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Empirical Research Paper

Connection Heals Wounds: Feeling Listened to Reduces Speakers' Loneliness Following a Social Rejection Disclosure

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Abstract

Memories of rejection contribute to feeling lonely. However, high-quality listening that conveys well-meaning attention and understanding when speakers discuss social rejection may help them to reconnect. Speakers may experience less loneliness because they feel close and connected (relatedness) to the listener and because listening supports self-congruent expression (autonomy). Five experiments (total $N = 1,643$) manipulated listening during visualized (Studies 1, 4, 5) and actual (Studies 2, 3) conversations. We used different methods (video vignettes; in-person; computer-mediated; recall; written scenarios) to compare high-quality with regular (all studies) and poor (Study 1) listening. Findings across studies showed that high-quality listening reduced speakers' state loneliness after they shared past experiences of social rejection. Parallel mediation analyses indicated that both feeling related to the listener and autonomy satisfaction (particularly its self-congruence component; Study 5) mediated the effect of listening on loneliness. These results provide novel insights into the hitherto unexplored effect of listening on state loneliness.

> *Loneliness does not come from having no people about one, but from being unable to communicate the things that seem important to oneself.*
>
> —Carl Jung (1963)

Social rejection is a painful experience with lasting consequences for negative emotions and subsequent social connections. Individuals who experience social rejection can manifest emotional distress comparable with physical pain (Eisenberger, 2011), physiological distress (Gunther Moor et al., 2010), and depression (Slavich et al., 2010). Even experiencing a stranger "looking through" them rather than making eye contact can leave individuals feeling isolated (Wesselmann et al., 2012). Although many studies have recreated rejection in laboratory settings, it is ubiquitous in people's lived experiences (Lev-Wiesel et al., 2013). Recognizing that rejection hurts, more research is needed to understand ways to help individuals heal from past rejection. In this article, we test the role that *being listened to well* plays in relieving the psychological burden felt by speakers while recalling memories of rejection. We posit that high-quality listening, defined as behaviors that convey attention, understanding, and positive intentions, promotes speakers' felt relatedness (i.e., closeness) to listeners and can satisfy speakers' need for autonomy (i.e., volitional expression

of the listener's self). These two psychological needs are described by relationship motivation theory (RMT: Deci & Ryan, 2014) to contribute independently to a deep sense of connection with others. They may protect self-disclosing speakers from the sting of rejection and thereby explain any lessened loneliness after disclosing rejection. Although there is reason to believe that high-quality listening would help speakers feel autonomy and relatedness satisfied when they are listened to well, there is no research testing the direct and indirect links between listening and speakers' loneliness.

What Does Listening Entail?

Listening has been defined in various ways, reflecting the multifaceted nature of the construct. Early definitions stemmed

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from the work of Carl Rogers (1957) in counseling psychology, which described that listening created a relational space where speakers can share their experiences to listeners who seek to understand their frame of reference and who provide them with genuine nonconditional positive regard (Rogers, 1957).

Recently, listening has received attention in social psychology to understand its importance in dyads outside the psychotherapy context (Itzchakov, Reis, et al., 2022). The findings suggested a multidimensional definition of listening: behaviors that convey attention, comprehension, and positive intention toward the speaker (Kluger & Itzchakov, 2022). Behaviors that convey attention include maintaining constant eye contact with the speaker (Bavelas et al., 2002), using physical gestures such as head-nodding, and short auditory responses (i.e., backchanneling; Bavelas et al., 2000). Body postures can also signal openness, such as leaning toward the speaker (Bavelas & Gerwing, 2011). Listeners manifest comprehension by asking open and promoting questions (Van Quaquebeke & Felps, 2018), summarizing the speakers' messages (Nemec et al., 2017), and requesting clarifications when they feel they lack information (Lycan, 1977). Speakers communicate their positive intentions toward speakers through nonverbal reactions such as facial expressions that convey interest and curiosity (Kluger & Itzchakov, 2022), validating the speaker, and eliciting information without judgment (Rogers, 1980). These behaviors drive speakers' perceptions that they are well listened to and are also understood in terms of perceiving attention to be nonjudgmental and empathic (e.g., Itzchakov et al., 2017; Itzchakov & Weinstein, 2021; Weinstein et al., 2021).

Listening is also conceptually distinct from other forms of relational support, such as partner responsiveness and autonomy support, but can be conceptualized as a specific (multifaceted) strategy and a key approach contributing to relationally supportive conversations with others (Weinstein et al., 2022). Whereas listening involves specific behaviors enacted during a conversation, these relational support indicators are multifaceted and constitute cross-domain constructs (Reis & Clark, 2013). Individuals can also feel responded to in ways that do not involve listening. For example, responsiveness can be conveyed through a gift or a hug, and autonomy support may be conveyed by offering meaningful choices and a rationale for behavior. The present work focuses on listening as an in-the-moment behavior rather than a general tendency to pay attention to what a person is like over time, such as in the case of romantic relationships. For example, Sam can get Jasmin the perfect present just by knowing her well. Sam might know, in general, that Jasmin likes opals so that he can buy her an opal ring. He might have been listening to Jasmin over the years, but that does not mean he recently listened to her. Alternatively, Sam could have a general sense of what Jasmin likes from knowing her personality and preferences or after asking others.

Listening as an Opportunity for Connection

We posit that conveying high-quality listening can help mitigate the psychological cost of past rejection through reconnection and view the opportunity to reconnect following rejection as beneficial to speakers. The lingering memory of being rejected by other people fundamentally undermines well-being (Leary, 2001) and individuals are happy for the opportunity to connect to others when recalling painful social experiences of the past (Leary et al., 1995). For example, rejected individuals are more focused on others and are more likely to take others' perspectives to reconnect (Knowles, 2014). By rebuilding their strong connections with others, individuals feel less lonely (Leary, 2005).

However, how can individuals reconnect? Naturalistic research suggests that the quality of social interactions, rather than their quantity, satisfies individuals' need for connection (Hawkley et al., 2003). Psychotherapeutic techniques also recognize the importance of listening to provide an accepting space to those who disclose past hurts; in therapy, listening is used strategically to deepen intimacy and "heal the wounds" of rejection (Skinta et al., 2016). Influential figures such as Winnicott and Rogers highlighted listening as a healing force (Patterson & Watkins, 1996). Rogers argued that therapists could compensate for relational failures on the part of caregivers and other important figures by providing listening-for-understanding, that is, listening to a speaker for the sake of understanding the meaning behind their words (Rogers, 1980), which creates a safe space for self-expression where the speaker can talk through previous hurtful or shameful experiences and find acceptance (Rogers, 1980). Through listening, therapists give clients a second chance for intimacy and the personal well-being it fosters (Rogers, 1980). In the absence of these opportunities, individuals feel lonely when their need for connection has not been met (Cacioppo & Patrick, 2008).

