$ ,  $M = 3.61$ ) than the anxiety reappraisal ( $N = 43$ ,  $M = 3.19$ ) or demand characteristics ( $N = 42$ ,  $M = 3.32$ ) conditions (see Appendix Table B4). Across conversation topics, the higher mean indicates that participants in the control condition felt more avoidant than those in either experimental conditions after their assignment to condition. A post hoc test revealed the interaction was between the control condition and the anxiety reappraisal condition ( $p_{\text{tukey}} = .041$ ) (see Appendix Table B3).

### ***T2 Motivations***

The post-partner choice motivations measure ANOVA also revealed a significant difference for the intervention case ( $p = .011$ ), the same as the first motivations measure (see Appendix Table B5). Marginal means reflect a higher mean for the control condition ( $N = 43$ ,  $M = 3.61$ ) than the anxiety reappraisal ( $N = 43$ ,  $M = 3.04$ ) or demand characteristics ( $N = 41$ ,  $M = 3.29$ ) conditions (see Appendix Table B8), with anxiety reappraisal having the lowest mean. The highest mean once again indicates that the control condition was the most avoidant, and the anxiety reappraisal was most likely to approach the conversation. A post hoc test revealed the interaction was between the control condition and the anxiety reappraisal condition ( $p_{\text{tukey}} = .007$ ) (see Appendix Table B8).

### ***T2 Motivations - T1 Motivations***

An ANOVA comparing the difference between the post-partner choice motivations measure and the post-intervention motivations measure revealed a significant difference in the interaction between conversation topic and

## UNDERSTANDING DEMAND CHARACTERISTICS

intervention (conversation topic \* intervention) ( $p = .038$ ) (see Appendix Table B9). Descriptive statistics in the race-relevant condition revealed a lower mean in the anxiety reappraisal condition ( $N = 21, M = -0.23, SD = 0.31$ ) than the control ( $N = 22, M = -0.12, SD = 0.56$ ) or demand characteristics ( $N = 21, M = 0.08, SD = 0.27$ ) conditions (see Appendix Table B10). Descriptive statistics in the race-neutral conversation topic revealed that the control condition ( $N = 21, M = 0.11, SD = 0.39$ ) had a slightly larger mean than the anxiety ( $N = 22, M = -0.09, SD = 0.34$ ) or demand characteristics ( $N = 20, M = -0.10, SD = 0.36$ ) conditions (see Appendix Table B10). Across conversation topics, after participants were assigned to one of the three conditions, the race-relevant condition revealed that those in both the control and anxiety reappraisal conditions became less avoidant from before partner selection to after selection, with anxiety reappraisal showing this to a larger extent. In the race-neutral condition, the same is true for the anxiety reappraisal and demand characteristics condition, but to a lesser extent than the differences in the race-relevant condition. The anxiety reappraisal participants in the race-relevant conversation topic condition demonstrated the largest swing towards approaching the conversation, consistent with our hypothesis.

### ***Emotions***

T0 emotions, T1 emotions, T2 emotions, T1 emotions - T0 emotions and T2 emotions - T0 emotions revealed no significant differences where  $p < .05$  (see Appendix C).

## **Discussion**

## UNDERSTANDING DEMAND CHARACTERISTICS

### **Summary**

#### ***Partner Choice***

In line with results from the previous study by Schultz et al. (2015), the emotion regulation-inspired intervention for anxiety reappraisal successfully encouraged White participants to more frequently choose to interact with a Black partner instead of a White partner. This effect was once again more prominent when the topic of conversation between partners was racial discrimination.

Chi-squared results showed significant differences in the control and anxiety conditions regarding likelihood of selecting a Black partner across discussion topics. In the original study, the anxiety reappraisal condition had confounds, including a potential claim that participants acted in a way that lined up with how they believed they were supposed to behave for the study, not because anxiety was reduced or overcome. The significant chi-squared results showed differences between the anxiety reappraisal condition and the demand characteristics condition, providing evidence in favor of participants in the anxiety reappraisal condition selecting a Black partner more frequently for reasons other than pure demand. Therefore, anxiety reappraisal does seem to be an essential element in getting participants to choose to interact with a Black partner.

