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Can high quality listening predict lower speakers' prejudiced attitudes?☆

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ABSTRACT

Theorizing from humanistic and motivational literatures suggests attitude change may occur because high quality listening facilitates the insight needed to explore and integrate potentially threatening information relevant to the self. By extension, self-insight may enable attitude change as a result of conversations about prejudice. We tested whether high quality listening would predict attitudes related to speakers' prejudices and whether self-insight would mediate this effect. Study 1 (preregistered) examined scripted conversations characterized by high, regular, and poor listening quality. In Study 2, we manipulated high versus regular listening quality in the laboratory as speakers talked about their prejudiced attitudes. Finally, Study 3 (preregistered) used a more robust measure of prejudiced attitudes to test whether perceived social acceptance could be an alternative explanation to Study 2 findings. Across these studies, the exploratory (pilot study and Study 2) and confirmatory (Studies 1 & 3) findings were in line with expectations that high, versus regular and poor, quality listening facilitated lower prejudiced attitudes because it increased self-insight. A meta-analysis of the studies (N = 952) showed that the average effect sizes for high quality listening (vs. comparison conditions) on self-insight, openness to change and prejudiced attitudes were, $d_s = 1.19$, $0.46$, $0.32$ [95%CIs $[0.73, 1.51]$, $[0.29, 0.63]$ $[0.12, 0.53]$, respectively. These results suggest that when having conversations about prejudice, high-quality listening modestly shapes prejudice following conversations about it, and underscore the importance of self-insight and openness to change in this process.

High quality listening is the focal strategy of most therapeutic interventions (Friedman, 2005). In offering such listening the therapist aims to increase client introspection (Gilbert, 2010; Perls et al., 1951; Rogers, 1951; Vargas, 1954), and it may be one of the primary reasons why, regardless of the specific modality, therapy generally helps people to change in a positive direction (Lambert & Barley, 2001). Outside of the therapy context, however, we know less about the benefits of high-quality listening for helping people to change. The present paper explores the benefits of high quality listening outside of the therapeutic context to test the possibility that high quality listening might catalyze changes in one's attitudes – specifically lowering prejudiced attitudes. We posited that high quality listening can influence prejudiced attitudes by allowing individuals to introspect in an open-minded manner on the views they hold without fear of judgment, thus making it easier to be open to changing or modifying attitudes. The hypotheses are informed by the humanistic approach of Carl Rogers (Rogers, 1951, 1980), Self-Determination Theory (Deci & Ryan, 2011), and the nascent high quality listening literature (e.g., Itzchakov et al., 2017; Van Quaquebeke & Felps, 2018). Overall, this literature converges on a definition of high quality listening as listening that offers empathy (an understanding of the speaker's point of view), interest-taking, and unconditional regard (caring for the speaker, independent of expressed content and a non-judgmental stance). This operationalization of listening is aligned with the constructs of active and reflective listening (Gordon, 1975; Levitt, 2001), and therapeutic listening (Kemper, 1992), all of which broadly share these same supporting features.

1. High quality listening fosters self-insight

High quality listening (aka reflective, active, or therapeutic listening) is thought to be key for facilitating change by encouraging speakers' self-insight. This is because the listener offers a non-
judgmental climate in which hidden and contradictory experiences can be safely explored (Rogers, 1951). Self-insight is defined as a deeper reflection and understanding about how one relates to the topic under discussion – and this downstream consequence is a primary goal of many psychotherapies seen to underlie behavioral and attitudinal change (e.g., Bennett-Levy & Thwaites, 2007; Connolly Gibbons et al., 2007). However, self-insight is important to differentiate from seemingly similar constructs present in the literature. Insight has been studied at the dispositional level, though it is measured in terms of felt confusion about one's experiences alongside self-understanding (Grant et al., 2002). This formulation is sensible for dispositional measures where insight reflects a sense of clarity rather than disorder around the self (Campbell, Trapnell, Heine, Katz, Lavallee, & Lehman, 1996; Morrison & Wheeler, 2010), but less relevant when the insight relates to exploring currently held biases, where the absence of the previous self-reflection, rather than confusion, per se, is likely driving biases (Verplanken et al., 2007). Said another way, in the context of attitude change, self-insight matters insofar as it reflects a process of learning about oneself.

Consistent with this is theorizing within self-determination theory (SDT; Deci & Ryan, 2011) that views high quality listening as an integral aspect of providing autonomy support – the support for people to act according to their values and beliefs. Autonomy support is similar to high quality listening as conceptualized within the humanistic literature in that it involves demonstrating empathy and perspective-taking, encouraging interest taking in others' self-revelations, and providing unconditional regard (Deci & Ryan, 2011). Though high quality listening is a necessary ingredient of autonomy support, it has not been isolated from other qualities of providing autonomy support (such as providing people choices or a meaningful rationale; Ryan & Deci, 2017). Yet SDT-based research offers evidence to support the expectation that high quality listening would promote self-insight in that autonomy support has been consistently shown to reduce defensiveness and increase introspection (Caprariello & Reis, 2011; Hodgins & Knee, 2002; Hodgins et al., 2006; Pavey & Sparks, 2008, 2012; Reis et al., 2018; Reis et al., 2017).

Furthermore, clients in therapy recognize these therapist qualities – providing a climate of empathic understanding and non-judgment – as the primary reason they are able to explore and self-disclose difficult material (Bachelor, 1995; Bedi, 2006). Especially salient for attitude change, high quality listening fosters openness and lowers defensiveness, which helps individuals gain insights about themselves, their emotions, cognitions, and values (Abbass & Town, 2013; Lacewing, 2014).

Furthermore, studies on mindful attention (Haddock et al., 2017) describe that high attention is required for self-insight but place less focus on the learning and discovery qualities of interest here. We furthermore differentiate self-insight from insight about events, more broadly. Self-insight has to do with knowing oneself, understanding one's own internal emotional and cognitive responses (Dunning, 2012), and with how the interpersonal exchanges foster this form of self-understanding (Castonguay & Hill, 2007). Furthermore, although self-insight has an interpersonal component in this project, in that it is expectedly elicited through conversation with a partner who is empathic, it is distinct from broader experiences of interpersonal comforts, such as psychological safety - feeling safe for interpersonal risk-taking (Edmondson, 1999), or identity security (Tyler & Blader, 2003), which do not involve self-reflection and self-learning.

2. High quality listening during difficult conversations

Even outside of the context of psychotherapy, expressing difficult content such as negative attitudes, experiences, and emotions should also be sensitive to high quality listening because individuals may feel vulnerable, exposed, or judged. High quality listening is likely to reduce the defensiveness that can naturally arise when discussing negative attitudes and experiences (Itzhakov & Kluger, 2018). In the absence of such listening, the result is often an attitude change in the opposite direction. In this case, speakers become more firmly entrenched in their original stance (boomerang effect; Heller et al., 1973) because of the perceived threat (Brehm, 1972), which prompts processing of information in a defensive manner (Kunda, 1990). In the interest of self-protection, while each party is talking, the other party is mulling counter-arguments that would win the argument. On the contrary, when individuals experience high quality listening, they become more open-minded and process information in a less defensive and self-serving manner (Itzhakov et al., 2017).

Furthermore, difficult and negative experiences, attitudes, and emotions may be particularly challenging to integrate or assimilate into self-knowledge or identity, because this knowledge itself elicits a defensive response and enters into a direct contradiction with other more positive content regarding the self (e.g., I am a caring person; Freud, 1936; Kegan, 1982; Shedler, 2016; Weinstein et al., 2011). It has been theorized that for the integration of difficult and negative content to take place, individuals must have a willingness to take ownership, which is less likely to happen when defenses are high (Weinstein et al., 2013). Self-insight is necessary for owning or integrating this new information into the self-structure (Pennebaker et al., 1988; Weinstein et al., 2013). Because negative attitudes and experiences may evoke people's defenses, it is important to reduce defensiveness in order to process and integrate potentially negative and threatening information.