Autonomy and Relatedness Underlie Listening Effects on Connection

We predicted that speakers would feel less lonely after disclosing rejection because high-quality listeners would give them the opportunity for rich interpersonal connections. Self-determination theory (SDT; Ryan & Deci, 2017)—an approach that defines what people need to flourish within their social worlds—offers a framework for understanding what this connection entails. Within SDT, a subtheory, termed relationships motivation theory (Deci & Ryan, 2014), suggests that a deep and meaningful interpersonal connection occurs when interpersonal exchanges satisfy the basic psychological needs for relatedness—or a sense of closeness to others, and autonomy—the experience that one is self-congruent and self-connected in a social context that promotes genuine self-expression and volitional action (Ryan &

Deci, 2017). This theorizing was informed in no small part by Roger's humanistic approach (Rogers, 1957), which posited that one's ability to be self-congruent (i.e., autonomous) underpins meaningful interpersonal connections.

As described by Rogers (1957, 1980) and in RMT, autonomy-supportive contexts may foster interpersonal connections independently of relatedness because the ability to be self-congruent and self-connected with another person aligns the self to its immediate social world (Deci & Ryan, 2014). The view that interpersonal connections are nurtured by feeling close and connected (i.e., relatedness) to others is neither surprising nor new (e.g., Clark & Mills, 1979). On the contrary, the view that autonomy is also involved in interpersonal connections has only recently received empirical attention (Deci et al., 2006). Based on this view, we operationalized connection in terms of satisfaction of the two basic psychological needs of relatedness and autonomy.

High-quality listening leads to greater satisfaction of both psychological needs. Listening satisfies autonomy and relatedness because it conveys that speakers can share experiences without judgment and explore emotions and experiences honestly (Legate & Weinstein, 2021). As a result of experiencing such listening, speakers may feel a sense of closeness to the listener (relatedness) and feel they can express their self-congruent views and feelings (autonomy). Their needs for relatedness and autonomy are both satisfied.

For example, imagine that a poor listener interrupts her friend while discussing her side of a hurtful social event they both experienced and suggests they go to a movie or drown her sorrows in liquor. The disclosing friend's need for relatedness may be satisfied because she is offered companionship. However, without the opportunity to receive high-quality listening, she has not been able to openly self-express. As a result, their experience of reconnecting through an intimate and open exchange is curtailed and loneliness may prevail. In experimental research, high-quality listening behaviors satisfy autonomy during and after the conversation because listeners create a rich space for self-congruent expression (Itzchakov & Weinstein, 2021).

Recent empirical evidence supports the role that listening plays in satisfying autonomy and relatedness. For example, when adolescents self-disclose negative information that they transgressed by vaping or were rejected by peers because they refused to vape, parents' high-quality listening can enhance adolescents' experiences of both autonomy and relatedness, increasing their desire to self-disclose other personal experiences to their parents in the future (Weinstein et al., 2021). In another set of studies, speakers disclosed and discussed their prejudiced attitudes with high-quality or moderate-quality listeners. These conversations were controversial and profoundly personal, and threatening to the speakers' genuine self-expression and closeness with listeners who were likely to reject or judge them. As was predicted, because they were in a supportive relational space, speakers who received high-quality listening felt more satisfaction for their autonomy and relatedness needs than speakers who received moderate-quality listening. moderate-quality listeners during these conversations (Itzchakov & Weinstein, 2021). Furthermore, employees who conversed with colleagues after receiving listening training felt a greater sense of relatedness toward them (Itzchakov, Weinstein, & Cheshin, 2022).

Indirect evidence supporting how listening contributes to self-congruent expression can also be found in the identity narrative literature. This tradition recognizes the importance of storytelling for constructing and reconstructing one's identity. Through narratives, past experiences blend to create a meaningful story of who we are and how we understand ourselves in the context of our lived experiences, a process that empowers agentic self-authorship (McAdams, 2011; McLean et al., 2007). Listening creates space for these narratives, as documented in narrative therapy. Therapists' listening aims to provide an empathic space with deep understanding to create a sense of self-congruent expression in their clients (Guilfoyle, 2015).

In summary, listening may be expected to satisfy autonomy and relatedness needs. We tested the notion that, in turn, these psychological need satisfactions relate to reductions in loneliness when speakers discuss a rejection. Previous work has found that both autonomy and relatedness are distinct from, but negatively associated with, reductions in loneliness, suggesting a mediational model where needs explain listening effects on reduced loneliness. For example, when relatedness is modeled alone, it mediates the effect of belonging to a brand community on state loneliness (Snyder & Newman, 2019). Another study reported a correlation of $r = -.45$ between relatedness to close others and less loneliness, hinting that adolescents' close relationships may protect them from loneliness (Baskin et al., 2010).

Autonomy and relatedness were also shown to independently mediate the relationship between attachment style and loneliness (Wei et al., 2005). In the context of romantic relationships, autonomy and relatedness were reported to mediate the association between relationship status (partnered, mingled, and single) and emotional loneliness (Bucher et al., 2019). Thus, according to RMT and subsequent work, relatedness and autonomy must be satisfied to act as independent drivers of connection and reduce loneliness. Autonomy may mediate the effects of listening on an emotional connection—as felt through less loneliness—alongside feeling related to the listener.

Overview of the Current Studies

We conducted five experiments. Study 1 involved a videotaped interaction between a speaker and a listener. The speaker shared an experience of social rejection with a listener who exhibited high, moderate, or low listening quality. Participants watched the videos and imagined themselves to be the speakers. Study 2 involved an in-person interaction in the laboratory. Study 3 provided a replication in a live computer-mediated interaction.
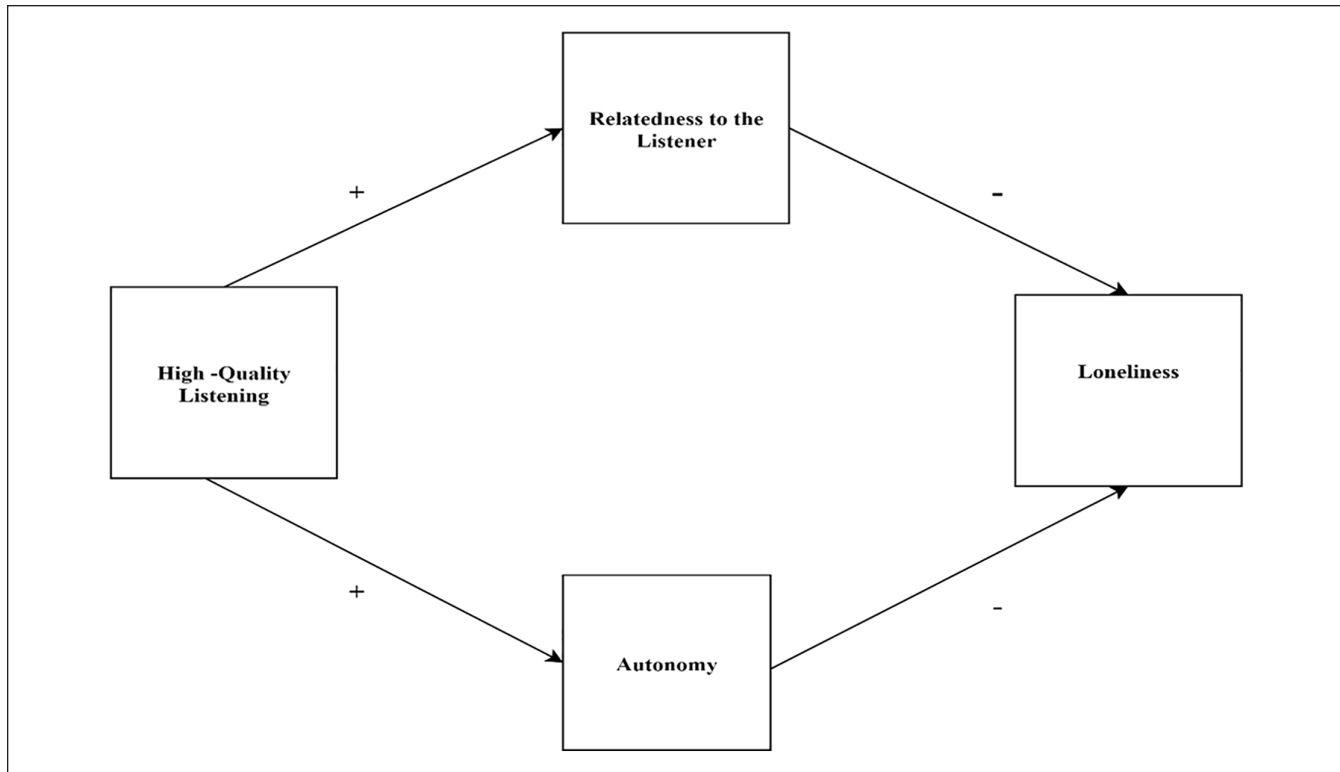
Figure 1. A theoretical model of the effect of high-quality listening on speakers' state loneliness through relatedness and autonomy.