#### ***Emotions and Motivations***

The significant differences across the interventions in the T1 and T2 Motivation categories demonstrated that the differences between the control and anxiety reappraisal conditions were significant, with anxiety reappraisal



## UNDERSTANDING DEMAND CHARACTERISTICS

participants feeling less avoidant than those in the control condition during both of the administered motivations measures. This main effect on intervention is evidence that those in the anxiety reappraisal group felt more positively about the upcoming video chat than those in the control group. When looking at the measures over time (T2 - T1), there were significant differences in an interaction effect between the conversation topic and intervention, meaning the same results of the anxiety reappraisal group feeling more positive about the video chat held in the race-relevant conversation topic.

The post hoc test also revealed that the differences between the control condition and the demand characteristics condition and between the anxiety reappraisal condition and the demand characteristics condition were not significant. As such, the interaction with demand characteristics is distinct from the interaction between the other two conditions. If the demand characteristics condition were not influential, we would have expected to see the results from demand characteristics similar to those of the control condition. Conversely, if demand characteristics influenced participants in the anxiety reappraisal condition, we would have expected results from demand characteristics to line up with those from anxiety reappraisal. Therefore, the demand characteristics condition affected participants but differently than the anxiety reappraisal or control condition.

Contrary to our hypothesis, there were no significant differences for the emotions scale measures among participants. Based on the data compiled from participants' answers to the emotion questions during a baseline trial, after the

## UNDERSTANDING DEMAND CHARACTERISTICS

interventions, and after selecting their partner choice, there were no significant changes to their overall emotional state. While it is difficult to understand precisely why these results occurred, which will be discussed further in the limitations section, there are other results from both the motivations scale and the partner choice data that indicate significant differences between the anxiety reappraisal and demand characteristics from the control condition, as well as across topic choice. While not done in this paper in the interest of time, it could also be interesting to explore the emotion responses individually in addition to as an average composite.

### *Reason for Choice*

The reason for choice open-ended responses also warrant discussion for their significant results. Those in the race-neutral (LGBT discrimination) discussion condition were more likely to indicate they did not care to whom they spoke and that they wanted to speak to someone similar to themselves. Those in the race-relevant (racial discrimination) discussion condition were more likely to want to speak to someone diverse and think about their whiteness as a reason for their partner selection. Participants in the race-neutral condition wanting to speak to someone similar to themselves introduces an interesting question regarding the race-neutral but socially salient selection of LGBT discrimination as the second discussion condition. One potential explanation for these results is that an additional dimension of potentially having the conversation with someone of a different race about LGBT issues may increase feelings of anxiety. Since talking about LGBT discrimination can be a sensitive topic, participants may have felt

## UNDERSTANDING DEMAND CHARACTERISTICS

more reluctant to add another element of difference to the equation by selecting someone of a different race.

Participants in the race-relevant condition indicating they wanted to speak to someone diverse a significant amount more than those in the LGBT condition may demonstrate how salient the concept of race was in participants' minds in the race-relevant condition. Since this was reported to a significant extent by both participants in the control and anxiety reappraisal conditions, self-reported feelings of wanting to speak to someone diverse may have been primed more generally by the subject matter. Demand characteristics participants did not report this motivation significantly, meaning that participants in the other conditions were likely motivated to speak with someone diverse by a factor other than pure demand.

Participants in the race-relevant condition were also more likely to mention their Whiteness when choosing a partner relative to those in the race-neutral condition. This significant difference occurred explicitly in the control condition, which may point to the anxiety reappraisal and demand characteristics conditions leading participants to consider factors other than their Whiteness, irrespective of whether their motivations were the same or different. Participants were asked to tell "some of the thoughts that influenced [the partner choice] decision," so these results reflect what was most memorable for the participants in hindsight. As always, with open-ended responses, there could have been multiple motivations or unreported reasons that also contributed to these decisions.

## UNDERSTANDING DEMAND CHARACTERISTICS

### **Implications**

When thinking about real-world applications, the knowledge that an anxiety reappraisal strategy can be a successful intervention has important implications. Having even one interracial conversation is a critical but complex step, particularly for White people. The prospect of engaging in an interaction with someone of a different race can be anxiety-inducing for anyone. Usually, these feelings of anxiety are more prominent for those that have done so infrequently or never. Intergroup contact, with extra focus on the quality of the contact, has been shown to reduce the likelihood that individuals will experience intergroup anxiety, especially if their interactions were positive (Plant & Devine, 2003). Building off the premise that having meaningful interactions with outgroup members can lead to anxiety reduction, it is interesting to think about helpful interventions in many situations. From the workplace to on a college campus to programs for children, using pre-existing models to foster the initial intergroup interactions between unfamiliar people could be critical in exposing more people to positive intergroup interactions, leading to anxiety reduction for those individuals in future interactions.

