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ASSESSMENT OF LISTENING AND SOCIAL SUPPORT IN
INTERGROUP DYADIC REALTIONS

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Abstract

The current project extends to research that uses the idiographic key-person design to detect ingroup and outgroup biases in interracial relations in the workplace. White and Black participants completed an assessment of their interracial dyadic relationships with coworkers on two constructs: listening quality and social support. There is a well-documented strained history between these two groups in America. Participants assessed listening quality and social support among coworkers who were members of their racial ingroup and racial outgroup. Using the Social Relations Model, this research aimed to find statistical evidence of ingroup heterogeneity and outgroup homogeneity among Black and White participants by assessing actor and partner variances. The results of this study did not provide support for the presence of ingroup heterogeneity and outgroup homogeneity from Black participants on either construct. There was support for the presence of ingroup heterogeneity and outgroup homogeneity among White participants based on partner variances in the social support construct. There was no evidence of this bias in actor variances in social support or the listening construct. These findings might suggest the workplace environment is unique in that it reduces ingroup and outgroup biases as they pertain to social support and listening in interracial relations. Moreover, the characteristics of the present sample (young, well educated, professionals who are liberal politically) may have reduced the likelihood of intergroup bias.

Keywords: LISTENING, SOCIAL SUPPORT, INTERGROUP RELATIONS, EGOCENTRISM, INGROUP AND OUTGROUP BIAS, SOCIAL RELATIONS MODEL

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Assessment of Listening and Social Support in Intergroup Dyadic Relations

Listening quality and social support are key elements of human relationships. Good listening quality can aid in building stronger relationships by making people feel valued. A person that can listen well to another can shift the other's focus and help that person gain a positive self-image during a difficult experience; this is social support. People need social support as they manage inevitable adverse life events. The present work focuses on perceived listening and social support in racial ingroups and outgroups in the workplace assessed using the Social Relations Model (SRM; Malloy, 2018).

Listening and Social Support in Dyads

Rhodes (1987) defined listening as a dyadic system; listening requires two people to hear what is said and respond accordingly. Rhodes (1987) asked communication majors to engage in four dyadic interactions, answer questions from their partner's point of view, and complete an assessment of their ability to achieve a goal with their dyadic partner. The results found that effective listeners give more feedback than ineffective listeners. Feedback is an essential characteristic of effective listening. Participants reported they were more likely to reach a goal when listened to well and, in turn, facilitated their own good listening with their partners. Dyadic listening requires attention to the other and interest in what they are saying (Malloy et al., 2021). Quality listening can also facilitate successful group work in teams (Kluger et al., 2021).

Listening is an important skill that aids in social support in dyadic relationships. Malloy et al. (2021) found that when unacquainted women spoke to each other about stressful events, those who were perceived as attentive listeners engendered feelings of interpersonal closeness that was associated with reduction in the speaker's stress. They also concluded that social support could arise in everyday conversations among unacquainted individuals with good

listening. This study suggests that effective listening skills are beneficial and can aid in social support even when there is no acquaintance between two individuals.

Research has also examined the impact of dyadic social support on people with extreme life stressors, such as those who are battling or surviving cancer. When men who had recently received a radical prostatectomy for prostate cancer were paired with a trained peer support partner, they showed less depression and higher levels of self-efficacy (Weber et al., 2007). Lee et al., (2013) paired newly diagnosed breast cancer patients in dyadic relationships with breast cancer survivors who were directed to provide social support. The newly diagnosed breast cancer patients presented higher levels of self-efficacy but did not differ in levels of depression and anxiety when compared to the patients who did not receive social support. These findings might differ from Weber et al. (2007) because these were still actively battling cancer. Both study findings emphasize that good dyadic social support can increase one's positive self-image. A basic assumption made here is that listening is a mechanism inherent in social support.

Listening and Social Support in Diverse Workplaces

In the workplace, for a team to run smoothly and productively, good listening quality and social support should be reciprocated. Research implies good listening quality is positively correlated with intimacy, speaking ability, and helping organizational citizenship behaviors, that are associated with helping colleagues at work beyond the requirements of the job (Kluger et al., 2020). Two studies tested if listening is inherently dyadic among coworkers in teams of four. That is, researchers wanted to test if listening was inherently dyadic as it requires two people: a speaker and a listener. These researchers predicted that unique dyadic relationship effects should account for most of the variance in assessments of listening quality (Kluger et al., 2020). The results of this study suggested that listening is inherently dyadic as SRM relationship effects

accounted for most of the variance in listening quality assessments. The second study aimed to address if dyadic listening would positively correlate with intimacy, speaking ability, and helping organizational citizenship behaviors in the workplace. The study produced statistical evidence for these predictions and further established that good listening could induce intimacy, and in turn, increase the likelihood of helping organizational citizenship behaviors (Kluger et al. 2020). The researchers also expected positive dyadic reciprocity in listening quality. In this study, reciprocity would occur when coworker A thought coworker B was a good listener, and in turn, coworker B perceives coworker A to be a good listener. This study found statistical evidence to support reciprocity at the dyadic level for listening and intimacy. (Kluger et al. 2020). This study emphasizes that reciprocated effective listening can have positive effects in the workplace.