Study 4 (preregistered) used a 2 × 2 design where participants were randomly assigned to recall sharing an experience of social rejection versus bad luck to a high-quality or ordinary listener. In Study 5 (preregistered), we manipulated high- and moderate-quality listening in the scenario of a conversation with a vertical partner (manager) to explore which of two dimensions of autonomy (namely, self-congruent expression, feeling able to behave in line with one's genuine self) or choice (feeling able to direct the conversation; Silva et al., 2014) drives effects on loneliness. All data and codes are publicly available at https://osf.io/7ck6j/ (Figure 1). We hypothesized that

> **Hypothesis 1:** The experience of high-quality listening versus low-quality listening would reduce the speaker's loneliness.
> **Hypothesis 2:** The experience of high-quality listening would increase the speaker's relatedness to the listener more than low-quality listening conditions.
> **Hypothesis 3:** The experience of high-quality listening would satisfy the speaker's need for autonomy more than low-quality listening conditions.
> **Hypothesis 4:** Relatedness to the listener and autonomy would mediate the effect of listening on the speaker's loneliness.

Study 1

The first experiment compared low-, moderate-, and high-quality listening scenarios that directly manipulated listening

behaviors to convey varying attention, comprehension, and positive intention levels. We increased the ecological validity by using video interactions that depicted listeners' non-verbal and verbal behaviors. Participants could observe specific, preset (i.e., visualized in the video) listening behaviors rather than attempting to recall listening behaviors they had experienced in their past interactions.

Method

Participants. We followed feasibility analysis recommendations to recruit as many participants as possible (Lakens, 2022).[1] We recruited 335 undergraduate students from a university in Israel for course credit. We excluded participants who did not watch the video or incorrectly identified the conversation topic. The final sample size was 242 participants (M_{age} = 24.33, SD = 5.60, 78.2% female). Sensitivity analysis indicated that the smallest effect size that this sample size could detect with a power of .80 was f = .20 (Faul et al., 2007).

Procedure. We randomly assigned participants to low-, moderate-, or high-quality listening conditions. Each video featured the same listener and speaker and was 2 min long. The camera was positioned facing the listener and the speaker was heard but not seen to encourage the participants to imagine themselves in the speaker's role. In each video, the speaker shared an experience of social rejection. The speaker talked about

Table 1. *Study 1*: Descriptive Statistics and Correlations.

Variable	M	SD	Range	1	2	3	4
1. Listening manipulation	NA	NA	NA				
2. Listening quality	4.21	2.47	1–9	.76**			
3. Relatedness	3.34	2.21	1–9	.62**	.82**		
4. Autonomy	4.62	2.17	1–9	.51**	.73**	.74**	
5. Loneliness	7.36	2.64	1–10	−.56**	−.71**	−.73**	−.63**
6. Identification with speaker	2.92	1.14	1–5	.03	−.01	−.03	−.10

Note. Listening manipulation was coded: −1 = low-quality listening; 0 = moderate-quality listening, 1 = high-quality listening (experiment).
**$p < .01$.

being passed over by peers in a school soccer game and not chosen to play on either team. The speaker stated that this event amplified the loneliness already felt as a new student. The speaker used the same words in each listening condition.

In the high-quality listening condition, the listener exhibited behaviors corresponding to its definition. This consisted of constant eye contact, nonverbal responses, head-nodding, leaning toward the speaker, and facial expressions that conveyed interest. The listener asked open questions, such as "How did it make you feel?" and provided reflections such as "I would like to make sure that I understood you correctly, you were talking about." The listener further conveyed a nonjudgmental approach through nonverbal behavior and phrases such as "I assume it was not easy for you" and "Thank you for sharing this with me."

In the moderate-quality listening condition, the listener maintained eye contact throughout most of the conversation as in a regular conversation. The listener provided nonverbal responses, such as head-nodding, and asked the speaker if they could keep talking about the experience. The listener was mainly silent and did not interrupt the speaker.

In the low-quality listening condition, the listener maintained little eye contact with the speaker and seemed distracted. The listener leaned backward and did not provide any verbal or nonverbal responses. The listener checked their smartphone a few times while the speaker was talking. The listener did not ask questions to clarify the speaker's story. In each condition, the listener avoided nonverbal behaviors conveying agreement or disagreement with the speaker (i.e., smiling or wrinkling the forehead).

After watching the video, the participants filled in questionnaires and were debriefed.

Measures. Unless otherwise noted, measures were anchored on a 9-point Likert-type scale (1 = *not at all agree*, 5 = *moderately agree*, 9 = *completely agree*) and were paired with the lead: "Imagine you are the speaker in the video." All materials were delivered in Hebrew.

Listening quality (manipulation check). The Facilitative Listening Scale (FLS; Kluger & Bouskila-Yam, 2018) was used to assess perceived listening quality in the videos. This scale

has 10 items. For example, participants were asked, "The listener provided full attention" ($\alpha = .95$).

Relatedness and autonomy. Relatedness to the listener and autonomy were measured with a reference-shifted version of the Basic Psychological Needs Scale (La Guardia et al., 2000), referring to visualized experience. An example item measuring relatedness was, "I would feel cared about" ($\alpha = .82$), and measuring autonomy was, "I would feel free to be who I am" ($\alpha = .75$).

State loneliness. Participants responded to a single item directly assessing state *loneliness*: "I would feel lonely" (1 = *not at all*, 10 = *completely*). This measure was selected because a single direct item is a common and more face-valid way to assess feeling lonely (Shiovitz-Ezra & Ayalon, 2012), is appealing to participants (Victor et al., 2005), and allows them to consider what the term "loneliness" means to them (Jylha, 2004).