Our intervention targeted White participants in the context of the ever-increasing prevalence of racial tension in the United States. Many non-White participants also took the study, which could be used to understand anxiety or other feelings and motivations felt by minority group members. Further studies could also target avoidant traits demonstrated by Black individuals or people of other races to understand the avoidance of interracial conversations from both

## UNDERSTANDING DEMAND CHARACTERISTICS

sides. While non-White groups may not feel self-threat or fear of being labeled as prejudiced, anxiety is still prevalent in interracial conversations for non-Whites, even though these types of conversations are more challenging to avoid for the minority group than the majority group in many areas. Research has shown that quality contact between groups and finding common group identities instead of focusing on being of different races can reduce anxiety for minority groups and majority groups (Islam and Hewstone, 1993).

Those who seek to generalize the findings on the success of anxiety reappraisal with the discovery that demand characteristics did not play a significant role should consider the intervention in the context of the experimental conditions. First, the intervention occurred via a survey in a laboratory setting, with participants believing that a video chat would occur between individuals who did not know each other. As such, results may be different depending on the context and people involved. While not tested in this study, the source of the intervention may also play an important role, as credibility when explaining the benefits of intergroup interactions may also be necessary for convincing individuals of the potential long-term anxiety reduction, especially since there is no evidence of anxiety reduction even in the short-term.

### **Limitations**

Although our method has many desirable features and accounted for a previous limitation in creating a demand characteristic condition to understand whether participants felt encouraged to select a Black partner, key limitations still require consideration. Given the significant differences found with the motivation

## UNDERSTANDING DEMAND CHARACTERISTICS

scales in line with our hypothesis, it is important to consider why the emotion scale measures did not report any significant results, indicating that anxiety and other emotions did not change based on the assigned condition. One potential explanation for these results is contemplating whether the emotion scales accurately captured participants' emotions. While the design of the scale was to gather participant responses to questions about many different emotions and use this information to create an overall emotion composite score, the questions or methods of analysis may not have accurately achieved this measure. As such, the anxiety reappraisal may be affecting participants' emotional states, but the scales are not accurately collecting this information, or self-report, in this case, did not accurately capture the emotions felt by participants. However, given the negative emotions are predicting partner choice, as seen in Table 3, there is evidence that the emotion measures were gathering valid self-report data.

Therefore, a more likely possibility is that, while still successful based on motivation and partner choice, the anxiety reappraisal condition caused different reactions among participants than we predicted. Some research suggests that interventions designed to encourage contact with individuals of other races are strategies that do not reduce feelings of anxiety but rather justify the anxious feelings experienced (Stern & West, 2014). If this is the case in our study, it makes sense that the interventions would impact participants' motivations or desires to have the conversations, but not the feelings of anxiety or other avoidance or approach emotions. The anxiety reappraisal condition acting as a shield from anxiety instead of a reduction tool would be a finding that is different

## UNDERSTANDING DEMAND CHARACTERISTICS

than expected but achieves a similar goal of fostering positivity around interracial interactions. While we can only speculate why the emotion measures did not reveal significant differences, further research can explore the emotional intricacies that occur when implementing an anxiety reappraisal strategy.

### **Conclusion and Future Directions**

Building off of research done in a previous study by Schultz et al. (2015), this work demonstrates success in changing motivations and the likelihood of engagement when applying an anxiety reappraisal condition to an interracial interaction. The study's design has a unique paradigm that always allows for the choice of a partner as opposed to a condition with random assignment to a partner. Participants in the anxiety reappraisal condition were more likely to choose to engage with a racial outgroup member when faced with an upcoming conversation about racial discrimination and displayed a shift in motivation for the conversation that became less avoidant and more approach-oriented.