Thus, lowering defensiveness is key for fostering self-insight (Stotland et al., 1959). When individuals feel defensive, they seek information to support their initial attitude (Kunda, 1990), reject and ignore new information (Frey, 1986; Jemmott et al., 1986), process information in a biased manner (Itzhakov et al., 2020; Itzhakov & Van Harrevel, 2018) and avoid the associated unpleasant emotions (Weinstein & Hodgins, 2009) in the service of self-protection. Fundamentally, the defensive process is inherently aimed at and always prepared to manage perceived threats to the self (Sherman & Cohen, 2002).

Defensive processes have also been closely linked to extreme views, such as those that may characterize prejudice (Maio et al., 2010). For this reason, it seems important to reduce defensiveness in order to allow people to reflect on their prejudices. Indirect evidence comes from research on mindfulness, which is conceptualized as non-judgmental awareness of the present (Kabat-Zinn, 2015). Specifically, when individuals are mindfully aware of conflictual affect and self-relevant information they show more emotional differentiation (Hill & Updegraff, 2012), better self-regulation (Erbas et al., 2014), and respond more positively to situations of uncertainty (Haddock et al., 2017). Mindful attention has also been linked to changing stereotypes and prejudice (e.g., Dijkic et al., 2008; Lillis & Hayes, 2007; Lueke & Gibson, 2015).

Of importance to the present research is recent empirical evidence showing that lower defensiveness could account for the associations between high quality listening and (reduced) attitude extremity (Itzhakov et al., 2017). However, this particular study did not examine negative attitudes such as prejudice. The SDT literature suggests that when autonomy support is low, individuals have more prejudiced attitudes towards out-groups and show less desire to be in contact with them (Fousiani et al., 2016) and this can be explained by increasing feelings of defensiveness (Weinstein et al., 2012). Experimental evidence also supports the notion that autonomy-supportive contexts can reduce prejudice (Legault et al., 2011), though this support did not involve interpersonal interactions or listening. Here, we investigated whether high quality listening allows individuals to introspect in a non-defensive, open-minded manner and therefore change prejudiced attitudes. We expected prejudice to be affected by listening largely because high quality listening in a conversation about prejudice allows people to self-reflect on their beliefs without fear of judgment. As prejudiced attitudes counter most people's deeply-held values for equality and
inclusivity (Amiot et al., 2012), SDT theorizing would expect those deep-rooted core values to prevail over prejudiced attitudes that are not as well-internalized (Assor, 2012; Ryan & Deci, 2017). Thus, when given space for self-reflection that is free of judgment and consequences, as is the case when providing high-quality listening, people will naturally be less inclined to hold onto prejudiced attitudes.

3. The present research

It has been suggested that individuals must be willing to explore, recognize, and challenge their beliefs for their attitudes to change (Zúñiga et al., 2002). High quality listening may be a key to this type of self-insight (Itzchakov et al., 2017; Rogers, 1951, 1980). Recent work has found that a non-judgmental exchange of narratives in interpersonal conversations was more impactful in reducing exclusionary attitudes than providing arguments (Kalla & Broockman, 2020). However, to the best of our knowledge, there has been no research isolating the effects of high quality listening on speakers’ prejudiced attitudes, and very little work associating listening to attitude change of any kind.

It is important to distinguish the present study from research that has examined the effects of perspective-taking on prejudice because perspective-taking and high quality listening might at first glance appear similar. Perspective-taking is defined as a process where people try to adopt others’ viewpoints to understand their needs, values, and preferences (Parker & Axtell, 2001). Previous work has found that encouraging people to take others’ perspectives reduces the perspective-takers’ prejudice (Galinsky & Ku, 2004). By contrast, the focus of the present study is on the person who expresses prejudiced attitudes, not the perspective-taker. Said differently, perspective-taking research focuses on the effects on the listener (i.e., the perspective-taker) and is other-focused. In contrast, the present study focuses on the effects on the speaker (i.e., the perspective-giver) and the role that listening has on an inner focus through facilitating self-insight. Furthermore, previous work has found that perspective-giving reduces prejudiced attitudes for members of the group with lower power when a member of the group with the higher power listens to them (Bruneau & Saxe, 2012). The present research differs that the listener, whether imagined (Study 1) or real (Studies 2 & 3) was not a member of an outgroup. For these two reasons, the present studies are fundamentally different from other studies on the effects of intergroup contact on prejudice.

Furthermore, studies have not tested whether self-insight plays an exploratory role in explicating why listening may affect attitude change. To address this gap, the present research evaluated three hypotheses to explore the associations between high quality listening, self-insight, and prejudiced attitudes (see Fig. 1).

**Hypothesis 1.** As compared to poor (Study 1) and regular (all studies) listening, high quality listening will increase speakers’ self-insight.

**Hypothesis 2.** As compared to poor (Study 1) and regular (all studies) listening, high quality listening will increase speakers’ openness to change their prejudiced attitudes by increasing self-insight.

**Hypothesis 3.** As compared to regular listening (in Studies 2 and 3), high quality listening will predict increased speakers’ attitude favorability (i.e., lower prejudiced attitudes) towards the outgroup by encouraging self-insight and openness to change.

4. Overview of the studies

We conducted a pilot study (reported in the supplementary material), and three experiments to empirically test these hypotheses using experimental paradigms that would allow largely causal interpretations of the data. Building off of initial development of the paradigm in the pilot study, in Study 1 (preregistered) scenarios instructed participants to imagine having a conversation about a negative bias that they have towards a particular group of their choosing, where their conversation partner demonstrated high quality listening behavior, regular listening behavior, poor listening, depending on assignment to conditions. In Study 2 we increased the ecological validity of the experiments with a live conversation partner, contrasting high quality and regular listening. Participants wrote about the group about which they had a negative bias and conversed about it in front of a listener who exhibited either good or regular listening behavior. Finally, Study 3 was a preregistered conceptual replication and expansion of Study 2. Specifically, participants rated their attitude towards five specific groups, wrote about the group towards which they had the strongest bias, and then conversed about it with either a good or regular listener.

All manipulations and exclusions in the studies are disclosed, as well as the method of determining the final sample size. Data collection did not continue after data analysis. Studies 2 and 3 included other measures for separate work on well-being and self-determination theory (i.e., self-esteem, psychological need satisfaction).

5. Study 1

Study 1 was a preregistered (http://aspredicted.org/blind.php?x=n8ab67) test of the three hypotheses summarized above. We Used a confirmatory approach to test the effects of high quality listening as compared to a regular listening condition on measures of openness to change and self-insight. Because the self-insight measure was new to this project (first tested in the pilot study), to substantiate the construct validity, we added an existing measure of reflective self-awareness (Trapnell & Campbell, 1999) as an additional assessment of self-insight.

5.1. Method

5.1.1. Participants

We recruited 461 Israelis through an online platform similar to the one used in the pilot study. Of the initial sample, 14 participants provided meaningless answers to the question about their bias, and 62 failed to answer the awareness question, which we added to this study (i.e. “On this question, mark number 5”), and we excluded their responses. Therefore, the final sample size was $N = 385$. Power analysis using Gpower (Paul et al., 2007) indicated that this sample size has a power above 0.80 to detect the effect size on openness to change which was obtained in the pilot study; namely, Cohen’s $f = 0.22$ (converted from Cohen’s $d = 0.44$). The sensitivity analysis indicated that the weakest effect size detectable with this sample size and power of 0.80 was Cohen’s $f = 0.15$.

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$^2$Those who participated in the pilot study were not eligible to take part in Study 1.
5.1.2. Procedure

After completing consent forms, participants were asked to think about a negative bias (prejudice) they have towards a specific group. For this purpose, all participants received the following instruction (translated from Hebrew): "Please take a few minutes to think about any negative bias you may have or have had in the past towards a particular social group. Most people will feel some kind of bias throughout their lives. Bias is defined as negative feelings and thoughts about a group of people with a common characteristic." Examples were provided to help orient participants to the kind of bias examined in this study (namely, prejudice towards out-groups), and to encourage participants to think concretely about what this bias might mean to them. Afterward, participants were asked to write a short description of the bias they described.