Identification with the speaker. We measured the extent to which participants identified with the speaker to ensure that the listening manipulation affected listening, as intended, but not relatability to the speaker, which could confound effects. Specifically, we asked, "To what extent did you feel identification with the speaker in the video?" which was ranked on a scale from 1 (*not at all*) to 5 (*very much*).

Results

Table 1 presents the descriptive statistics and correlations among the variables. Table 2 presents the descriptive statistics by experimental conditions.

Main effects

Listening quality. An analysis of variance (ANOVA) indicated a significant main effect of the listening manipulation on perceived listening quality, $F(2, 239) = 169.20, p < .001$, = .59. LSD post hoc test indicated that participants in the high-quality condition rated the listener as showing greater listening quality than participants in the moderate-quality listening condition, $p < .001$, 95% confidence interval (CI)

Table 2. *Study 1*: Descriptive Statistics by Experimental Conditions.

	Low-quality listening		Moderate-quality listening		High-quality listening		Test statistics	
Group	M	SD	M	SD	M	SD	$F(2, 239)$	p
1. Listening quality	2.09[a]	1.16	3.97[b]	1.70	6.70[c]	1.87	169.20	<.001
2. Relatedness	1.94[a]	1.29	2.82[b]	1.62	5.28[c]	2.13	83.19	< .001
3. Autonomy	3.44[a]	1.84	4.26[b]	1.80	6.19[c]	1.96	46.16	< .001
4. State loneliness	8.93[a]	1.60	7.76[b]	2.08	5.34[c]	2.74	56.81	< .001
5. Identification with speaker	2.89[a]	1.23	2.91[a]	1.13	2.98[a]	1.08	0.12	.89

Note. $n_{\text{low-quality listening}}$ = 83, $n_{\text{moderate-quality listening}}$ = 79, $n_{\text{high-quality listening}}$ = 80; Different letters represent mean that are significantly different than each other.

= [2.22, 3.22], and the low listening condition, $p < .001$, 95% CI = [4.10, 5.09]. Participants in the moderate condition perceived greater listening than participants in the low condition, $p < .001$, 95% CI = [1.38, 2.37]. Thus, the listening manipulation was effective.

Relatedness. An ANOVA indicated a significant main effect of the listening manipulation on relatedness, $F(2, 239) = 83.19, p < .001, \eta_p^2 = .41$. Participants in the high-quality listening condition felt more relatedness to the listener than participants in the moderate condition, $p < .001$, 95% CI = [1.93, 2.99], and low-quality listening condition, $p < .001$, 95% CI = [2.82, 3.88]. Participants in the moderate condition felt greater relatedness than participants in the low condition, $p = .001$, 95% CI = [0.36, 1.42].

Autonomy. An ANOVA indicated a significant main effect of the listening manipulation on autonomy $F(2, 239) = 46.16, p < .001, \eta_p^2 = .28$. Participants in the high-quality listening condition felt greater autonomy than participants in the moderate condition, $p < .001$, 95% CI = [1.35, 2.51], and the low condition, $p < .001$, 95% CI = [2.17, 3.32]. Participants in the moderate condition reported greater autonomy than participants in the low condition, $p = .006$, 95% CI = [0.24, 1.39].

Loneliness. A significant main effect emerged for the listening manipulation on loneliness, $F(2, 239) = 56.81, p < .001, \eta_p^2 = .32$. Participants in the high-quality condition felt less lonely than those in the moderate, $p < .001$, 95% CI = [−3.11, −1.74], and the low-quality conditions, $p < .001$, 95% CI = [−4.27, −2.91]. Participants in the moderate-quality condition felt less lonely than participants in the low-quality condition, $p = .001$, 95% CI = [−1.85, −0.49]

Identification. Participants did not differ in the extent to which they identified with the speaker between the different listening conditions, $F(2, 239) = 0.12, p = .89, \eta_p^2 = .00$. In addition, analysis of covariance (ANCOVA) indicated that the main effects were not affected when controlling for identification:

specifically, listening quality: $F(2, 238) = 170.12, p < .001, \eta_p^2 = .59$; relatedness: $F(2, 238) = 83.71, p < .001, \eta_p^2 = .41$; autonomy: $F(2, 238) = 47.46, p < .001, \eta_p^2 = .29$; and loneliness: $F(2, 238) = 57.69, p < .001, \eta_p^2 = .33$.

The main effects did not change when controlling for age and gender.

Mediation analyses. Relatedness and autonomy mediated the effect of the listening manipulation on the loneliness measure when entered as single mediators.[2] To test the indirect effects of both autonomy and relatedness on condition-loneliness effects, we conducted parallel mediation analyses in Model 4 of PROCESS (Hayes, 2017). We did not assume linearity between the conditions and created two dummy variables. Dummy 1 contrasted the high- versus moderate- and low-quality conditions. The indirect effects of Dummy 1 on loneliness through relatedness and autonomy were significant, $bs = -1.69$ and -0.58, $SEs = .30$ and $.19$, 95% CIs = [−2.29, −1.13] and [−0.98, −0.21], respectively, and the direct effect was significant, $b = -0.75$, $SE = .31$, $p = .02$, 95% CI = [−1.37, −0.14] (Figure 2).

Dummy 2 contrasted the low-quality listening condition with the high- and moderate-quality listening conditions. The indirect effects on loneliness through relatedness and autonomy were significant, $bs = 1.31$ and 0.44, $SEs = .23$ and $.16$, 95% CIs = [0.87, 1.78] and [0.16, 0.77], respectively. The direct effect was significant, $b = 0.64$, $SE = .27$, $p = .02$, 95% CI = [0.10, 1.17] (Figure 3).

Study 1 suggested that high-quality listening increases relatedness to listeners and satisfies autonomy, which reduces loneliness when the speakers share an experience of social rejection. These effects held for the benefits of high-quality listening compared with moderate-quality and low-quality listening.