Another study focused solely on dyadic social support in the workplace (Bowling et al., 2005). This study showed that social support received from other coworkers contributed to lower levels of occupational stress. The study found that employees who gave good social support normally received good social support. This study emphasizes that reciprocated social support can have positive effects in the workplace.

With growing awareness of the importance of diversity in the workplace and efforts by social justice activist groups to achieve equity, it is important to assess racial ingroup and outgroup perceptions that might exist within work-like settings. Findings from earlier research suggest people hold negative beliefs about working with members of their racial outgroup (Toosi et al., 2012). The researchers conducted a meta-analysis to assess same-race and interracial attitudes between Black people and White people, reviewing studies published over four decades, spanning the 1980s to 2012. One of the findings is that participants perceived same-race dyads as performing better than interracial dyads (Toosi et al., 2012). Negative feelings toward

working with members of one's racial outgroup can result in individuals acting in ways that hinder their ability to perform work tasks with members of their racial outgroup, and in turn negatively affect production in diversifying work settings. Based on the Toosi et al. (2012) findings, in a diversifying workplace, where teams are shifting from being predominately one race to racially diverse, performance may be hindered. This hindered performance may be associated with individuals wittingly or unwittingly engaging in ineffective listening behaviors or acting in an untrusting manner in racially diverse teams.

Social Relations Model

The current study builds on ongoing projects conducted in the Social Relations Laboratory at Rhode Island College (www.thomasemalloy.org). These projects assess egocentrism (i.e., the belief that one's own dyadic behavior is superior to that of others) in listening, attraction, extroversion, and emotional adjustment among family and friends using the Social Relations Model (Malloy, Kluger, and Silva et al., 2022). The Social Relations Model (SRM) estimates individual and dyadic effects in interpersonal relationships (Kenny & LoVoie, 1984; Malloy, 2018; Malloy & Kenny, 1986). Each dyad consists of a perceiver and a target, where each member of the dyad occupies these roles simultaneously. The SRM assesses three effects: perceiver effects, target effects, and relationship effects in the present research context where people assess their own and others dyadic relationships. In this context, the perceiver effect reveals how a person assesses their interactions with others. Target effects reveal how a person perceives others respond to oneself. Relationship effects reveal how a perceiver uniquely sees each target.

Two specialized dyadic designs can be used to estimate actor, partner, and relationship effects; they are the round robin and the block design. These designs allow SRM to produce

estimates for actor, partner, and relationship effects, variance components for these effects, as well as generalized and dyadic reciprocity.

In interpersonal perception research, the round-robin design requires that each person in a group rate everyone else in the group (Malloy, 2018). The round-robin design was used in earlier studies to assess listening (Malloy et al., 2021). For example, in the Malloy et al. (2021) study, unacquainted women, in groups of at least four, discussed stressful life events in all possible dyads. In each discussion, women rated aspects of the interaction with another woman. The data has a round-robin structure, and SRM was used to calculate actor, partner, and relationship effects, variance components for these effects, as well as generalized and dyadic reciprocity. The general finding was that if a woman perceived other women in general, or specific women, as listening well, they were liked and there was associated stress reduction. This result is similar to those of Kluger et al. (2020) showing a similar association in the workplace. Good listening engenders emotional closeness that is associated with positive outcomes.

Idiographic Social Relations Modeling

SRM often uses a round robin design; at least four members of a group interact with one another. The round robin design has been used in earlier studies to assess listening (Malloy et al., 2021) and social support (Lakey 2011). The current study applied a new variant of the round robin and social relations modeling called Idiographic Social Relations Modeling (I-SRM; Malloy, 2018). The I-SRM uses the Idiographic Key-Person Design (IKPD) to assess SRM effects. The IKPD produces a round robin based on a single key person's assessment of their relationships with others, others' relationships with them, and others' relationships with one another. The participant, or key person, nominates three other people they know and who know one another, and they rate how they believe others view them, how they view others, and how

nominees perceive one another. This design limits the number of participants needed for dyadic studies by only requiring one key person versus multiple members of a group. I-SRM also allows the researcher to analyze individuals' cognitive representations of themselves and others in their dyadic relationship (Malloy, Bond, Pery, & Kluger, 2022). Table 1 depicts the round robin matrix produced by each key person when responding to the ingroup and outgroup. Across four studies Malloy, Kluger, and Silva et al., (2022) show how round robins can be produced using only one key person who nominates three targets and makes judgments of all dyadic relationships; those nominated do not participate. This is the idiographic key person design (Malloy, Bond, Pery, & Kluger, 2022).

Ingroup and Outgroup Bias

The current project attempts to use the I-SRM used in Malloy, Kluger, and Silva et al., (2022) to detect ingroup and outgroup biases rather than egocentrism. Thus, this research examines colleagues in diverse workplaces where mixed-race interactions are more likely to occur than with family and friend groups. There is research that shows different racial groups can have the same experience and make different interpretations. For example, research shows that Black and White men experience the same face-to-face interaction differently (Malloy et al., 2011). When Black and White men engaged in 20-minute face-to-face interactions and were asked about their concerns, Black people and White people reported having different concerns about their outgroup interactions; Black people wanted White people to avoid relying on stereotypes to define them, and White people wanted to avoid being perceived as racially biased. Though both concerns are different they are related to bias, and it would be interesting to examine if ingroup and outgroup biases exist in diverse workplaces where different racial groups

are encouraged to interact. If these biases persist in diverse workplaces, it would also be interesting to examine if they differ between races.