Subsequently, participants read a scenario asking them to imagine having a conversation about the group they wrote about with another person. Participants were randomly assigned to read a scenario describing their conversation partner as a high quality listener (n = 122), a poor quality listener (n = 149), or a regular listener as a comparison (n = 123). We asked participants to read the scenario twice. To ensure that participants did not skip the manipulation, survey software ensured they spent at least 50 s on the page before they were able to progress to the next page.

Participants in the high quality listening condition read the following scenario (translated from Hebrew), which have been used in past experiments of high quality listening (Itzchakov et al., 2018) and included elements of empathic listening, unconditional positive regard, and interest-taking based on humanistic, motivational, and social psychological theorizing (Deci & Ryan, 2011; Rogers, 1951; Van Quaquebeke & Felps, 2018): "Imagine that you are talking about the negative bias you mentioned on the previous page with a person who has a neutral (neither positive nor negative) attitude towards this group. During the conversation, you feel that your conversation partner seems empathic; he is attuned to your feelings behind the negative bias and shows an understanding of how difficult it can be to talk about this issue and the feelings and thoughts associated with it."

Participants in the poor listening condition read the following scenario:

"Imagine that you are talking about the negative bias that you mentioned on the previous page with a person who has a neutral attitude (neither positive nor negative) towards this group. During the conversation, you feel that your conversation partner is really trying to understand your views and experiences relating to your negative bias in a non-judgmental way. Moreover, his reactions, questions, and comments show you that he takes a genuine interest in you and your experiences – in what you have to say. During the conversation, your conversation partner seems empathic; he is attuned to your feelings behind the negative bias and shows an understanding of how difficult it can be to talk about this issue and the feelings and thoughts associated with it."

In the regular listening condition, participants read the following scenario: "Imagine that you are talking about the negative bias that you mentioned on the previous page with a person who has a neutral (neither positive nor negative) attitude towards this group. During the conversation, you talk about several different features of your bias. You did not feel it was an eventful conversation one way or another. Overall you felt it was an ordinary conversation."

Finally, participants responded to measures of perceived listening as a manipulation check, self-insight, and perceived attitude change were debriefed and compensated.

5.1.3. Measures

All measures were anchored on a 7-point Likert type scale (1 = ‘not at all’; 4 = ‘moderately’; 7 = ‘very much’) as described in the pilot study materials (see supplementary materials).

Listening perception (manipulation check). Speakers’ listening perception was assessed on the 10-item Layperson-Based Listening Scale (α = 0.98; Lipetz et al., 2018). An example item is: “To which extent did you feel that your conversation partner showed interest in what you had to say?”

Self-insight. A five-item scale that included the following items: “how much do you feel this conversation: ‘Helped you to understand yourself better?’, ‘Made you think more deeply about the topic?’ ‘Helped you to discover new or different insights about yourself?’ ‘Helped you to reflect about your attitudes?’ and ‘Helped you think about things in a different way?’ (α = 0.92).

Openness to change. Openness to change with regard to the prejudiced attitude was adapted from previous research (Omoto & Snyder, 1995). Specifically, it read: ‘To which extent do you feel that the conversation changed your attitude about the bias?’

Reflective self-awareness was used as an additional assessment for self-insight. Six items from Trappell and Campbell (1999) were adapted to the present setting (α = 0.80). Example items were (translated from Hebrew): “during the conversation, I explored my inner-self”, “during the conversation I analyzed my bias”, “I don’t feel that this conversation prompted me to introspect about my bias” (reverse coded).

5.2. Results and discussion

Table 1 presents the descriptive statistics and the correlations between variables.

5.2.1. Main effects

Listening perception (manipulation check). An analysis of variance (ANOVA) indicated a main effect of the listening manipulation on perception of high quality listening, F(2,382) = 442.37, p < .001, ηp² = 0.70, Cohen’s f = 1.52. Post-hoc LSD tests indicated that these effects differed across all the experimental conditions. Specifically, in line with the nature of the manipulations, participants in the high quality listening condition (M = 5.82, SD = 0.98) perceived higher quality listening than participants in the neutral (M = 4.51, SD = 1.15), MdiffERENCE = 1.32 SE = 0.14, p < .001, 95%CI [1.05, 1.58], and poor listening conditions (M = 1.99, SD = 1.06), MdiffERENCE = 3.84, SE = 0.13, p < .001, 95%CI [3.58, 4.10]. In addition, participants in the regular listening condition perceived higher quality listening more than participants in the poor listening condition, MdiffERENCE = 2.52 SE = 0.13, p < .001, 95%CI [2.26, 2.78].

Self-insight. An ANOVA indicated a main effect of the listening manipulation on self-insight, F(2,382) = 120.63, p < .001, ηp² = 0.39, Cohen’s f = 0.80. Post-hoc LSD tests indicated a significant difference where participants in the high quality listening condition (M = 4.93, SD = 1.19) reported higher self-insight than participants in the regular listening condition (M = 4.24, SD = 1.35), MdiffERENCE = 0.69 SE = 0.17, p < .001, 95%CI [0.36, 1.02], and participants in the poor listening condition, MdiffERENCE = 2.52 SE = 0.13, p < .001, 95%CI [2.26, 2.78].

Table 1

| Measure                         | M     | SD    | Range | 1    | 2    | 3    | 4    |
|--------------------------------|-------|-------|-------|------|------|------|------|
| 1. Experimental condition      |       |       |       |      |      |      |      |
| 2. Listening perception        | 4.01  | 1.94  | 1–7   | 0.82 |      |      |      |
| 3. Self-insight                | 3.83  | 1.66  | 1–7   | 0.60 | 0.75 |      |      |
| 4. Reflective self-awareness   | 4.13  | 1.38  | 1–7   | 0.38 | 0.45 | 0.65 |      |
| 5. Openness to change          | 2.79  | 1.69  | 1–7   | 0.27 | 0.34 | 0.57 | 0.39 |

Notes. Experimental condition was coded: −1 = poor listening, 0 = regular listening, 1 = high quality listening; *p < .01.
listening condition \((M = 2.52, SD = 1.35)\), \(M_{\text{difference}} = 2.41, SE = 0.16, p < .001, 95\% CI [2.09, 2.73]\). Participants in the regular listening condition reported greater self-insight than participants in the poor listening condition, \(M_{\text{difference}} = 1.72, SE = 0.16, p < .001, 95\% CI [1.40, 2.04]\). Thus, Hypothesis 1, that listening would affect self-insight, was supported in Study 1.

**Reflective self-awareness.** Complementing findings for the measure of self-insight, a significant main effect of the listening manipulation on reflective self-awareness was found, \(F(2,382) = 33.17, p < .001, \eta^2_p = 0.15, Cohen's f = 0.42\). Specifically, participants in the high quality listening condition \((M = 4.73, SD = 1.23)\) reported higher self-awareness than participants in the regular listening condition \((M = 4.29, SD = 1.29)\), \(M_{\text{difference}} = 0.44, SE = 0.16, p = .007, 95\% CI [0.12, 0.76]\), and participants in the poor listening condition \((M = 3.47, SD = 1.29)\), \(M_{\text{difference}} = 1.26, SE = 0.16, p < .001, 95\% CI [0.95, 1.57]\). Participants in the regular listening condition reported higher reflective self-awareness than participants in the poor listening condition, \(M_{\text{difference}} = 0.81, SE = 0.16, p < .001, 95\% CI [0.51, 1.124]\).

**Openness to change.** An ANOVA indicated a main effect of the listening manipulation on openness to change with regard to their bias, \(F(2,382) = 15.46, p < .001, \eta^2_p = 0.08, Cohen's f = 0.29\), supporting Hypothesis 2 that listening quality would affect openness to change. LSD tests indicated a significant difference between all the listening conditions. Specifically, participants in the high quality listening condition reported the greatest attitude change \((M = 3.35, SD = 1.76)\) relative to participants in the regular listening condition \((M = 2.86, SD = 1.60)\), \(M_{\text{difference}} = 0.49 SE = 0.21, p = .019, 95\% CI [0.08, 0.90]\) and participants in the poor listening condition \((M = 2.24, SD = 1.54)\), \(M_{\text{difference}} = 1.12, SE = 0.20, p < .001, 95\% CI [0.72, 1.51]\). In addition, participants in the regular listening condition reported a more positive attitude change in comparison to participants in the poor listening condition, \(M_{\text{difference}} = 0.63, SE = 0.20, p = .002, 95\% CI [0.23, 1.02]\).