Study 2

Study 1 indicated that high-quality listening reduced relatedness and autonomy when the participants imagined discussing a past rejection. However, scripted vignettes are relatively limited in their ecological validity. Because participants
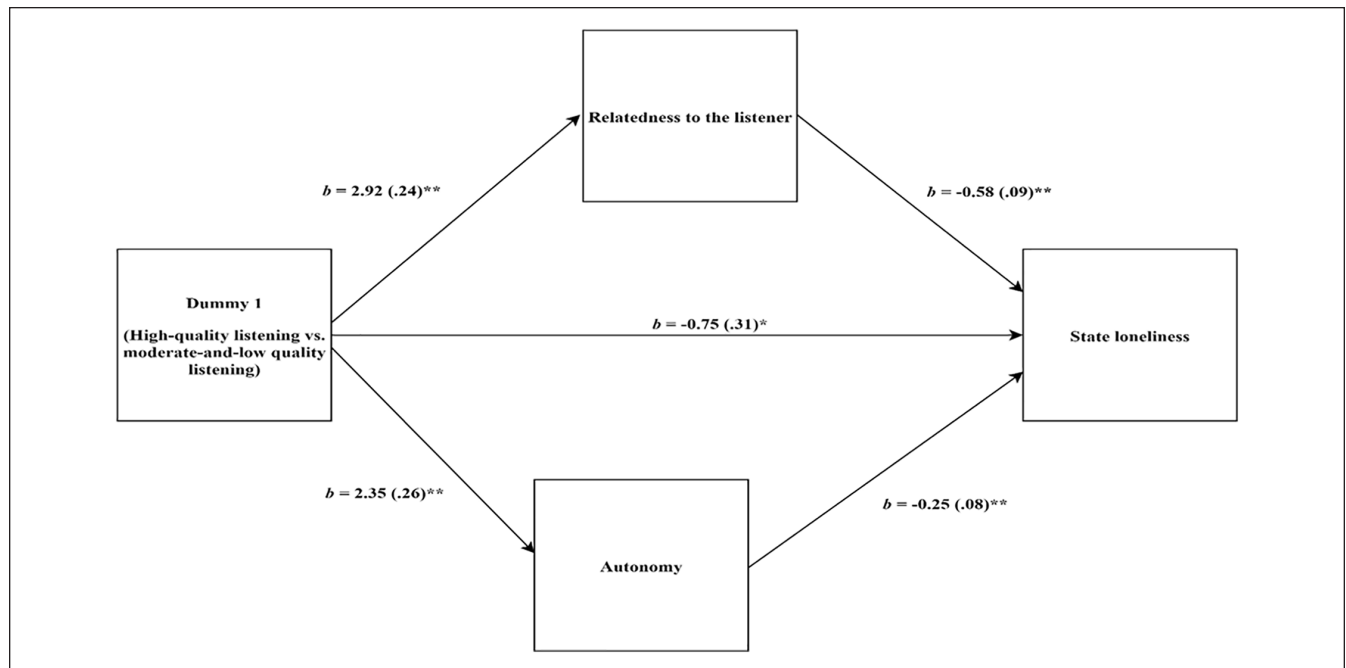
Figure 2. *Study 1*: Mediation model for the effect of high-quality listening versus moderate- and low-quality listening on state loneliness via relatedness and autonomy.
Note. Standard error in parentheses.
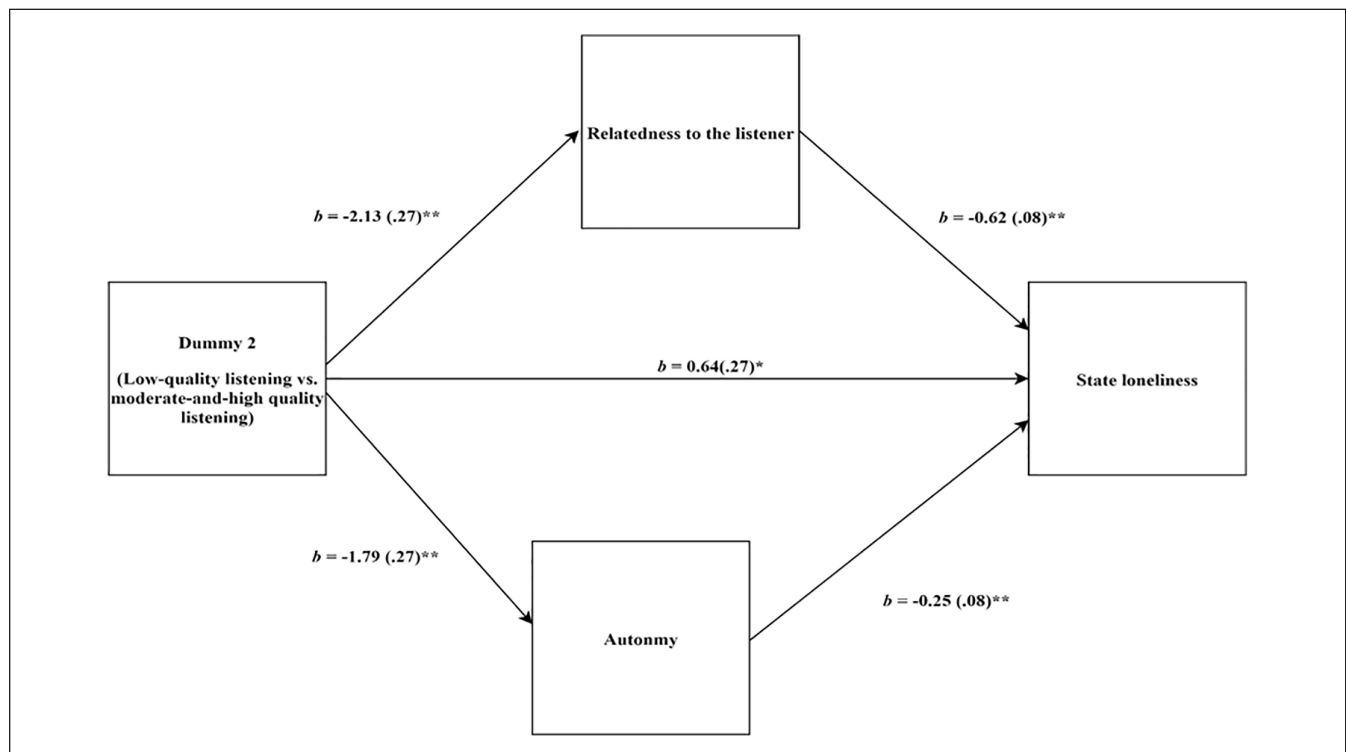*p < .05. **p < .01.

Figure 3. *Study 1*: Mediation model for the effect of low-quality listening versus moderate- and high-quality listening on state loneliness via relatedness and autonomy.
Note. Standard error in parentheses.
*p < .05. **p < .01.

imagine themselves in the role of the speaker, it is difficult to estimate how accurately their expectations would reflect their actual reactions if they had been in the situation. We, therefore, conducted a second experiment using a live interaction that allowed participants to self-disclose a previous rejection under variable listening (either high or moderate) quality in real time.

Method

Participants. We recruited 102 undergraduates from a university in the United Kingdom for course credit and did not exclude any participants (M_{age} = 19.73, SD = 1.72; 73.5% female). This sample size had a power of above .95 to detect half of the average effect size obtained on loneliness in Study 1, f = .60. Sensitivity analysis indicated that the weakest effect size that this sample could detect in a between-participant design with two groups with a power of .80 was d = −0.56.

Procedure. A research assistant received 10 hr of training on how to listen using high-quality and moderate-quality listening behaviors. She followed a detailed protocol for the experimental conditions. First, the participants wrote about a personal experience of social rejection, for example,

> When I was younger and was new to the class, it was very hard to fit in, and the classmates rejected me, made me feel very lonely. I tried to pretend to be someone I wasn't just to try and fit in. I was rejected by a boy I really liked, and he chose my best friend, who was very emotional at the time.

For the primary portion of the study, the participants conversed with the research assistant about their experiences for 10 min. They were randomly assigned to moderate- and high-quality listening conditions. After the conversation, the participants completed questionnaires and were debriefed.

Measures. We measured listening quality with the full 10-item FLS scale. Examples include, "Tries hard to understand what I am saying," "Expresses interest in my stories," and "Creates a positive atmosphere for me to talk" (α = .99).

Alongside listening quality, relatedness (α = .74), autonomy (α = .73), and the loneliness items were measured with the same scale as in Study 1.