Choice is an important variable in motivating thoughts, feelings, and behavior. For example, cognitive dissonance research demonstrates that people change their attitudes to be consistent with their behavior when entering a specific situation (Festinger & Carlsmith, 1959). As such, one conceivable explanation for the mental processes accompanying the choice and subsequent motivations could be the anxiety reappraisal instructions influencing the choice of a Black partner, followed by cognitive dissonance principles engaging to reduce any anxiety that follows this choice, which would explain the positive shift in motivation seen in the anxiety reappraisal group. While this study adds the unique paradigm of

## UNDERSTANDING DEMAND CHARACTERISTICS

introducing choice to the conversation of interracial interactions and anxiety reappraisal, more research will help to understand the specific interaction of choice relative to the rest of the study. Most other research that engages in similar research on threat and prejudice gives no choice and instead assigns participants to different partner conditions (e.g., Apfelbaum, Sommers, & Norton, 2008). As such, there is room for future research to explore the anxiety reappraisal design while introducing an assignment to the condition of either a Black partner, White partner or choice of partner, which would seek to understand further any potential confounds or secondary motivations that come from being given a choice in partner.

Figuring out effective mechanisms for bridging the racial divide in the United States and inciting productive interracial interactions is critical in today's political and social climate. While Black Lives Matter has brought racial prejudice and injustice to the forefront of the social dialogue, there is still much work to be done regarding the attitudes of Whites and changing policy and voting behaviors. The well-publicized incidents of violence toward Black people such as Trayvon Martin, Michael Brown, Freddie Gray, Breonna Taylor, George Floyd, Rayshard Brooks, Daunte Wright, Atatiana Jefferson, Botham Jean, Philando Castile, Alton Sterling, Eric Garner, Tamir Rice, Elijah McClain, and too many others demonstrates the urgency with which policy and attitudinal change must occur in this country. The movement has led to a growing awareness of some of the injustices and disparities that racial and ethnic minorities face in the United States every day and will hopefully continue to lead to accountability and policy



## UNDERSTANDING DEMAND CHARACTERISTICS

change on a national level. Creating a social shift on an individual level by determining effective interventions that increase the number of people engaging in interracial interactions and conversations is another pivotal step that can be taken through this and other like research.

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## UNDERSTANDING DEMAND CHARACTERISTICS

### **Appendix A: Additional Measures**

Data were also collected from other measures, both in multiple-choice form and from open-ended responses. The Symbolic Racism 2000 scale (Henry & Sears, 2002) and promotion versus prevention scale collected additional data following all assignments to condition and partner selection (see Appendix A). The Symbolic Racism scale asked questions in a multiple-choice format, with statements such as “over the past few years, blacks have gotten more economically diverse than they deserve” and choices of strongly agree, somewhat agree, somewhat disagree, and strongly disagree. The promotion and prevention scale asked participants to rate statements on a scale from 1 to 9, with one being “not true at all of me” and nine being “very true of me.” Further, in addition to the open-ended question asking participants why they selected either a Black or White partner, other open-ended questions were asked before and after the debriefing. Before the debriefing, participants were asked about previous interracial interaction experiences and given suspicion and manipulation checks. The checks included asking the participant to describe the rationale the study provided for the conversation, the topic of the conversation, and with whom the participant will be speaking. After being debriefed, participants were asked whether the deception was convincing and for any additional feedback on the study. In the interest of time, these questions were not analyzed, but the responses should be investigated further and used to inform the findings from the measures analyzed in this paper.

## UNDERSTANDING DEMAND CHARACTERISTICS

### **Question A1: Symbolic Racism 2000**

Please answer the following questions concerning your social attitudes.

Q1 It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites.

- Strongly Agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q2 Irish, Italian, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same.

- Strongly Agree (4)
- Somewhat agree (3)
- Somewhat disagree (2)
- Strongly disagree (1)

Q3 Some say that black leaders have been trying to push too fast. Others feel that they haven't pushed fast enough. What do you think?

- Trying to push very much too fast (3)
- Going too slowly (1)
- Moving at about the right speed (2)

Q4 How much of the racial tension that exists in the United States today do you think blacks are responsible for creating?

- All of it (4)
- Most (3)
- Some (2)
- Not much at all (1)

Q5 How much discrimination against blacks do you feel there is in the United States today, limiting their chances to get ahead?

- A lot (1)
- Some (2)
- Just a little (3)
- None at all (4)

Q6 Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class.

## UNDERSTANDING DEMAND CHARACTERISTICS

- o Strongly Agree (1)
- o Somewhat agree (2)
- o Somewhat disagree (3)
- o Strongly disagree (4)

Q7 Over the past few years, blacks have gotten less than they deserve.