**5.2.2. Mediation analysis**

We conducted a mediation analysis using Model 4 in PROCESS \((Hayes, 2017)\) using 5000 bootstrapped samples \((Preacher & Hayes, 2008)\) to test Hypothesis 3, that self-insight would relate to openness to change. We conducted a mediation analysis using Model 4 in PROCESS \((Hayes, 2017)\) using 5000 bootstrapped samples \((Preacher & Hayes, 2008)\) to test Hypothesis 3, that self-insight would relate to openness to change. While attitude exploration and change is a crucial aspect of many prejudice reduction efforts \((Paluck & Green, 2009)\), it is possible, though unlikely, that this change could shift towards greater prejudice. To rule out this possibility, we added a widely validated measure of prejudice \((Correll et al., 2010)\), the feeling thermometer, to complement the measure of attitude change.

6. **Study 2**

The first goal of Study 2 was to increase ecological validity by using an actual conversation partner. Second, we tested whether the listening-induced self-reported attitude change would correspond to lower prejudice. While attitude exploration and change is a crucial aspect of many prejudice reduction efforts \((Paluck & Green, 2009)\), it is possible, though unlikely, that this change could shift towards greater prejudice. To rule out this possibility, we added a widely validated measure of prejudice \((Correll et al., 2010)\), the feeling thermometer, to complement the measure of attitude change.

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1. Analyses presented above were conducted following recommendations during peer review. Findings based on preregistered models not controlling for the second dummy code produced comparable results, Dummy 1: indirect effect via self-insight, \(b = 0.97, SE = 0.12, 95\% CI [0.95, 1.82]\); direct effect, \(b = −0.14, SE = 0.17, t = −0.84, p = .401, 95\% CI [−0.88, 0.18]\). Self-awareness as a mediator indirect effect, \(b = 0.38, SE = 0.08, 95\% CI [0.23, 0.58]\); direct effect: \(b = 0.45, SE = 0.18, t = 2.52, p = .012, 95\% CI [0.10, 0.80]\). Dummy 2: indirect effect via self-insight, \(b = −1.39, SE = 0.15, 95\% CI [−1.69, −1.12]\); direct effect, \(b = 0.52, SE = 0.18, t = 2.88, p = .004, 95\% CI [0.17, 0.88]\). Self-awareness indirect effect, \(b = −0.43, SE = 0.09, 95\% CI [−0.63, −0.27]\); direct effect, \(b = −0.44, SE = 0.18, t = −2.47, p = .014, 95\% CI [−0.78, −0.09]\). The figures are reported in the supplementary materials (Figures b–e).
6.1. Method

6.1.1. Participants

Undergraduates from a British University (N = 1404) participated in the study in exchange for course credit. Of these participants, 13 were excluded from analyses because they did not report a bias towards a group as instructed (e.g., “I have never experienced any intense bias in my life and have been very fortunate, and I try extremely hard not to...”)

4Due to a coding error, we did not have the condition assignment of one additional participant. However, additional analyses placing this individual in each of the two conditions produced comparable effects.

Fig. 2. a. Study 1: Mediation analysis for the effect of dummy 1 controlling for dummy 2 to openness to change via self-insight; standard errors in parentheses; *p < .05, **p < .01.

b. Study 1: Mediation analysis of the effect of dummy 2 controlling for dummy 1 on attitude change via self-insight; standard errors in parentheses; *p < .05, **p < .01.

c. Study 1: A mediation analysis of dummy 1 controlling for dummy 2 on attitude change via reflective self-awareness; standard errors in parentheses; *p < .05, **p < .01.

d. Study 1: A mediation analysis of dummy 2 controlling for dummy 1 on openness to change via reflective self-awareness; standard errors in parentheses; *p < .05, **p < .01.
feel bias towards any groups of people”). Hence, the final sample size was 127 individuals ($M_{age} = 19.30, SD = 1.33, 89.8% female). Power analysis using Gpower indicated that this sample size has a power of above 0.80 to detect the average effect size on attitude change that was obtained in the pilot study and Study 1 (Cohen’s $d = 0.51$). Sensitivity analysis showed that the weakest effect size that such a sample could detect with a power of 0.80 was $d = 0.44$.

6.1.2. Procedure

Participants entered the laboratory and were seated at a cubicle, which provided privacy from the researcher. The researcher explained that the study consisted of three parts: responding to an online questionnaire, a brief conversation, and responding to another questionnaire afterward. The first questionnaire contained a consent form, demographics, and the following instructions to write about an incident that evoked prejudice:

“I would like you to take a couple of minutes to think about a specific bias that you may feel or may have felt. Most people will have felt some sort of bias during their lives. This bias can be towards any group of people, for example, older people, people of color, the opposite gender, or people from different socioeconomic status. In the box below, please write about this bias, how you were feeling, and what your overall experience was.”

Afterward, participants turned their chairs around to face the researcher. The researcher started the conversation with the following preface: “I would now like you to describe the bias you just wrote about to me. Everything we talk about here is confidential and will not be recorded. When you are ready, please begin”. The RA allowed the participants to talk for as long as they wanted. Once it was clear that the participant had finished talking, she said: “Thank you for sharing this with me today, when you are ready, there are a few questionnaires for you to fill out on the computer.” In the regular listening condition (n = 64), the researcher merely listened without responding; however, researcher responses included head nodding and minor communications of acknowledgment (hmm, I see) to maintain naturalness and avoid actively alienating the participants.

Participants in the high quality listening condition (n = 63) were given the same instructions as participants in the regular listening condition. In the conversation, the researcher responded by nodding and saying specific phrases when prompted. These phrases included questions about the bias and the participant’s experience and empathic responses such as “I realize this can be difficult to talk about.” Although the researcher minimized the number of responses to allow sufficient time for listening to occur, responses were directly designed to communicate interest in what the speaker was saying, along with empathy and non-judgment (unconditional regard). Once it was clear that the participant had finished talking, the researcher instructed them to complete the second part of the questionnaire. At the end of the experiment, the participants were debriefed, thanked, and given credit for their participation.

6.1.3. Measures

**Listening perception (manipulation check).** We used the same measure as in Study 1. The items were anchored on a 7-point Likert-type scale (1 = ‘not at all’; 7 = ‘very much’; $\alpha = 0.97$).

**Self-insight.** The measure was the same as the one used in Study 1. Items were anchored on a Likert-type scale (1 = ‘not at all’; 5 = ‘very much’; $\alpha = 0.88$).

**Openness to change.** We used the same item as in Study 1, which was anchored on a Likert-type scale (1 = ‘not at all’; 5 = ‘very much’).

**Attitude favorability towards the prejudiced group.** Prejudiced attitudes were measured with a feeling thermometer, which ranged from 0” (very cold or unfavorable feelings) to 100” (very warm or extremely favorable feelings) with regard to the group they talked about during the conversation. This thermometer is frequently used to examine a variety of prejudiced attitudes (e.g., Correll et al., 2010; Haddock & Zanna, 1997, 1998; Haddock et al., 1993). Higher scores indicate less prejudice.

6.2. Results & discussion

Table 2 presents the descriptive statistics and the correlations between variables.

6.2.1. Main effects

**Listening perception.** Participants in the high quality listening condition reported better listening ($M = 5.45, SD = 1.08$) than participants in the regular listening condition ($M = 3.30, SD = 1.26$), $t(125) = 10.27, p < .001, 95%CI [1.72, 2.56]$, $d = 1.82$; the listening manipulation was therefore successful.

**Self-insight.** Participants in the high quality listening condition had higher levels of self-insight ($M = 3.03, SD = 0.90$) than participants in the regular listening condition ($M = 2.36, SD = 0.90$), $t(125) = 4.10, p < .001, 95%CI [0.34, 0.97]$, $d = 0.73$, supporting Hypothesis 1 regarding the main effects of condition on self-insight and consistent with the findings in Study 1.