Results

Table 3 presents the descriptive statistics and correlations among the variables. Table 4 presents the descriptive statistics by experimental condition.

Main effects. Participants in the high-quality listening condition reported perceiving better listening than participants in the control condition, $t(100)$ = 6.41, $p < .001$, 95% CI = [1.86, 3.54], d = 1.26; felt more related to the listeners, $t(100)$ = 4.96, $p < .001$, 95% CI = [0.98, 2.30], d = 0.98; and reported greater autonomy, $t(100)$ = 4.75, $p < .001$, 95% CI = [0.89, 2.18], d = 0.94. Participants in the high-quality listening condition also reported feeling less lonely after the conversation: $t(99)$ = −3.03, p = .003, 95% CI = [−2.30, −0.48], d = −0.60. The main effects did not change when controlling for age and gender.

Mediation analyses. We conducted the mediation analysis with the bootstrapping approach as in Study 1. Relatedness and autonomy mediated the effect of the listening manipulation on loneliness when they were entered as single mediators (for detailed analyses, see Supplementary Materials).

Relatedness and autonomy mediated the effect of the listening manipulation on loneliness when they served as parallel mediators. The indirect effects of the listening manipulation on loneliness through relatedness to the listener were significant, b = −0.59, SE = .48, 95% CI = [−1.95, −0.08]. The parallel indirect through autonomy was also significant, b = −0.96, SE = .39, 95% CI = [−1.62, −0.06]. The direct effect was not significant, b = 0.16, SE = .38, p = .67, 95% CI = [−0.59, 0.92] (Figure 4).

Study 2 conceptually replicated Study 1 findings in an actual conversation listener–speaker conversation, thus increasing ecological validity. The findings supported all hypotheses regarding the effect of listening on relatedness to listeners, autonomy, and loneliness. The parallel mediation model indicated that autonomy and relatedness were consistent mediators

Table 3. *Study 2*: Descriptive Statistics and Correlations.

Variable	M	SD	Range	1	2	3	4
1. Listening manipulation	NA	NA	NA				
2. Listening quality	7.09	2.52	1–9	.54**			
3. Relatedness	6.26	1.85	1–9	.45**	.72**		
4. Autonomy	7.25	1.80	1–9	.43**	.86**	.82**	
5. State loneliness	3.12	2.40	1–10	−.29**	−.62**	−.66**	−.70**

Note. Listening manipulation was coded: 0 = moderate-quality listening (control), 1 = high-quality listening (experiment).
**$p < .01$.

Table 4. *Study 2*: Descriptive Statistics by Experimental Conditions.

	Moderate-quality listening		High-quality listening		Test statistics	
Group	M	SD	M	SD	t(100)	p
1. Listening quality	5.73	2.94	8.43	0.64	6.41	<.001
2. Relatedness	5.44	1.68	7.08	1.66	4.96	<.001
3. Autonomy	6.48	1.96	8.02	1.22	4.75	<.001
4. State loneliness	3.82	2.43	2.43	2.18	−3.03[a]	0.03

Note. $n_{\text{moderate-quality listening}}$ = 51, $n_{\text{high-quality listening}}$ = 51.
[a]*df* = 99.
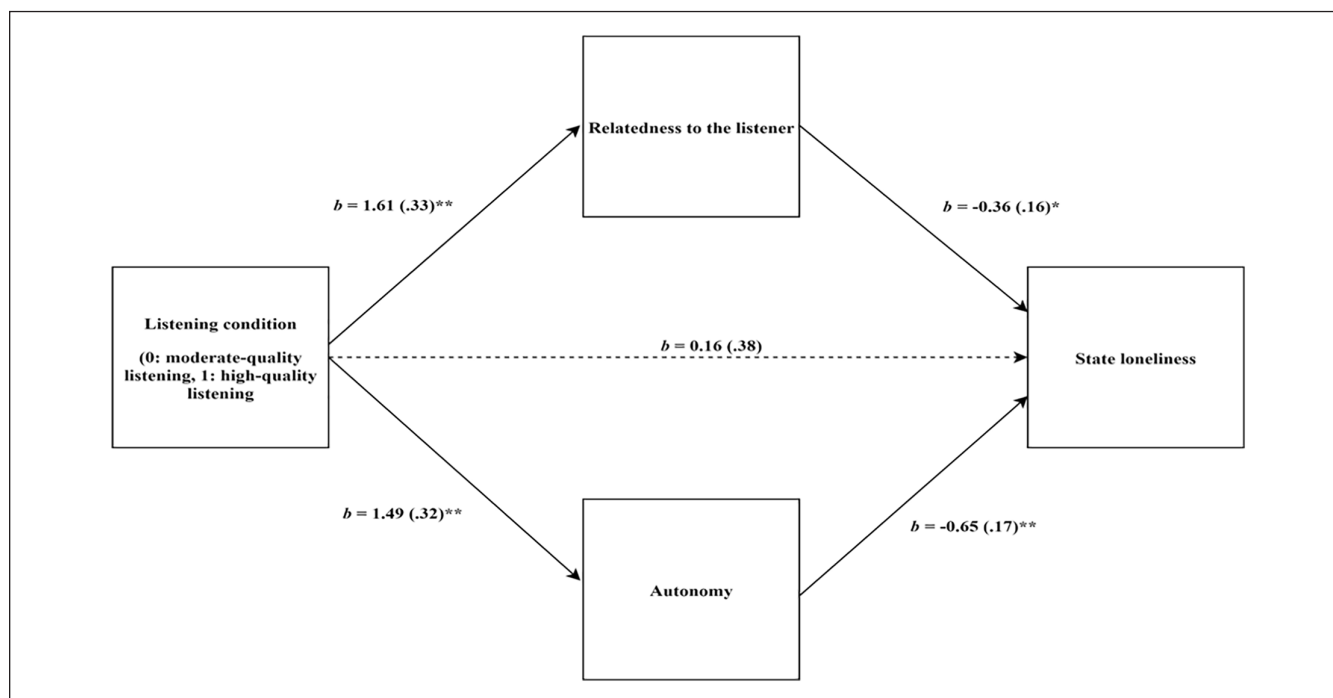
Figure 4. *Study 2*: Mediation model for the effect of the listening manipulation on state loneliness via relatedness and autonomy.
Note. Standard error in parentheses.
*$p < .05$. **$p < .01$.

of the listening–loneliness relationship. Despite replicating findings from the video vignette to an in-person setting, generalizability was limited because one research assistant, albeit a trained one, followed a detailed protocol and conducted all the listening sessions. It remains to be seen whether other listeners could elicit these listening-induced outcomes after a conversation about a past rejection.

Study 3

Study 3 had two objectives: to increase the generalizability of the listening manipulation by using multiple listeners and test whether the model would apply to other forms of communication, particularly computer-mediated conversations, as more conversations are online nowadays than ever before.

Method

Participants. We aimed for a highly powered study of .95 to detect the listening manipulation's average effect on both loneliness measures from Study 2, $d = -0.53$. We recruited 215 students from a university in Israel to participate in the study for course credit. Participants who could not recall a social rejection experience were excluded from the analyses. The final sample size was 205 participants ($M_{\text{age}} = 26.24$, $SD = 6.10$, 62.3% female). Sensitivity analysis indicated that the smallest effect size that such a sample size could detect with a power of .80 was $d = 0.35$.