Ingroup Heterogeneity and Outgroup Homogeneity

Ingroup heterogeneity occurs when people can distinguish differences in their ethnic ingroup more than they can for their outgroup. By extension, outgroup homogeneity occurs when one is unable to distinguish differences in members of their racial outgroup. This bias is clear when people make statements like “they all look the same to me” or “wow, I thought they were related” when speaking of members of their racial outgroup. In social situations, people attend more closely to some people than others, they are normally able to attend better to members of their own racial group because they have more interactions with their racial ingroup than their outgroup (Ackerman et al., 2006). In an exploratory study by Ackerman et al., (2006), 168 White participants were recruited to view computer-generated Black and White faces that had neutral or angry facial expressions. The participants were unable to distinguish neutral Black faces but could more easily distinguish neutral White faces. The only situation when White participants were better at detecting Black faces versus White faces was when they had angry expressions. This finding provides evidence of ingroup heterogeneity and outgroup homogeneity regarding neutral faces. In the workplace, people should be more inclined to have neutral expressions and dispositions, and ingroup heterogeneity should be able to be detected in the workplace. When Black and White people were asked to rate members of their outgroup after face-to-face interactions the results of this study found that there was an asymmetry in how Black people and White people rated their outgroup on the Big Five personality traits (1. Extroversion, 2. Agreeableness, 3. Conscientiousness, 4. Emotional Stability, and 5. Intelligence). In this study, White men did not differentiate the traits of two Black partners, but Black men differentiated the

traits of their two White partners (Malloy, 2011). This study also highlights that White people display ingroup heterogeneity and outgroup homogeneity and that it might be more likely to occur when assessing White participants than Black participants.

Tajfel and Turner's (1979) social identity theory discusses positive distinctness which means people try to make their ingroup more distinct from their outgroup. Additionally, the distinctions allow people to view their ingroup more favorably. In preliminary research by Park and Rothbart (1982) when assessing women in sororities on the same campus, sorority members were able to distinguish differences among their own sororities more than members of other sororities. They were asked to make distinctions about characteristics like how they dressed, studied, and partied along with several other activities' college sororities engage in. The study also showed that participants readily used stereotypes when discussing other sororities because they had a generalized view of their outgroup. Brauer and Er-rafiy (2011) examined ingroup homogeneity, racial prejudices and discrimination among French students. This study found that increasing perceived variability in the outgroup, by making the differences of outgroup more salient, decreased self-reported scores about prejudice and discrimination. Ingroup heterogeneity can increase the exhibition of prejudice and discrimination. Ingroup heterogeneity can lead to outgroup derogation when people are highly conservative and have high group identification. Frederic and Falomir- Pichastor (2018) found that ingroup heterogeneity led to higher levels of outgroup derogation toward immigrants among individuals that scored high on conservatism, authoritarianism, and traditionalism. This study might suggest that people who are more liberal will show lower levels of ingroup heterogeneity and outgroup derogation.

Motivation to Assess Bias between Black and White Individuals

This research is specifically interested in ingroup and outgroup biases in White and Black people as there is a well-documented strained history between these two racial groups. Since the year 1619, the relationship between White people and Black people in what is now the United States has resulted in constant and systematic mistreatment of Black people. The relationship that was built on slavery, evolved into segregation, and discrimination. Black individuals are incarcerated at higher rates than whites and receive harsher sentences than their white counterparts. The incarceration system is viewed to revoke Black citizens of their rights. Recently, the media has documented White police and racist White civilians unjustly killing innocent Black citizens. These murders are one of the driving forces of the Black Lives Matter Movement. The goal of the movement was to highlight racism, discrimination, and inequality experienced by Black people. This movement endorsed the importance of diversity in the workplace to achieve equity. With the growing importance of workplace diversity endorsed by the Black Lives Matter movement, it is important to assess ingroup heterogeneity is common in diverse workplace is called for because this is a context that brings people from different racial and ethnic groups into face-to-face contact and has important consequences for performance and attitudes in the workplace. Assessing if ingroup heterogeneity is present in perceived listening and support among White and Black is vital because it could potentially highlight the existence of racial biases and prejudices that could impair productivity in the workplace due to a strained history between these two ethnic groups.

The Current Project

As noted earlier, the current project builds on ongoing research conducted in the Social Relations Laboratory at Rhode Island College (www.thomasemalloy.org). The current research

evaluates perceived listening quality and social support among work colleagues in the racial ingroup and outgroup, among Black people and White people. This research also evaluates ingroup and outgroup biases. Listening and social support are crucial components to consider when assessing dyadic relationships because they increase and promote positive relationships and support networks. In work settings, relationship building is crucial for functionality and productivity. In the wake of current political and racial tensions in the U.S., and growing workplace diversity, it is important to assess perceived listening and support between ingroup and outgroup colleagues in the workplace.