- o Strongly Agree (1)
- o Somewhat agree (2)
- o Somewhat disagree (3)
- o Strongly disagree (4)

Q8 Over the past few years, blacks have gotten more economically than they deserve.

- o Strongly Agree (4)
- o Somewhat agree (3)
- o Somewhat disagree (2)
- o Strongly disagree (1)



## UNDERSTANDING DEMAND CHARACTERISTICS

### Question A2: Promotion/Prevention Scale

Using the scale below, please choose the appropriate number for each item.

1 - Not at all true of me	2	3	4	5	6	7	8	9 - Very true of me
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Items:

1. In general, I am focused on preventing negative events in my life
2. I am anxious that I will fall short of my responsibilities and obligations
3. I frequently imagine how I will achieve my hopes and aspirations
4. I often think about the person I am afraid I might become in the future
5. I often think about the person I would ideally like to be in the future
6. I typically focus on the success I hope to achieve in the future
7. I often worry that I will fail to accomplish my academic goals
8. I often think about how I will achieve academic success
9. I often imagine myself experiencing bad things that I fear might happen to me
10. I frequently think about how I can prevent failures in my life
11. I am more oriented toward preventing losses than I am toward achieving gains
12. My major goal in school right now is to achieve my academic ambitions
13. My major goal in school right now is to avoid becoming an academic failure
14. I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill my hopes, wishes, and aspirations
15. I see myself as someone who is primarily striving to become the self I “ought” to be—to fulfill my duties, responsibilities, and obligations
16. In general, I am focused on achieving positive outcomes in my life
17. I often imagine myself experiencing good things that I hope will happen to me
18. Overall, I am more oriented toward achieving success than preventing failure

### Question A3: Previous Interaction Experience

We'd like to hear your thoughts on your experiences with similar conversations about this topic that you may have had in the past, either real or virtual. Have you had them? When and why have they gone well? When and why have they gone poorly?

## UNDERSTANDING DEMAND CHARACTERISTICS

### **Question A4: Suspicion Rationale**

Participants were given blank space for open-ended responses.

At this point we'd like to get a sense of your understanding of the instructions up to this point.

1. Can you describe the rationale that we provided about why you will be having a conversation with another person?
2. Do you recall the topic of the conversation you will be having?
3. Do you recall who you will be having a conversation with?
4. Did you have a choice in selecting an interaction partner?
5. Do you have any thoughts or concerns about the study you'd like to share at this point? Please do so in the space provided.

### **Question A5: End Questions**

#### ***Suspicion***

Now that you have read the debriefing, can you share with us whether or not you believed that your video chat was going to take place? If not, what could we have done to better convince you?

#### ***Feedback***

What did you think of this study? How are you feeling about the deception technique we used? Please provide any positive or negative feedback that we might use to improve future experiments.

# UNDERSTANDING DEMAND CHARACTERISTICS

## Appendix B: Motivation Measures

### T1 Motivations

**Table B1: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	0.56	1	0.56	0.93	0.336	0.007
Intervention	3.81	2	1.91	3.15	0.046*	0.048
Conversation Topic * Intervention	0.76	2	0.38	0.63	0.534	0.01
Residuals	73.76	122	0.61			

*Note.* Type III Sum of Squares

**Table B2: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	3.29	0.77	22
	Control	3.57	0.82	21
	Demand	3.47	0.79	21
Race	Anxiety	3.11	0.77	21
	Control	3.65	0.64	22
	Demand	3.18	0.86	21

**Table B3: Post Hoc Comparisons**

		95% CI for Mean Difference		<i>SE</i>	<i>t</i>	Cohen's <i>d</i>	<i>p</i> <sub>Tukey</sub>	
	Mean Difference	Lower	Upper					
Control	Anxiety	0.41	0.013	0.809	0.168	2.451	0.551	0.041*
	Demand	0.285	-0.115	0.685	0.169	1.69	0.366	0.213
Anxiety	Demand	-0.126	-0.526	0.274	0.169	-0.747	-0.158	0.736

\*  $p < .05$

*Note.* *P*-value and confidence intervals adjusted for comparing a family of 3 estimates (confidence intervals corrected using the Tukey method).

*Note.* Cohen's *d* does not correct for multiple comparisons.

*Note.* Results are averaged over the levels of Conversation Topic.