Procedure. We randomly assigned participants to a moderate- or high-quality listening condition. Five research assistants (four females and one male) received about 15 hr of

training and followed the protocol in Study 2. We also created a protocol to ensure that the technical and logistic online conditions were fulfilled. All materials were delivered in Hebrew. Each research assistant conducted both experimental conditions. The research assistants ran each participant on a one-by-one basis and conducted both listening conditions.

Participants received an invitation to a Zoom session with a research assistant and chose a time when they could sit alone in a quiet place, use their screen and audio, and have a good internet connection. The study had two parts. In the first part, the participants wrote about a personal experience of social rejection. For example,

> When I started a new job, I was trying to get close to the other subordinates. Every time I tried to create an interaction, I felt socially excluded, and no one was interested to hear what I had to say. It made me feel rejected.

During the central portion of the study, the research assistants asked the participants to share the experience they had described during the written portion of the study. Conversations lasting 12 min then took place, in which the participants described and elaborated on their experiences. Based on random assignment, the research assistants listened using high- or moderate-quality listening behaviors.

Measures. The measures used in this study were identical to those in Study 2 ($\alpha_{listening}$ = .94, $\alpha_{relatedness}$ = .79, $\alpha_{autonomy}$ = .68). We also added a single-item measure for listening quality ("manipulation check 2") that read, "To what extent would you want to experience listening as you experienced it in this conversation?" Participants dragged a slider from 0 (*not at all*) to 100 (*very much*).

Results

Table 5 presents the descriptive statistics and correlations among the variables. Table 6 presents the descriptive statistics by experimental conditions.

Main effects. Compared with the moderate-quality listening condition, participants in the high-quality listening condition

reported better listening, $t(203) = 9.44$, 95% CI = [1.51, 2.32], $d = 1.35$. The single-item manipulation check also yielded a strong effect. Participants in the high-quality condition expressed their interest in reexperiencing similar listening quality more than participants in the moderate-quality listening, $t(203) = 7.15$, 95% CI = [17.53, 30.96], $d = 1.03$. Participants in the high-quality condition also reported higher relatedness to the listeners, $t(203) = 6.56$, 95% CI = [1.20, 2.21], $d = 0.93$; greater autonomy $t(203) = 4.16$, 95% CI = [0.45, 1.26], $d = 0.59$; and less loneliness: $t(203) = -5.19$, 95% CI = [−2.45, −1.10], $d = -0.74$. All p values were smaller than .001. The main effects did not change when controlling for age and gender.

Mediation analyses. We conducted mediation analyses in the same way as in the previous studies. Concerning the single-mediator models, relatedness and autonomy mediated the listening manipulation effect on loneliness. The parallel mediation model indicated a significant indirect effect through relatedness, $b = -0.54$, $SE = .23$, 95% CI = [−1.00, −0.13], and through autonomy, $b = -0.44$, $SE = .18$, 95% CI = [−0.83, −0.15], both independently mediated the listening condition effect on lower loneliness. The direct effect was significant, $b = -0.80$, $SE = .33$, $t = -2.42$, $p = .02$ 95% CI = [−1.45, −0.15] (Figure 5).

Study 3 replicated the beneficial effect of high-quality listening on loneliness identified in Study 2 and demonstrated the generalizability of this effect by employing listening in a virtual setting and with trained listeners. The mediation findings were consistent with those observed in Studies 1 and 2: Relatedness to listeners and autonomy independently mediated the listening–loneliness effect in a parallel mediation model.

Studies 1 to 3 provided consistent support for the research hypotheses, but in all three studies, the conversation focused solely on the topic of social rejection. Thus, we cannot conclude that the beneficial effects of listening on loneliness were specific to discussing social rejection, despite our prediction that listening would provide an opportunity for reconnection that would be especially beneficial in the rejection-discussion context. Alternatively, for example, listening could reduce speakers' loneliness when they disclose any negative event. Furthermore, these studies all tested undergraduate students, although in two countries (the

Table 5. *Study 3*: Descriptive Statistics and Correlations.

Variable	M	SD	Range	1	2	3	4	5
1. Listening manipulation	NA	NA	NA					
2. Listening Quality 1	7.70	1.71	1–9	.56**				
3. Listening Quality 2[a]	83.82	26.47	0–100	.46**	.76**			
4. Relatedness	6.34	2.02	1–9	.42**	.76**	.67**		
5. Autonomy	7.81	1.52	1–9	.28**	.58**	.54**	.52**	
6. State loneliness	2.56	2.55	1–10	−.35**	−.62**	−.58**	−.47**	−.48

Note. Listening manipulation was coded: 0 = moderate-quality listening (control), 1 = high-quality listening (experiment).
[a]This measure refers to the single-item manipulation check.
**$p < .01$.

Table 6. *Study 3*: Descriptive Statistics by Experimental Conditions.

	Moderate-quality listening		High-quality listening		Test statistics	
Group	M	SD	M	SD	t(203)	p
1. Listening Quality 1	6.71	1.90	8.65	.67	10.01	<.001
2. Listening Quality 2	71.28	32.40	95.53	.71	7.15	<.001
3. Relatedness	5.46	2.20	7.16	.40	6.56	<.001
4. Autonomy	7.36	1.77	8.22	.09	4.16	<.001
5. State loneliness	3.47	3.03	1.70	.62	−5.19	<.001