**Openness to change.** As was the case in the pilot study and Study 1, participants in the high quality listening condition ($M = 2.15, SD = 1.06$) reported higher openness to change with regard to their prejudiced attitude than participants in the regular listening condition ($M = 1.89, SD = 0.99$). However, unlike the pilot and Study 1, the difference was not significant, $t(125) = 1.38, p = .169, 95%CI [-0.11, 0.61]$, $d = 0.25$.

**Attitude favorability towards outgroup.** Participants in the high quality listening condition demonstrated more favorable attitudes towards the outgroup ($M = 56.21, SD = 23.85$) than participants in the regular listening condition ($M = 46.69, SD = 21.01$), $t(125) = 2.39, p = .018, 95%CI [1.63, 17.41]$, $d = 0.42$, with a significant effect of condition on lower prejudice.

6.2.2. Mediation analysis

To examine how listening shapes attitudes through the facilitation of introspection, we conducted a serial-mediation analysis using Model 6 in PROCESS (Hayes, 2017). Specifically, we tested the effect of the listening manipulation on attitude favorability towards the prejudiced group via increasing self-insight openness to change. We anticipated that as individuals perceived more change in their prejudicial attitudes, they would also report more favorable (less prejudiced) attitudes towards the outgroup they described. Note that although the main effect of the high quality listening manipulation on self-reported attitude change was not significant, mediation can still occur (Rucker et al., 2011).

As can be seen from Fig. 3, the indirect effect from the listening manipulation to attitude favorability through self-insight and openness to change was significant, $b = 3.38, SE = 1.43, 95%CI [0.88, 6.46]$. Thus, the mediation analysis provided support for Hypothesis 3, namely, that high quality listening will reduce speakers’ prejudiced attitudes towards the outgroup by increasing self-insight and openness to change. However, the direct effect was significant, $b = 11.03$, 95%CI [5.64, 16.42].
As stated in preregistration form, we aimed for any group of their choosing, we asked participants to discuss one of five acceptable attitudes. First, rather than permitting participants to select possibility that participants would select to discuss weak or socially change in attitude favorability from before to after the conversation.

And used a more robust measure of prejudiced attitudes, namely, blind.php?x=ej27v9). Second, we tested the effect of high quality lis.

7. Study 3

The primary objective of Study 3 was to provide a conceptual preregistered replication of Study 2, once again using an in-person interaction that manipulated listening quality (https://aspredicted.org/ blind.php?x=ej27v9). Second, we tested the effect of high quality listening on stronger prejudiced attitudes relative to the previous studies and used a more robust measure of prejudiced attitudes, namely, change in attitude favorability from before to after the conversation.

We also modified the procedure in two ways to account for the possibility that participants would select to discuss weak or socially acceptable attitudes. First, rather than permitting participants to select any group of their choosing, we asked participants to discuss one of five groups that experience the most prejudice in Israel: those who are Black, homeless, immigrants to Israel, gay, and transgender. Of these, they were asked to discuss the group towards which they reported the least favorable attitudes at the start.

In addition, we measured participants’ perceived social acceptance of the outgroup attitude directly and tested whether it would moderate the listening manipulation on attitude favorability towards the outgroup. Social acceptance is a basic and motivating need in interpersonal interactions, including those that concern prejudice (Kunstman et al., 2013). In the context of the present research, the desire for social acceptance may influence the content of the discussion such that speakers only describe attitudes they perceive is normative and thus acceptable to express in front of the listener. To explore this, we examined this possible boundary condition to the effects of high quality listening: namely, that the effects of high quality listening on speakers’ prejudice depends on the extent that the speaker feels that the expressed attitude is socially acceptable.

7.1. Method

7.1.1. Participants

Undergraduate students from Israel (N = 245)5 participated in this study in exchange for course credit. As specified in the preregistration form, we excluded nine participants who did not report their bias towards a group as instructed. Examples are: “I am gay, out of the closet. I have friends in the community who are transgender, and I see the discrimination towards them, they are treated disrespectfully and are perceived as unusual from the community,”; and “in the past I used to be afraid of homeless people. However, today as I have matured, I now offer them a hot meal and something to drink.” The final sample size was N = 236 (Mage = 26.55, SD = 6.77, 68.2% female). This sample size had a power of above 0.80 to detect the average effect size on attitude favorability that was obtained in Study 2 (Cohen’s d = 0.42). Sensitivity analysis using Gpower (Faul et al., 2007) showed that the weakest effect size that this sample could detect with a power of 0.80 was d = 0.37.

7.1.2. Procedure

Four research assistants (RAs; three females, one male; Mage = 24.25, SD = 7.89) participated in the study as listeners. They received listening training and followed a protocol that was written for the present study. Every RA performed both the good and regular listening conditions in a randomized order. The experiment included two stages. First, participants signed a consent form and completed a questionnaire where they indicated, using the thermometer, their attitude towards five social groups, namely those who are Black, homeless, immigrants, gay, and transgender. Of the five groups, 28.4% selected

5 As stated in preregistration form, we aimed for N = 328 to have a power of 95% to detect the hypothesized effect. However, because of the outbreak of COVID-19, in-lab experiments were no longer permitted as of March 2020. Therefore we had to stop data collection.
homeless individuals, 27.5% selected immigrants to Israel, 19.1% chose transgender individuals, 12.7% selected Black people, and 12.3% selected gay individuals as the group they held the least favorable attitudes. Afterward, the participants indicated to what extent they thought that it is socially acceptable to have a negative attitude towards each specific group. Subsequently, participants were asked to select the group towards which they had the most negative attitude and write a short description or give an example of their bias. In the second stage, participants were informed that they would talk about the attitude towards the group they wrote about with the person in the lab (i.e., the RA). As in Study 2, participants were randomly assigned to the high quality (n = 115) or the regular listening condition (n = 121). The behavior of the listeners in both conditions was the same as described in Study 2. Only a single listener-speaker dyad was present in each experimental session to eliminate potential artifacts related to social influence and distraction. After the conversation, participants answered questionnaires that included the outcome variables and were debriefed by the RAs. None of the participants guessed the goals or nature of the study. The most frequent answers regarding the objective of the study were that it was meant to characterize students’ attitudes towards minority groups, build knowledge about prejudice in the Israeli society, and examine conversations between people who do not know each other.

7.1.3. Measures

The Likert-type scales ranged from 1 (‘not at all’) to 9 (‘very much’). We followed best practice recommendations and used a scale with a wider range of anchors to increase validity and capture more variability (Aguinis et al., 2009).

Listening perception 1. In order to increase the construct validity of the manipulation check, we used the constructive behavior sub-scale from the Facilitating Listening scale (Kluger & Bouskila-Yam, 2018).

Previous work has found that this scale has strong correlations with other validated listening measures (Itzchakov et al., 2014). This measure was composed of 10 items, α = 0.95. Example items were: “When my conversation partner listened to me, he or she (a) Tried hard to understand what I was saying, (b) Listened to me attentively, and (c) Made much effort to understand my point of view”.

Listening perception 2. As another measure of the listening manipulation, participants responded to the following item: “to what extent would you like to experience the kind of listening you experienced in the conversation again?”.

Self-insight. The measure was the same as the one used in Studies 1 and 2, α = 0.87.

Openness to change. We used the same item as in the previous studies.

Cognitive reappraisal. A new measure of cognitive reappraisal was used here (Jones & Wirtz, 2006). This measure served as an additional indicator of openness to change and was composed of four items: namely: (a) “My conversational partner made me think about the attitude I described during the conversation”, (b) “I feel that I ought to re-evaluate the event now, after the conversation”, (c) “I don’t really see the conversation in a different light after the conversation” (reverse-coded), and (d) “I understand the situation better now that I talked about it with my conversation partner”, α = 0.70.