## UNDERSTANDING DEMAND CHARACTERISTICS

**Table B4: Marginal Means**

Intervention	Marginal Mean	95% CI for Mean Difference		SE
		Lower	Upper	
Control	3.61	3.38	3.84	0.11
Anxiety	3.19	2.96	3.43	0.11
Demand	3.32	3.09	3.56	0.12

## UNDERSTANDING DEMAND CHARACTERISTICS

### T2 Motivations

**Table B5: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	1.02	1	1.02	1.39	0.241	0.01
Intervention	6.92	2	3.46	4.73	0.011*	0.071
Conversation Topic * Intervention	0.35	2	0.18	0.24	0.788	0.004
Residuals	88.63	121	0.73			

*Note.* Type III Sum of Squares

**Table B6: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	3.19	0.78	22
	Control	3.69	0.88	21
	Demand	3.33	1.01	20
Race	Anxiety	2.88	0.77	21
	Control	3.53	0.83	22
	Demand	3.26	0.85	21

**Table B7: Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		<i>SE</i>	<i>t</i>	Cohen's <i>d</i>	<i>p</i> <sub>Tukey</sub>
			Lower	Upper				
Control	Anxiety	0.57	0.13	1.01	0.19	3.07	0.69	0.007**
	Demand	0.31	-0.13	0.76	0.19	1.68	0.35	0.219
Anxiety	Demand	-0.25	-0.69	0.19	0.19	-1.36	-0.29	0.367

*Note.* Results are averaged over the levels of Conversation Topic.

*Note.* *P*-value and confidence intervals adjusted for comparing a family of 3 estimates (confidence intervals corrected using the Tukey method).

*Note.* Cohen's *d* does not correct for multiple comparisons.

\*  $p < .05$ , \*\*  $p < .01$

## UNDERSTANDING DEMAND CHARACTERISTICS

**Table B8: Marginal Means**

Intervention	Marginal Mean	95% CI for Mean Difference		<i>SE</i>
		Lower	Upper	
Control	3.61	3.35	3.87	0.13
Anxiety	3.04	2.78	3.29	0.13
Demand	3.29	3.03	3.56	0.13

## UNDERSTANDING DEMAND CHARACTERISTICS

### T2 - T1 Motivations

**Table B9: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	0.12	1	0.12	0.82	0.368	0.006
Intervention	0.67	2	0.33	2.27	0.108	0.034
Conversation Topic * Intervention	0.99	2	0.49	3.37	0.038*	0.051
Residuals	17.72	121	0.15			

*Note.* Type III Sum of Squares

**Table B10: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	-0.09	0.34	22
	Control	0.11	0.39	21
	Demand	-0.10	0.36	20
Race	Anxiety	-0.23	0.31	21
	Control	-0.12	0.56	22
	Demand	0.08	0.27	21

## UNDERSTANDING DEMAND CHARACTERISTICS

**Table B11: Post Hoc Comparisons**

		Mean Difference	95% CI for Mean Difference		<i>t</i>	<i>p</i> <sub>Tukey</sub>	
			Lower	Upper			<i>SE</i>
Race, Control	LGBT, Control	-0.23	-0.57	0.11	0.117	-1.99	0.354
	Race, Anxiety	0.11	-0.23	0.45	0.117	0.92	0.942
	LGBT, Anxiety	-0.03	-0.36	0.31	0.115	-0.25	1.000
	Race, Demand	-0.20	-0.54	0.14	0.117	-1.74	0.511
	LGBT, Demand	-0.02	-0.36	0.32	0.118	-0.16	1.000
LGBT, Control	Race, Anxiety	0.34	-0.003	0.68	0.118	2.87	0.053
	LGBT, Anxiety	0.20	-0.13	0.54	0.117	1.75	0.504
	Race, Demand	0.03	-0.31	0.37	0.118	0.25	1.000
	LGBT, Demand	0.21	-0.13	0.56	0.12	1.78	0.481
Race, Anxiety	LGBT, Anxiety	-0.14	-0.47	0.20	0.117	-1.16	0.855
	Race, Demand	-0.31	-0.65	0.03	0.118	-2.62	0.100
	LGBT, Demand	-0.13	-0.47	0.22	0.12	-1.06	0.898
LGBT, Anxiety	Race, Demand	-0.17	-0.51	0.16	0.117	-1.49	0.670
	LGBT, Demand	0.01	-0.33	0.35	0.118	0.08	1.000
Race, Demand	LGBT, Demand	0.18	-0.16	0.53	0.12	1.53	0.644

*Note.* *P*-value and confidence intervals adjusted for comparing a family of 6 estimates (confidence intervals corrected using the Tukey method).