In the present research, individuals called key persons nominated three racial ingroup colleagues and three racial outgroup colleagues; each ingroup colleague was familiar with the key person and the nominated colleagues, and each outgroup colleague was familiar with the key person and each other. The data produced is a round robin for the racial ingroup and outgroup, and SRM effect estimates can be computed within each. Based on SRM, in the present study, the perceiver effect will reflect how well people listen to and support one another, on average. Partner effects will reflect consensus in how well each person listens to others and how much they support others, and relationship effects will reflect how well people (key person and nominees) listen to and how much they support specific others in the workplace. Recall that all these assessments are from the perspective of the key person; nominees do not participate.

Hypotheses

Hypothesis 1: There will be reliable SRM actor, partner, and relationship variance in key persons' assessments of listening quality and support for both the ingroup, and the outgroup. Reliable actor and partner variances determine if people perceive other as individuals (i.e., as different from one another). Reliable relationship variances denote people behave differently in

different dyads. Statistically, the SRM actor, partner, and relationship variances will be reliably different from zero; this is necessary for second-stage social relations analysis to proceed.

Hypothesis 2: Black key persons will report more variability in listening quality and support given by members of their ingroup, compared with members of their outgroup. Statistically, SRM actor variances in listening and support with one's ingroup will be greater than actor variances in listening and support with one's outgroup. This finding will support ingroup bias.

Hypothesis 3: Black key persons will report more variability in the quality of listening and support received by their ingroup, than by their outgroup. Statistically, SRM partner variances in listening and support with one's ingroup will be greater than partner variances in listening and support with one's outgroup. This finding will support ingroup bias.

Hypothesis 4: White key persons will report more variability in listening quality and support given by members of their ingroup compared with members of their outgroup. Statistically, SRM actor variances in listening and support with one's ingroup will be greater than actor variances in listening and support with one's outgroup. This finding will support ingroup bias.

Hypothesis 5: White key persons will report more variability in the quality of listening and support received by their ingroup than their outgroup. Statistically, SRM partner variances in listening and support with one's ingroup will be greater than partner variances in listening and support with one's outgroup. This finding will support ingroup bias.

Due to growing mistrust toward White people due to racism and mistreatment, Black coworkers are expected to detect more variability in their ingroup than their outgroup about

listening quality and social support. In line with earlier research, White coworkers are expected to detect more variability in their ingroup, than their outgroup, regarding listening quality and social support (Ackerman, 2006; Malloy, 2013).

Ethical Considerations

This study was considered ethical by The Institutional Review Board (IRB) of Rhode Island College. The research was conducted under the supervision of Dr. Thomas E. Malloy. Participants were briefed on the study and were asked to consent to take part in the study before they could begin. Participant's identities were kept anonymous; the only identifier was their Prolific account identification number. Prolific is an online source for participation recruitment and the identification number is necessary for compensating the participant. The participants were compensated four US dollars upon completion of the study. Participants were informed that they could withdraw their consent at any time. However, if they do not complete the study, they were not paid an honorarium as described below.

Methods

Participants

Participants ($N = 100$) were recruited through Prolific; an internet site for recruiting research participants (prolific.com). Forty-nine identified as White (25 women 23 men and 1 transgender). The age range of White participants was from 19 to 63 ($M = 32.33$, $SD = 10.11$). Most of the sample were graduate students (32.65%) with 53.06% reported completing two or more years of college. More than half of the White sample reported their political affiliation was Democrat (55.10%), 18.37% reported independent, 14.29% reported unaffiliated, and the remaining reported Republican (12.24%). The White sample was predominately composed of

young liberals as evidenced by the mean age and low Republican affiliation. Forty of the White participants reported having fair skin, six reported pale skin, and 3 reported darker white skin.

Fifty-one participants identified as Black (25 women, 25 men, and 1 transgender). The age range of Black participants was from 21 to 64 years ($M = 36.20$, $SD = 10.22$). One-third of the Black sample graduated college or were enrolled in college, and all graduated from high school or received a GED. Most of the Black sample identified as Democratic (60.78%), 27.45% claimed Independent, 7.84 % were Republican, and the rest declared they were unaffiliated. Like the White sample, the Black sample was also predominately young liberals. Equivalent to the White sample, one-third of the Black sample had graduated college or were enrolled in college, and all had at least graduated from high school or received a GED. More than half of the Black sample reported they had brown skin (56.86%), 9 reported having darker brown skin, and 13 reported lighter brown skin, with 1 reporting darker white skin,

Both ethnic groups came from a variety of occupational settings with most members of both samples occupying jobs related to computers, retail, education, and other occupations not listed. Overall, this sample was young, educated, and technically proficient and is important when considering the present results.

Research Design

The study is an assessment of listening quality and interpersonal support using the idiographic key person design (IKPD). In the IKPD a key person is recruited, and this key person nominates 3 (or more) members from one group and 3 (or more) members from another group. In this study, the key persons were White and Black people in the U.S. who nominated White and Black coworkers. Key persons made responses to their racial ingroup and outgroup. Nominees did not take part; all data are key person's assessments of their responses to nominees,

nominees' responses to them, and nominees' responses to one another. This design has been used previously to detect egocentric bias among family and friends (Malloy, Kluger, & Silva et al., 2022). Table 1 depicts the round-robin matrix produced by each key person when responding to the ingroup and outgroup. This research will use the same design to also detect outgroup bias and outgroup social support in dyadic relationships among colleagues within their racial ingroup and outgroup. Social relations modeling (Malloy, 2018) of the round-robin data produces effects based solely on the key person's perceptions, and supplies insights into how the key person views themselves in dyadic relationships in comparison to others. The analysis of the data was carried out using Soremo (Kenny & Xuan, 2004) and a package for RStudio (RStudio Team, 2015) called TripleR (Schönbrodt, Back, & Schmukle, 2012). Data were analyzed independently using the different software to ensure convergent validity. Independent analyses of the same data set produced identical results using TripleR and Soremo.