Attitude favorability change towards the outgroup. Attitude favorability towards the prejudiced group was measured twice: before and after the listening manipulation. Hence, the dependent variable was the change in attitude favorability. As in Study 2, prejudiced attitudes were measured with a feeling thermometer that asked about participants’ attitudes towards the group they talked about during the conversation. The measure ranged from 0° (‘very cold or unfavorable feelings’) to 100° (‘very warm or extremely favorable feelings’) with regard to the group they talked about during the conversation. Attitude favorability change (or prejudice reduction) was computed as attitude favorability (post-conversation) – attitude favorability (pre-conversation). The correlation between the participants’ pre-listening attitude favorability and post-listening attitude favorability with regard to the group they chose was r = 0.74, p < .001.

Perceived social acceptance of prejudice. Participants indicated the extent they perceived that it was socially acceptable to express a negative attitude towards each of the five groups using a feeling thermometer measure. The slider ranged from 0° (‘not at all acceptable’) to 100° (‘completely acceptable’), Mhomeless = 38.74, SD = 29.90; MBlack = 41.41, SD = 30.30; Minmigrants = 44.17, SD = 30.54; Mgay = 40.07, SD = 31.78; Mtransgender = 39.77, SD = 31.40. This measure was administered in the initial survey before the listening manipulation (Table 3).

7.2. Results & discussion

Table 3 presents the descriptive statistics and the correlations between the variables.

7.2.1. Main effects

Listening perception 1. Participants in the high quality listening condition reported experiencing better listening (M = 8.38, SD = 0.91) than participants in the regular listening condition (M = 6.31, SD = 2.19), t(234) = 9.38, p < .001, 95% CI [1.63, 2.50], d = 1.22.

Listening perception 2. Participants reported a greater desire to re-experience the type of listening in the high listening condition (M = 89.38, SD = 13.64) than participants in the regular listening condition (M = 62.03, SD = 36.27), t(234) = 7.72, p < .001, 95% CI [20.82, 34.78], d = 1.01. Thus, overall, the manipulation was successful.

Self-insight. Participants in the high quality listening condition had higher levels of self-insight (M = 5.97, SD = 1.69) than participants in the regular listening condition (M = 4.30, SD = 2.27), t(234) = 6.40, p < .001, 95% CI [1.16, 2.18], d = 0.83.

Openness to change. Participants in the high quality listening condition (M = 3.36, SD = 2.50) reported higher openness to change
than participants in the regular listening condition (M = 2.72, SD = 2.30), t(234) = 2.01, p = .045, 95%CI [0.01, 1.25], d = 0.26. Note that this effect size is consistent with the effect size that was observed in the live interaction used in Study 2 (d = 0.25), suggesting that greater power was needed to detect this smaller effect.

**Cognitive reappraisal.** Participants in the high quality listening condition (M = 5.35, SD = 2.37) reported higher cognitive reappraisal than participants in the regular listening condition (M = 4.11, SD = 1.90), t(234) = 5.30, p < .001, 95%CI [0.78, 1.70], d = 0.69.

Attitude favorability change towards outgroup. We conducted analyses of covariance (ANCOVA) with the experimental condition as a predictor of the post-listening prejudice score while controlling for the pre-listening scores on prejudice. Consistent with our prediction, the ANCOVA indicated a significant main effect of condition, F (1,233) = 4.92, p = .028, R² = 0.02. Specifically, participants in the high quality listening condition (Madjusted = 45.95, SE = 1.65) reported a more favorable attitude towards the outgroup than participants in the regular listening condition, (Madjusted = 40.84, SE = 1.61).6 However, the confidence interval for prejudice change within the high quality listening condition crossed 0: 95%CI [-6.80, 0.78]. Moreover, the high quality listening condition only led to increased attitude favorability towards the outgroup relative to a similar conversation taking place in the context of regular listening.

### 7.2.2. Mediation analysis

We conducted two serial-mediation analyses using Model 6 in PROCESS (Hayes, 2017). As indicated in the preregistration, we tested two mediation models, specifically, (a) a mediation of the listening manipulation on attitude favorability change via self-insight and openness to change, and (b) a mediation of the listening manipulation on attitude favorability change via self-insight and cognitive reappraisal.

As can be seen from Fig. 4a, the indirect effect from the listening manipulation to attitude favorability change through self-insight and openness to change was significant, b = 4.45, SE = 2.77, t = 1.60, p = .111, 95%CI [-1.00, 9.90], suggesting self-insight explained substantial variance in the condition - openness to change effect. The reverse indirect effect from the listening manipulation to attitude favorability change via openness to change and introspection was not significant, b = -0.002, SE = 0.22, 95%CI [-0.46, 0.47].

A similar pattern was observed with reappraisal as the second mediator. As can be seen in Fig. 4b, the indirect effect from the listening manipulation to attitude favorability change via self-insight and cognitive reappraisal was significant, b = 2.00, SE = 0.95, 95%CI [0.20, 3.92]. The direct effect was not significant, b = 3.05, SE = 2.77, t = 1.10, p = .271, 95%CI [-1.00, 9.90]. The reverse indirect effect from the listening manipulation to attitude favorability change via cognitive reappraisal and introspection was not significant, b = -0.29, SE = 0.70, 95%CI [-1.63, 1.15].

### 7.2.3. Moderation analysis

We examined whether the perception of social acceptance of the prejudiced attitude moderated the effect of the listening manipulation on the change in attitude favorability. The results of Model 1 in PROCESS (Hayes, 2017) indicated that the perceived social acceptance was not a significant moderator, b = -0.10, SE = 0.09, t = -1.20, p = .231, 95%CI [-0.27, 0.07]. R²change = 0.006, F(1,232) = 1.45, p = .231. This result hints that perceived social acceptance does not serve as an alternative explanation for the effect of high quality listening on reducing speakers’ prejudiced attitudes.

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6 Similar results were obtained when using an independent t-test with the measure of attitude favorability change. Participants in the high quality listening (Mpre = 43.37, SD = 28.29; Mpost = 45.69, SD = 27.13) condition evidenced more change in their attitude favorability towards the outgroup, MDifference = 2.32, SD = 18.32, than participants in the regular listening condition (Mpre = 44.11, SD = 29.15; Mpost = 41.09, SD = 25.97), MDifference = -3.02, SD = 21.05, t(234) = 2.07, p = .039, 95%CI [0.27, 10.41], d = 0.27. d = 0.29.
In sum, the results of Study 3 generally supported the research hypotheses. The present study conceptually replicated Study 2 and addressed several of its limitations with four methodological and analytic advances. First, the effect of high quality listening on the dependent variables was replicated using a more conservative procedure, namely, following discussions of attitudes towards one of a small number of pre-specified outgroups. Second, the main effect of the listening manipulation on cognitive reappraisal alongside the significant indirect effect identifying cognitive appraisal as a mediator increased the validity of the model. Third, the use of a change score for attitude favorability provided a more precise measure of prejudice reduction that was directly due to the listening manipulation. Finally, though somewhat underpowered, the lack of moderation effect between the listening quality manipulation and perceived social acceptance predicting attitude favorability change increases the confidence that the benefits of high quality listening found in Studies 2 and 3 were unrelated to perceived social acceptance.

8. Mini meta-analysis

We conducted a random-effects meta-analysis on the pilot study and studies 1–3 (N = 952, including the pilot study). In Study 3, we included the two listening manipulation checks. In Study 2, we converted the Cohen’s $f^2$ score to a Cohen’s $d$ and used the measure of reflective self-awareness as an additional indicator of self-exploration. In Study 3, we used the measure of cognitive reappraisal as an additional indicator of openness to change.

As can be seen in Table 4, the average effect size of the listening manipulation check across the three experiments was very strong, $d = 2.11$, as was the average effect on self-insight, $d = 1.17$, $p < .001$. Neither of these effects showed evidence of heterogeneity (although the $\tau$ for the manipulation check was large, and may not be significant due to low power). The average effect size of openness to change was $d = 0.46$, $p < .001$, with no evidence of heterogeneity across the experiments. Despite the non-significant main effect of listening on attitude change in Study 2 ($d = 0.25$, $p = .169$), this mini meta-analysis suggests that high quality listening, as compared to regular and poor listening, increased openness to change meaningfully across the three experiments and the pilot study. Finally, the average effect size of the listening manipulation on attitude favorability was $d = 0.32$, $p = .002$, with no evidence of heterogeneity.