**Table B12: Marginal Means**

Conversation Topic	Intervention	Marginal Mean	95% CI for Mean Difference		<i>SE</i>
			Lower	Upper	
Race	Control	-0.12	-0.28	0.04	0.082
		LGBT	0.11	-0.05	0.28
Race	Anxiety	-0.23	-0.39	-0.06	0.084
		LGBT	-0.09	-0.25	0.07
Race	Demand	0.08	-0.08	0.25	0.084
		LGBT	-0.10	-0.27	0.07



# UNDERSTANDING DEMAND CHARACTERISTICS

## Appendix C: Emotion Measures

### T0 Emotions

**Table C1: ANOVA**

Cases	Sums of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	1.02	1	1.02	2.62	0.108	0.021
Intervention	0.34	2	0.17	0.44	0.646	0.007
Conversation Topic * Intervention	0.28	2	0.14	0.35	0.704	0.006
Residuals	48.08	123	0.39			

*Note.* Type III Sum of Squares

**Table C2: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	3.36	0.59	22
	Control	3.28	0.61	21
	Demand	3.18	0.78	21
Race	Anxiety	3.05	0.59	21
	Control	3.19	0.64	22
	Demand	3.04	0.52	22

## UNDERSTANDING DEMAND CHARACTERISTICS

### T1 Emotions

**Table C3: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	0.08	1	0.08	0.17	0.678	0.001
Intervention	1.84	2	0.92	1.93	0.15	0.03
Conversation Topic * Intervention	0.41	2	0.20	0.43	0.653	0.007
Residuals	58.1	122	0.48			

*Note.* Type III Sum of Squares

**Table C4: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	3.28	0.63	22
	Control	3.34	0.72	21
	Demand	3.09	0.76	21
Race	Anxiety	3.08	0.62	21
	Control	3.41	0.75	22
	Demand	3.08	0.65	21

## UNDERSTANDING DEMAND CHARACTERISTICS

### T2 Emotions

**Table C5: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	0.38	1	0.38	0.69	0.408	0.006
Intervention	1.21	2	0.61	1.10	0.336	0.018
Conversation Topic * Intervention	0.06	2	0.03	0.06	0.945	9.050e -4
Residuals	66.69	121	0.55			

*Note.* Type III Sum of Squares

**Table C6: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	3.16	0.70	22
	Control	3.39	0.68	21
	Demand	3.17	0.84	20
Race	Anxiety	3.03	0.75	21
	Control	3.24	0.76	22
	Demand	3.12	0.71	21

## UNDERSTANDING DEMAND CHARACTERISTICS

### T1 Emotions - T0 Emotions

**Table C7: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
Conversation Topic	0.57	1	0.57	3.07	0.08	0.02
Intervention	0.79	2	0.39	2.12	0.13	0.03
Conversation Topic * Intervention	0.02	2	0.01	0.05	0.96	6.881e -4
Residuals	22.66	122	0.19			

*Note.* Type III Sum of Squares

**Table C8: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	-0.08	0.45	22
	Control	0.07	0.47	21
	Demand	-0.09	0.36	21
Race	Anxiety	0.02	0.38	21
	Control	0.22	0.46	22
	Demand	0.06	0.47	21

## UNDERSTANDING DEMAND CHARACTERISTICS

### T2 Emotions - T0 Emotions

**Table C9: ANOVA**

Cases	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Conversation Topic	0.11	1	0.11	0.47	0.493
Intervention	1.07	2	0.54	2.23	0.112
Conversation Topic * Intervention	0.32	2	0.16	0.67	0.514
Residuals	29.09	121	0.24		

*Note.* Type III Sum of Squares

**Table C10: Descriptives**

Conversation Topic	Intervention	Mean	<i>SD</i>	<i>N</i>
LGBT	Anxiety	-0.21	0.44	22
	Control	0.12	0.45	21
	Demand	0.04	0.47	20
Race	Anxiety	-0.02	0.48	21
	Control	0.06	0.49	22
	Demand	0.10	0.59	21