Procedure

Two identical surveys were created through the online survey maker Qualtrics (qualtrics.com). Qualtrics allows for the survey items to be presented to each participant in a randomized order to ensure that there are no priming effects in the data. The survey was also worded carefully to ensure that the participants were not primed by the phrasing of racial ingroup or outgroup; instead, the questions asked them about White coworkers or Black coworkers. One survey was posted to Prolific that was programmed to only recruit White participants, and the second study was programmed to only recruit Black participants. Prolific users were presented with a brief statement informing them of the general purpose of the survey, their responsibilities, and how much they would be compensated. If the user wanted to take part in the survey, they were redirected to the Qualtrics survey. The survey began by asking the participant to provide

consent. If the participant did not consent the survey ended for them, and they were returned to Prolific without compensation. If the participant consented, they were asked two qualifying questions to confirm their ethnic identity and their ability to nominate three White and three Black coworkers, that worked with each other, and knew each other within groups. If the participant answered no, the survey ended for them, and they were redirected to Prolific without being compensated. If the participant answered yes, they were allowed to continue and they were brought to a screen that asked them to nominate and type in the first names or identifiable nicknames of three colleagues from one of the two racial groups (Black and White). The participants then answered two sections about listening and two sections about support. Each section consisted of 12 questions with three questions asking how they interacted with each of the three nominees, how they perceived the three nominees interact with them, and six questions about how the participant perceived the three nominees interacting with one another. Once they completed the four sections for one group, they were asked to do a similar task with the other ethnic group. The surveys were counterbalanced by groups, and the order of questions was random for each participant within each section. In addition, two attention checks appeared throughout the survey to ensure participants were really answering the questions and not just picking random answers. Once all answers to the assessment were complete the participant filled out the demographic section. The demographic section was placed last as not to prime the way individuals answer the survey questions. The demographics assessed race to confirm Black or White identity, gender, political affiliation, age, occupation field, educational level, and skin tone. The participant was then debriefed and thanked for taking part in the survey and compensated for their participation.

Measures

The survey assessed listening and social support in dyads using two indicators of listening and two indicators of social support that have already been used in earlier research conducted in the Social Relations Laboratory (Malloy, Kluger & Silva et al., 2022). The questions are as follows:

Indicators of a Listening Quality Construct

1. How attentively does each listener listen to each speaker as they discuss important aspects of work?

2. How much interest does each listener show to each speaker as they discuss important aspects of work?

Indicators of a Dyadic Social Support Construct

3. When you and your coworkers share weaknesses with one another, how much can they rely on the other to react in a positive way?

4. When you and your coworkers share problems with each other, how supportive will each be to the other?

The questions were answered on a scale from 1-5, where 1 = Much Below Average, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Much Above Average.

Results

We used the Social Relations Model (SRM) to estimate actor, partner and relationship variances and effect estimates necessary for testing hypotheses. Specifically, the variance components analyzed were the actor and partner variances that are related to the effects that were

discussed earlier in the section dedicated to the SRM. SRM effect estimates are the quantitative measure of a phenomenon's size while considering sampling error. The actor effect measures the consistency in the responses of one person to multiple others. The partner effect measures the consistency of the responses of multiple people to one person. The relationship effect measures a specific person's unique response to another specific person while controlling actor and partner effects. In the present research, the SRM variance components were used to assess ingroup and outgroup bias that may exist among interracial dyads in the workplace. This was done by computing the variance components for the actor and partner and testing if they were reliably different from zero (0). If they were statistically reliable, supporting statistical evidence for hypothesis one, this would justify the use of the SRM effect estimates in second stage modeling. (Bond & Malloy, 2022).

SRM Variance Components

The unstandardized SRM actor, partner, and relationship variances were estimated and tested for statistical reliability. Based on key persons ratings of the ingroup, the listening effects were all considered reliable. It is important to note that these variances do not reflect means of the ratings but of the actor, partner, and relationship scores derived from the complex computations of the SRM, these equations can be found in Kenny and LaVoie (1984). For perceived listening, the actor variance standardized component was 0.26; $t(99) 5.08, p < .001$ (se=.038), the partner variance standardized component was .19; $t(99) 4.50, p < .001$ (se=.031), and relationship variance standardized component was .19; $t(99) 4.91, p < .001$ (se=.030). Variances in social support were also reliable statistically. The actor variance standardized component was 0.110 $t(99) 2.71, p < .05$ (se=.029), the partner variance standardized

component was 0.261; $t(99) 4.760, p < .001$ ($se=.040$), and the relationship variance standardized component was 0.213; $t(99) 4.793, p < .001$

Key person's ratings of outgroup listening were all reliable supporting Hypothesis 1 and justified second-stage social relations modeling. The actor variance standardized component was 0.25; $t(99) 4.70, p < .001$ ($se=.041$), the partner variance standardized component was 0.22; $t(99) 4.75, p < .001$ ($se=0.037$), and the relationship variance standardized component was 0.13; $t(99) 3.69, p < .001$ ($se=0.028$). The outgroup social support effects were all considered reliable, the actor variance standardized component was 0.07; $t(99) 2.26, p < 0.05$ ($se= 0.022$), the partner variance standardized component was 0.29; $t(99) 5.28, p < .001$ ($se=0.041$), and the relationship variance standardized component was 0.12; $t(99) 3.04, p < .001$ ($se= 0.030$). These results denoted that the SRM variance components for the ingroup and outgroup, among both Blacks and Whites, were reliable and called for second-stage social relations modeling.