Table 4

| Variable                        | $k$ | $d$ | LL  | UL  | SE  | Z    | $p(Z)$ | $r$ | Q   | df | $p(Q)$ |
|--------------------------------|-----|-----|-----|-----|-----|------|--------|-----|-----|----|--------|
| Listening perception (manipulation check) | 5   | 2.11| 1.16| 3.06| 0.49| 4.34 | < 0.001 | 1.15| 4.11| 4  | 0.392  |
| Self-insight                    | 5   | 1.19| 0.73| 1.51| 0.20| 5.65 | < 0.001 | 0.17| 3.85| 4  | 0.427  |
| Openness to change              | 5   | 0.46| 0.29| 0.63| 0.09| 5.37 | < 0.001 | 0.02| 4.02| 4  | 0.404  |
| Attitude favorability towards the outgroup | 2   | 0.32| 0.12| 0.53| 0.11| 3.05 | = 0.002 | 0.00| 0.46| 1  | 0.499  |

9. General discussion

Experimental studies showed that as compared to poor listening (Study 1) and regular listening (all studies), high quality listening when discussing prejudiced attitudes facilitated speakers’ self-insight, and through doing so promoted more positive attitudes. To the best of our knowledge, these studies constitute the first empirical attempt to test how listening shapes discussions of prejudice and explores a promising explanation of why attitudes shifted, namely, higher self-insight. In the present studies, complementary experimental designs allowed for a largely causal interpretation of the downstream consequences of high quality as compared to regular and poor quality listening.

These findings inform theoretical claims related to the self-integrative process by suggesting that when conversations occur in the presence of a supportive listener, the climate facilitates reflection and self-insight about one’s experiences (Rogers, 1951, 1980). Often, during the process of reflection, people can reconcile contradictory or ambivalent attitudes. Acknowledging this ambivalence and the complexity of attitudes is what Rogers predicted would result from experiencing high quality listening, and is consistent with the empirically supported therapeutic approach of motivational interviewing that his work inspired. Specifically, high quality listening elicits different and sometimes contradictory views within the speaker, that they must reconcile. This process often leads to behavioral or attitudinal changes in the speaker (Miller & Rose, 2009). Previous work outside of the therapeutic context has shown that high quality listening by a layperson (not a trained clinician) can also have an impact on speakers’ attitudes (e.g., Itzchakov et al., 2017; Itzchakov & Kluger, 2017; Itzchakov et al., 2018), though these studies focused on ambivalent attitudes, more generally. The present results provided mixed support for the view that listening can affect attitudes: we did not find compelling evidence that the experience of being listened to reduced prejudice from baseline (tested in Study 3); however, we did find, consistently, that high quality listening led to lower prejudice than regular or poor listening did when speakers talked about their attitudes.

These findings highlight that high quality listening is beneficial when individuals are asked to discuss their prejudiced attitudes. In other words, conversations about such attitudes are best had in the context of listening that conveys empathy, understanding, and support. However, these findings should be understood in the context of their boundary conditions. First, it is plausible that speakers in our studies selected to discuss moderate, rather than extreme, prejudiced attitudes. We cannot be certain that conversations about extreme attitudes would be benefited by the quality of listening similarly to our observed effects. Second, since we elicited self-reflection for the purposes of the study, it is possible that participants had not previously reflected on the attitudes they discussed. In cases where people have previously reflected on their beliefs but continue to express prejudice, high-quality listening might not show the robust benefits over regular listening identified here, as there is little or no ambivalence in beliefs to resolve.

More generally, it is important to understand boundary conditions before applying any prejudice reduction strategy. As another example, we did not find evidence that a conversation about prejudice with someone who provides high quality listening is the solution to longstanding, pervasive problems of prejudice in societies, but we did ob-
and may help explain our finding that self-insight predicted lower prejudice; namely, self-insight may allow participants to realize and accept that prejudiced attitudes are inconsistent with other values they hold. Further, the effect of high quality listening studied here was not driven by intergroup contact, which is arguably the most effective of all prejudice-reduction strategies (Petitgrew & Tropp, 2006), because participants did not interact with a member of the outgroup in any of the studies. It seems plausible, however, that experiencing high quality listening when it is provided by an outgroup member could produce even stronger effects on prejudice reduction. Finally, some research has indicated that perspective-taking is an effective prejudice reduction strategy (Broockman & Kalla, 2016; Shih et al., 2009), where participants take the perspective of the outgroup. By contrast, the studies here involved participants' experience of feeling heard when they expressed their perspective. It seems plausible that conversations that facilitate the perspective-taking of both parties could be even more effective in reducing prejudice. Future research should test the effectiveness of combining high quality listening with these other documented strategies in the prejudice-reduction literature (e.g., mutual perspective sharing and taking, high quality listening provided by an outgroup member).

These findings further inform the literature on therapeutic interventions and conversations aimed towards attitude change beyond the context of prejudice reduction. Although we focused on prejudiced attitude change in this study, the processes hypothesized here are relevant to difficult conversations dealing with sensitive or potentially defense-inducing topics more broadly, including but not limited to attitude change (e.g., conflicts in romantic relationships). Though there is a substantial emphasis on incorporating high quality listening into therapeutic interventions with couples at present (Chessick, 1989; Graybar & Leonard, 2005), it is helpful for researchers and practitioners alike to understand the mechanisms that are involved in linking high quality listening to its beneficial effects, as well as the limits of these effects across domains, subjects, relationships, and clients. Although the present studies merely scratch the surface of these research questions, they provide a launchpad for further explorations on the extent to which high quality listening facilitates the kinds of behavior and attitude change that therapists and other conversation partners hope to see.

The present research has further implications for other healthcare contexts where self-insight is important. A good example is medical and hospital visits. Doctors interrupt their patients, on average, 12 s after their patients start talking (Rhodes et al., 2001). Hence, not surprisingly, one of the patients' main complaints is that their doctors do not listen to them (Boudreau et al., 2008). Interestingly, the lack of self-insight might explain why patients who report that their doctors do not listen to them are less likely to adhere to their recommendations (Magnus et al., 2013).

It is further worth noting that in Study 1, poor listening actively undermined self-insight. Arguably, poor listening reduces the willingness to change attitudes because it elicits defensiveness, which then discourages any positive integration tendencies like self-insight or openness to change. This finding sheds further light on the listening literature, which shows that speakers also suffer from poor listening. These include reducing the quality of speakers' narration and speech fluency (Bavelas et al., 2000), as well as impairing speakers' memory (Pasupathi et al., 1998), psychological safety (Castro et al., 2016), and their creativity (Castro et al., 2018). It is possible that poor listening reduces available cognitive resources, in part, because it puts speakers in a defensive stance, and that poor listening may backfire and increase prejudice among speakers. This backfiring effect has indeed been demonstrated in contexts low in autonomy support, where people are told that they must change without being able to express themselves or have their perspective understood (Legault et al., 2011). Studies 2 and 3 did not employ poor listening because our primary interests were the beneficial effects of listening on attitudes, but future research could examine the detrimental effects of poor listening, particularly on prejudice.

9.1. Limitations and future directions

These findings should be viewed in light of several limitations. First, attitudes were measured through self-reports. Future research should complement them with measures of implicit bias and behavioral indicators of prejudice. As such, the present findings may have been vulnerable to social desirability effects (e.g., Janus, 2010). Implicit measures and behavioral observations of prejudice would help to validate measures of self-reported attitudinal change. In a similar vein, we focused our mediational analyses on explanations focused on fairly complex internal processes resulting from being listened to (e.g., self-insight), but the effects of listening on attitudes may be better, and more simply, explained by other proximal of listening, such as interpersonal comfort (Williams & Iyuru, 2004), psychological safety (Carmeli & Gittell, 2009; Castro et al., 2016; Itzchakov et al., 2016), or even the valence of mood. Indeed, it is reasonable to assume that being listened to improves mood, which has downstream effects on attitudes (Haddock et al., 1994).

Although good listening perception increased openness to change relative to regular listening and poor listening, the average rating on this measure was below the midpoint of the scale, even following the listening intervention, indicating the difficulty of nurturing openness. Future work should contrast listening with other interpersonal constructs, including those that have been found to increase open-mindedness in the context of attitude change (Itzchakov & Reis, 2020).