Focused Contrasts: Hypotheses 2 through 5

Black Participants Responses to the Ingroup and Outgroup.

Paired sample t -tests were used to test the remaining hypotheses. To test Hypothesis 2 a paired sample t -test was conducted that compared ingroup and outgroup mean actor variances in listening and support among Black people. There was no reliable difference in the actor variances in ingroup listening ($M = .16, SD = .38$) and actor variances in outgroup listening ($M = .21, SD = .51$); $t(50) -.74, p = .46$ or actor variances in ingroup support ($M = .09, SD = .34$) and actor variance in outgroup support ($M = .05, SD = .27$); $t(50) .58, p = .57$ for Black participants. This showed that Black and White key persons' assessments of the variability in listening quality and social support in dyads among the ingroup and outgroup were equivalent. This finding does

not provide evidence for perceived ingroup heterogeneity or outgroup homogeneity among Black people as predicted by Hypothesis 2. These statistics are in Tables 2 and 3.

To test Hypothesis 3, a paired sample *t* test was conducted that compared ingroup and outgroup partner variances in listening and support among Black people. There was no reliable difference in the partner variance components in ingroup listening ($M = .136$, $SD = .309$) and outgroup listening ($M = .176$, $SD = .357$); $t(50) = -.697$, $p = .489$). Moreover, there was no reliable differences in Blacks' partner variances for ingroup social support ($M = .140$, $SD = .363$) and outgroup social support ($M = .220$, $SD = .506$); $t(50) = -1.204$, $p = .234$). While there are differences among Black people in the perceived listening quality and support, they believe they receive from others (i.e., all partner variances were statistically reliable), the level does not vary in ingroup or outgroup dyads. The data does not supply evidence for perceived ingroup heterogeneity or outgroup homogeneity in terms of consistent responses from others. These statistics are in Table 2 and 4.

White Participants Responses to the Ingroup and Outgroup. To test Hypothesis 4 a paired sample *t* test was conducted that compared ingroup and outgroup actor variances in listening and support among White participants. There was no reliable difference in the actor variance components in ingroup listening ($M = .23, SD = .48$) and outgroup listening ($M = .18, SD = .395$); $t(48) .61, p = .55$, or ingroup support ($M = .11, SD = .42$) and outgroup support ($M = .05, SD = .15$); $t(48) .97, p = .34$ for White participants. While there are reliable differences among White participants in the level of listening quality and support, they display with the ingroup and outgroup (i.e., actor variances on these constructs were reliable), the levels did not vary for the ingroup and outgroup, on average. This finding does not supply evidence for perceived differences in ingroup or outgroup behavior on these constructs. These statistics are in Table 5 and 6.

To test hypothesis 5, a paired sample *t* test was conducted that compared ingroup and outgroup partner variances in listening and support among White participants. There was no reliable difference in the partner variance components in ingroup listening ($M = .15, SD = .26$) and outgroup listening ($M = .18, SD = .60$); $t(48) -.31, p = .76$. There was a reliable difference between partner variance in ingroup support ($M = .25, SD = .52$) and outgroup support ($M = .08, SD = .34$); $t(48) 2.07, p = .04$ for White participants. This finding does not supply evidence for perceived ingroup or outgroup bias in perceived variability on the constructs, but does provide evidence of ingroup heterogeneity in support. These statistics are in Table 5 and 7.

Discussion

Initial Social Relations Modeling

The SRM actor, partner, and relationship variances produced in this data set were reliable and called for further analysis; that is, second stage social relations modeling (Bond & Malloy,

2022) was warranted. The research aimed to find statistical evidence of ingroup bias among Black participants and, by inference, potential outgroup mistrust. The data did not support the presence of ingroup heterogeneity or outgroup homogeneity in the workplace as Black participants viewed their ingroup and outgroup the same (equally variable) in terms of the quality of listening and social support offered and received in the workplace. The research also intended to find statistical support that White participants actor effects (i.e., responses to others) would display outgroup homogeneity, but partner effects (i.e., responses from others) would show ingroup heterogeneity. The data did not support the presence of either bias in listening quality in the workplace. There was support for ingroup heterogeneity among White participants when making judgements on social support. This means White participants perceived greater variability in the social support from ingroup members than outgroup members in the workplace.

The SRM showed that Black and White key persons' assessments of listening quality and social support by members of the racial ingroup and outgroup were statistically reliable. This shows individual differences among Blacks and White participants in how they generally view listening and support in both the ingroup and the outgroups (actor variance is reliable). Also demonstrated were individual differences among Black and White participants in how ingroup and outgroup colleagues listen to them and support them in the workplace (partner variance is reliable). Moreover, Black people and White people perceive specific ingroup and outgroup members as supplying uniquely good listening and unique levels of social support, while specific others supply uniquely bad listening and a lack of social support. These dyadic processes were equivalent for both Black and White participants in the workplace.

SRM Variance Components: Ingroup and Outgroup

This study found that ingroup heterogeneity was not present in Black participants on listening and social support given or received. Black participants viewed their ingroup like their outgroup. Though this finding was not predicted and it does align with earlier research. Malloy et al., (2011) found that Black participants were able to detect differences in their ingroup while White participants were not. The findings of this study also suggest Black participants are less biased because their racial differences are less salient in the workplace. They might also suggest that those with lower status or ethnic minorities are more likely to attend to higher status counterparts. This study also finds that ingroup heterogeneity was present in White participants regarding social support received. This finding also aligns with earlier research that suggests White participants display ingroup heterogeneity (Ackerman et al., 2006; Malloy et al.,2011). Ingroup heterogeneity was not present when White participants assessed social support given or listening given or received. While these findings are inconsistent with other studies (Ackerman et al., 2006; Malloy et al.,2011) these findings align with research conducted by Frederic and Falomir- Pichastor (2018) as the participants in this study were less conservative and could lower ingroup bias and outgroup derogation.

While this study only provided evidence for ingroup heterogeneity among White participants for social support in the workplace, this research successfully applied SRM and the idiographic key person design to different racial groups to detect ingroup and outgroup biases. In fact, this is the first study that our laboratory is aware of that used IDKP to study ingroup and outgroup perceived interpersonal relationships in the workplace. The SRM variances were reliable for Black and White participants' ingroup and outgroup responses, and in general, their

responses did not vary when key persons from either group made ingroup and outgroup assessments of listening quality and social support.

This difference between the present results and past results may stem from the fact that diverse workplaces normally enforce equal treatment, and take acts of harassment and discrimination seriously, which might influence the employees that work there. If workplaces ignored racial bias, there would be discontent among the workforce which could have an adverse impact on profit. For this reason, workplaces may be unique contexts, at least in the current era, that discourage explicit (though not necessarily implicit) racial bias, prejudice, or discrimination. Because participants in this research were considering real relationships with coworkers in the workplace, this context likely differs from the research on face-to-face interactions with strangers (Malloy et al., 2011), or viewing computer generated faces (Ackerman et al., 2006). Earlier research approaches put the participant in a different psychological state in which the influence of equality and bias awareness is less emphasized (Ackerman et al., 2006; Malloy et al., 2011). People may have also been more likely to choose coworkers they also viewed as friends would could also reduce the expression of ingroup heterogeneity and bias.

When thinking about the general population, people might think more about race or ethnicity when they consider their status, and the status of their outgroup, compared to the workplace. White privilege may be less salient in the workplace as there are other objective factors that contribute to status in the workplace like titles, positions, departments, promotions, and accolades. This could explain why the results from Malloy (2011), were not replicated in this study. Additional research is called for to resolve these possibilities.

These findings might also suggest there is something special about the employees in diverse workplaces. Employers who aim for diverse teams are more likely to choose to hire

employees who they feel are less prejudiced or biased to ensure a productive workplace, which suggests there are specific qualities within people that work in a diverse workplace that employers actively look for.

One plausible explanation for the overall lack of support for the homogeneity and heterogeneity hypotheses is that the sample does not represent the general population. Participants were recruited through the Prolific website for recruitment of research participants. Clearly, this limited the sample to people in the U.S. who have an internet connection, can navigate the internet, and are motivated to earn money by taking part in research studies. As documented by the demographic data, both the Black and White participants were computer literate, young, well-educated, politically liberal, and occupied relatively high-status positions in the workplace.

More specifically, the sample was predominantly young ($M = 34$ years old), college educated (slightly more than one-third of the sample), and political liberals or unaffiliated (almost 92%). Therefore, this online sample may represent young, educated, liberals in America who are least likely, be they Black or White, to hold negative racial stereotypes and prejudice compared to the general populations. While hypotheses regarding bias were not supported in this study, they are still considered viable. In a sample of less educated conservatives, especially if they are older and occupy a broader range of occupations (i.e., high and low status), these biases predicted should be seen.

Limitations and Future Directions

The research has a few limitations. Firstly, the sample does not represent the general population of Americans. Secondly, though personal perceptions do provide valuable information, this study might be more effective if the nominees also took part in the study as it

could help to provide a fuller picture of the intraracial and interracial perceptions in the workplace. It may be that participants were aware that ingroup and outgroup perceptions were being studied and tailored their responses to appear unbiased, even if one holds negative attitudes toward an outgroup. These true attitudes may not be revealed because they are unacceptable. Participants might also have multiple minority identities that influenced, like gender or religious beliefs. They may identify with their other identities more than they do with their racial identity or their other identities are more salient when they think of listening and supportive behaviors. Lastly, questions could have been added to establish the level of acquaintance, perceived cohesiveness between the nominees, and questions about the companies' policies about diversity, to help explain the lack of racial biases in the present study.