Third, we manipulated several aspects of high quality listening simultaneously, but future work should consider manipulating specific qualities (e.g., careful attention, demonstrations of empathy, unconditional regard) in isolation to examine each of their separate contributions to listening effects on attitudes. At present, we can only assume that each of these contributed to the self-insight and non-prejudiced attitudes reported by our participants, but future work is needed to examine this assumption.

Finally, future research should complement this work with observed and coded data from naturalistic conversations such as those that take place between therapists and clients. Future work could also manipulate high quality listening in the context of a prejudice reduction program such as unconscious bias training, which focuses on information dissemination to reduce prejudice (Noon, 2018). This form of training could be enhanced by having trainers use high quality listening strategies with attendees in helping them to explore their biases. Testing this possibility is important because most research on unconscious bias training programs have reported weak effects at best (Lai et al., 2016), and many workplaces are highly invested in the goal of reducing prejudice in their organization.

10. Conclusion

The present research used experimental paradigms to manipulate listening and examined its consequences on speakers' self-insight and prejudiced attitude change. The findings highlight the importance of high quality listening for productive conversations and the potential detriments of poor listening. They suggest that in therapeutic practice, and presumably in other, informal, daily conversations, listening partners can help facilitate self-insight to promote speakers' awareness and integration of their existing views with implications for wiprejudiced attitudes.

Open science statement

This work received an open science badge because the hypotheses, measures, sample size, analytic plan, and exclusion criteria for Study 1 and Study 3 were preregistered. The links for the preregistration forms can be found in the manuscript or the following links:
Study 1- http://aspredicted.org/blind.php?x=n8ab67
Study 3- http://aspredicted.org/blind.php?x=ej27v9
Psychology, 50(5), 899–905.

Jones, S. M., & Wirtz, J. G. (2006). How does the comforting process work? An empirical test of an appraisal-based model of comforting. Human Communication Research, 32(3), 217–243.

Kabat-Zinn, J. (2015). Mindfulness. Mindfulness. 6(6), 1481–1483.

Kalla, J. L., & Brookman, D. E. (2020). Reducing exclusionary attitudes through inter-personal conversation: Evidence from three field experiments. American Political Science Review, 1–16.

Kawakami, K., Dunn, E., Karmali, F., & Dovidio, J. F. (2009). Mispredicting affective and behavioral responses to racism. Science, 323(5911), 276–278.

Kegan, R. (1982). The evolving self. Harvard University Press.

Kempfer, B. J. (1992). Therapeutic listening: Developing the concept. Journal of Psychosocial Nursing and Mental Health Services, 30(7), 21–23.

Klieg, A. N., & Bouskila-Yam, O. (2018). Facilitating listening scale. In D. L. Worthington, & G. Bodie (Eds.). The sourcebook of listening research: methodology and measures (pp. 272–290). John Wiley & Sons, Kronick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. Attitude strength: Antecedents and consequences, 1, 1–24.

Kunda, Z. (1990). The case for motivated reasoning. Psychological Bulletin, 108, 480–498.

Kunstman, J. W., Plant, E. A., Zielinski, K., et al. (2013). Feeling in with the outgroup: Outgroup acceptance and the internalization of the motivation to respond without prejudice. Journal of Personality and Social Psychology, 105, 443–457.

Lacing, M. (2014). Psychodynamic psychotherapy, insight, and therapeutic action. Clinical Psychology: Science and Practice, 21(2), 154–171.

Lai, C. K., Knudsen, A. L., Cooley, E., Murray, S., Brauer, M., Devos, T., ... Simo (2016). The sourcebook of listening research: methodology and measures. John Wiley & Sons, Lambert, M. J., & Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. Psychotherapy: Theory, Research, Practice, Training, 38(4), 357–361.

Legault, L., Gutsell, J. N., & Inzlicht, M. (2011). Ironic effects of antiprejudice messages: How motivational interventions can reduce (but also increase) prejudice. Psychological Science, 22(12), 1472–1477.

Levitt, D. H. (2001). Active listening and counselor self-efficacy: Emphasis on one micro-skil in beginning counselor training. The Clinical Supervisor, 20, 101–115.

Lilis, J., & Hayes, S. C. (2007). Applying acceptance, mindfulness, and values to the reduction of prejudice: A pilot study. Behavior Modification, 31(4), 389–411.

Lipetz, L., Kluger, A. N., & Bodie, G. D. (2018). Listening is listening is listening: A way of being. Boston, MA: Houghton Mifflin.

Lucee, A., & Gibson, B. (2015). Mindfulness meditation reduces implicit age and race bias: The role of reduced automaticity of responding. Social Psychological and Personality Science, 6(3), 284–291.

Magnus, M., Herwehe, J., Martura-Rossini, M., Reine, P., Cuffie, D., Gruber, D., & Kaiser, M. (2013). Linking and retaining HIV patients in care: The importance of provider attitudes and behaviors. AIDS Patient Care and STDS, 27(5), 297–303.

Maio, G. R., Haddock, G., Manstead, A. S., & Spears, R. (2010). Attitudes and intergroup relations. In J. F. Dovidio, M. Hewstone, P. Glick, & V. M. Esses (Eds.). The Sage handbook of prejudice, stereotyping, and discrimination (pp. 261–275) .

Miller, W. R., & Rose, G. S. (2009). Toward a theory of motivational interviewing. American Psychologist, 64(2), 527–537.

Morrison, K. R., & Wheeler, S. C. (2010). Nonconformity defines the self: The role of minority opinion status in self-concept clarity. Personality and Social Psychology Bulletin, 36(3), 297–308.

Nord, M. (2018). Pointless diversity training: Unconscious bias, new race and agency. Work, Employment and Society, 32(1), 198–209.

Omofo, A. M., & Snyder, M. (1995). Sustained helping without obligation: Motivation, development, and psychotherapy outcome. Journal of Personality and Social Psychology, 5(6), 359–371.

Parker, S. K., & Axtell, C. M. (2001). Seeing another viewpoint: Antecedents and outcomes. Human Communication Research, 32(3), 217–243.

Perls, F., Hefferline, F. G., & Goodman, P. (1951). Gestalt therapy. New York.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. Journal of Personality and Social Psychology, 90(5), 751–783.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, 40(3), 879–891.

Pervin, L. A., Hefferline, G., & Goodman, P. (1951). Gestalt therapy. New York.

Petrigrew, T., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. Journal of Personality and Social Psychology, 90(5), 751–783.

Rucker, D. D., Preacher, K. J., & Petty, R. E. (2001). Mediation analysis in social psychology: Current practices and new recommendations. Social and Personality Psychology Compass, 5(6), 359–371.

Ryan, R. M., & Deci, E. L. (2009). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Publications.

Rogers, C. (1951). Client-centered therapy: Its current practice, implications, and theory. Boston, MA: Houghton Mifflin.

Rogers, C. (1980). A way of being. Boston, MA: Houghton Mifflin.

Safran, D. D., Preacher, K. J., & Peterson, D. L. (2011). Motivational interventions can reduce (but also increase) prejudice. Journal of Personality and Social Psychology, 105, 443–457.

Sackett, L., & Sleight, P. (1997). The sourcebook of listening research: methodology and measures. John Wiley & Sons, Sachse, S. G. (2010). The efficacy of psychodynamic psychotherapy. American Psychologist, 55(2), 98–109.

Sakan, D. K., & Cohen, G. L. (2002). Accepting threatening information: Self-affirmation and the reduction of defensive biases. Current Directions in Psychological Science, 11(4), 119–123.

Shih, M., Wang, E., Traban-Bucher, A., & Stitzer, R. (2009). Perspective-taking: Reducing prejudice towards general outgroups and specific individuals. Group Processes & Intergroup Relations, 12(5), 565–577.

Sheldrake, J. (2014). Listening is listening is listening: A way of being. Boston, MA: Houghton Mifflin.

Shields, H. T., & Lee, K. Y., O'Keefe, S. D., & Clark, M. S. (2018). Perceived partner respon...