Future research could use an asymmetric block design (Malloy, 2018) to examine ingroup and outgroup interactions among strangers to see if the biases predicted do occur at statistically significant rates among strangers in comparison to the workplace. This design allows individuals from distinct groups to interact (e.g., Blacks and Whites) and then make judgments about the interaction. The design also allows the researcher to see if there is cohesiveness among groups in terms of their perceptions of interaction. The study could also be conducted in an actual workplace and allow the nominees to take part to assess the fuller story, with the added questions mentioned in the limitations paragraph. Future research can also examine the difference between perceptions and actual performance in the workplace. Perhaps work groups that perform less effectively have more employees with ethnic ingroup and outgroup biases. Future research that focuses on workplace productivity may examine other arbitrary factors that might result in outgroup and ingroup biases, like department or position. This research can also

be extended by looking at other ethnic groups, including Asian Americans and Latin Americans and how they interact with White people or Black people in the workplace or with strangers.

In conclusion this study suggests that racial biases are less robust in the workplace. This does not mean that racial bias does not exist. What this study highlights are that participants in diverse workplaces who are college educated, predominantly liberal and younger are less likely to exhibit ingroup biases like ingroup heterogeneity. Future research should aim to examine more diverse workplace settings to see if these biases do exist in the workplace as well as measure team performance.

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Tables

Table 1***Idiographic Key-Person Design***

	Key person	Target 1	Target 2	Target 3
Key person	x	Rating	Rating	Rating
Target 1	Rating	x	Rating	Rating
Target 2	Rating	Rating	X	Rating
Target 3	Rating	Rating	Rating	x

Note. The x denotes places where the actor would be rating themselves and is unwarranted for this research.

Table 2

Means, Standard Deviations, and Standard Error of Mean Differences (Black Participants)

Pair	Construct	N	Mean	Standard Deviation	Standard error means
1	Ingroup Actor Variances for Listening	51	.161763	.3768173	.0527650
	Outgroup Actor Variances for Listening	51	.207510	.5097334	.0713770
2	Ingroup Actor Variances for Support	51	.089057	.3354089	.0469666
	Outgroup Actor Variances for Support	51	.054084	.2677402	.0374911
3	Ingroup Partner Variances for Listening	51	.13562	.308654	.043220
	Outgroup Partner Variances for Listening	51	.17565	.357005	.049991
4	Ingroup Partner Variances for Support	51	.13970	.362845	.050809
	Outgroup Partner Variances for Support	51	.21977	.505662	.070807

Note that paired t tests are presented in the text.

Table 3

*Actor Variances for Ingroup and Outgroup; t-values, Means, Standard Deviations, Standard Error of Mean Differences, and Significance
(Black Participants)*

Pair	Construct	df	t	Mean	Standard deviation	Standard error means	P value
1	Ingroup Actor Variances for Listening and Outgroup Actor Variances for Listening	50	-.738	-.046	.443	.062	.464
2	Ingroup Actor Variances for Support and Outgroup Actor Variances for Support	50	.575	.035	.434	.061	.568

Table 4

Partner Variances for Ingroup and Outgroup; t-values, Means, Standard Deviations, Standard Error of Mean Differences, Significance, and Confidence Intervals (Black Participants)

Pair	Construct	df	t	Mean	Standard deviation	Standard error means	P value
1	Ingroup Partner Variances for Listening and Outgroup Partner Variances for Listening	50	-.697	-.040027	.410114	.057427	.489
2	Ingroup Partner Variances for Support and Outgroup Partner Variances for Support	50	-1.204	-.080065	.475060	.066522	.234

Table 5*Means, Standard Deviations, and Standard Error of Mean Differences (White Participants)*

Pair	Construct	N	Mean	Standard Deviation	Standard error mean
1	Ingroup Actor Variances for Listening	50	.225830	.4825259	.0680980
	Outgroup Actor Variances for Listening	50	.177496	.3911203	.0553128
2	Ingroup Actor Variances for Support	50	.101580	.4144485	.0586119
	Outgroup Actor Variances for Support	50	.044162	.1454115	.0205643
3	Ingroup Partner Variances for Listening	50	.140832	.2618938	.0370374
	Outgroup Partner Variances for Listening	50	.171666	.5984851	.0846386
4	Ingroup Partner Variances for Support	50	.249170	.5131174	.0725658
	Outgroup Partner Variances for Support	50	.080000	.3404679	.0481494

Table 6

*Actor Variances for Ingroup and Outgroup; t-values, Means, Standard Deviations, Standard Error of Mean Differences, and Significance
(White Participants)*

Pair	Construct	df	t	Mean	Standard deviation	Standard error means	P value
1	Ingroup Actor Variances for Listening and Outgroup Actor Variances for Listening	48	.606	.0518714	.5988477	.0855467	.547
2	Ingroup Actor Variances for Support and Outgroup Actor Variances for Support	48	.966	.0602837	.4366622	.0623803	.339

Table 7

*Partner Variances for Ingroup and Outgroup; t-values, Means, Standard Deviations, Standard Error of Mean Differences, and Significance
(White Participants)*

Pair	Construct	df	t	Mean	Standard deviation	Standard error means	P value
1	Ingroup Partner Variances for Listening and Outgroup Partner Variances for Listening	48	-.307	-.0280612	.6394429	.0913490	.760
2	Ingroup Partner Variances for Support and Outgroup Partner Variances for Support	49	2.068	.1700714	.5756473	.0822353	.044