Note. $n_{\text{moderate-quality listening}} = 99$, $n_{\text{high-quality listening}} = 106$.
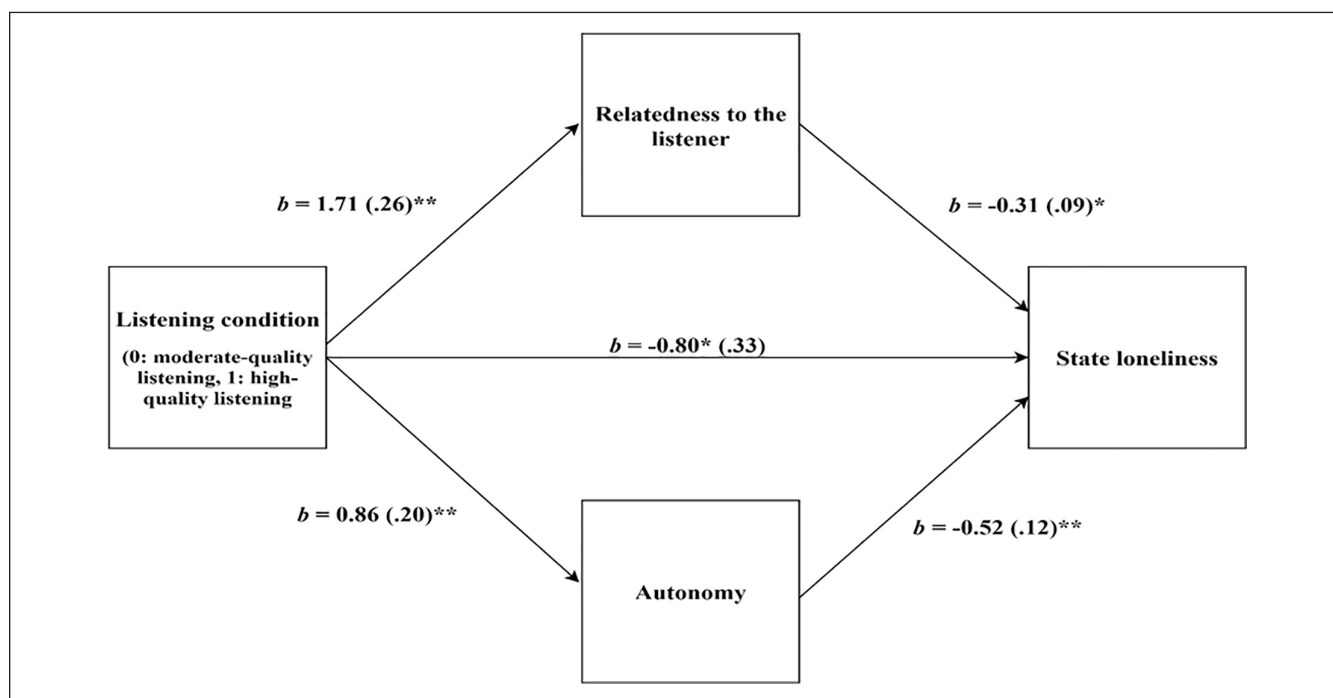
Figure 5. *Study 3*: Mediation model for the effect of the listening manipulation on state loneliness via relatedness and autonomy.
Note. Standard error in parentheses.
*p < .05. **p < .01.

United Kingdom and Israel), thus limiting the generalizability of the findings to other populations.

Study 4

Study 4 thus had three goals. First, we aimed to conduct a more conservative test of our model that listening is beneficial to speakers who discuss rejection by comparing the rejection discussion employed in Studies 1 to 3 to another discussion of a negative but nonsocial memory. Second, we sought to test the model in a community sample to contrast with the student samples used in Studies 1 to 3. Finally, we supplemented our previously validated but single-item measure of loneliness with another measure of loneliness to challenge the model's robustness across the method's parameters.

This study was primarily designed to test the hypothesis that disclosing rejection-elicited loneliness could be buffered by high-quality listening. We did so by contrasting social rejection with another negative topic. We predicted that the effect of listening on speakers' loneliness would not occur when they discussed a negative topic unrelated to an interpersonal cost (unlike rejection). Based on studies showing that listening promotes greater autonomy and relatedness when speakers share negative attitudes (Itzchakov et al., 2020) or experiences (Weinstein et al., 2021), we did not anticipate a moderation effect when predicting our two mediators. Instead, we anticipated a moderation effect such that

Hypothesis 5: The effect of high-quality listening on speakers' state loneliness will be stronger when self-disclosing an experience of social rejection than when self-disclosing a negative experience that does not provoke loneliness.

We preregistered the design, hypotheses, measures, analyses plan, sample size, and exclusion criteria (https://aspredicted.org/blind.php?x=8qk6yg).

Method

Participants. We recruited 384 participants through Prolific Academic. We excluded 30 participants who did not write their essays as instructed. For example, participants who did not describe their conversation about the event were excluded. The final sample size was 354 participants (M_{age} = 33.98, SD = 12.18, 68.9% female). Sensitivity analysis indicated that the smallest effect size that such a sample size could detect with a power of .80 was *Cohen's f* = −0.15.

Procedure. We randomly assigned participants to a listening (average vs. high-quality) and topic condition (social rejection vs. bad luck) in a 2 × 2 design. Recalling lucky events has been used in previous research as a comparison condition designed to elicit affect (e.g., van Tilburg et al., 2015). We decided to compare rejection with a discussion about bad luck in this study because bad luck allowed us to hold negative affect constant across conditions and because the discussion was very unlikely to organically shift to social rejection, thus keeping our conditions distinct.

After indicating informed consent, participants spent several minutes writing about an experience where they disclosed either an experience of social rejection or bad luck, based on a random assignment to one of the two topic conditions. In addition, also based on random assignment, they were asked to imagine the listener who displayed high-quality or moderate-quality listening.

The preface of the good listening-social rejection condition read, "Please recall an incident when you told someone about a situation where you felt socially rejected by another person. Please select an experience where the other person listened to you exceptionally well." An example essay was,

> The experience was being out with some friends and people that I didn't know too well, and they were kinda ignoring me for most of the night. The other person listened very well, was asking questions and acknowledging what I was saying.

The preface of the average listening-social rejection condition read, "Please recall an incident when you told someone about a situation where you felt socially rejected. Please select an experience where the other person listened to you in an average way. That is, not exceptionally good nor exceptionally poor." An example essay was,

> I went to see a psychologist after my dad died, and I was being bullied in school. I told her about the bullying situation and how, since my dad died, everyone just ignored me. Even people I considered my friends avoided me. I didn't feel like she was taking in what I was saying, and she was just writing everything down. I would have preferred if she could have at least tried to be empathetic.

Participants in the good listening-bad luck topic read, "Please recall an incident when you told someone about a situation where you felt unlucky. Please select an experience where the other person listened to you exceptionally well." An example essay was,

> I had an unlucky fall on a bicycle, which resulted in injuries requiring hospital treatment. A doctor spent considerable time listening, in a caring manner, to my account of the incident and description of my injuries.

Participants in the average listening-bad luck topic condition read, "Please recall an incident when you told someone about a situation where you felt unlucky. Please select an experience where the other person listened to you in an average way. That is, not exceptionally good nor exceptionally poor." An example essay was,

> I felt unlucky about a male colleague getting better treatment. I told another female colleague about this and she listened but I didn't feel was particularly sympathetic, she was quite neutral.

In each condition, we instructed participants, "Please briefly describe the experience and the listening behavior of your conversation partner in the box below."

Measures

Listening quality (manipulation check). We measured listening quality with the full FLS scale (10 items; Kluger & Bouskila-Yam, 2018; α = .97).

Autonomy and relatedness. We measured autonomy and relatedness to the listener on the same scales as in the previous studies (La Guardia et al., 2000; αs = .78, .85), respectively.

State loneliness. We measured state loneliness on two scales. The first measure was identical to the one used in Studies 1 to 3 ("thinking back to the conversation, I felt lonely"). To increase the construct validity, we used a second measure: the revised UCLA loneliness scale (Hughes et al., 2004), "isolated," "lack companionship," and "left out" (α = .91). These three items measured state loneliness in a recent work (Meng et al., 2020).

Results

Table 7 presents the descriptive statistics and correlations among the variables. Table 8 presents the descriptive statistics by experimental conditions.

Main effects

Listening quality (manipulation check). We conducted a two-way ANOVA to test the main effects of the listening and

Table 7. *Study 4*: Descriptive Statistics and Correlations.

Variable	M	SD	I	2	3	4
I. Listening quality	6.51	2.13				
2. Relatedness	5.96	2.11	.80**			
3. Autonomy	7.09	1.66	.74**	.77**		
4. Loneliness I[a]	2.92	1.88	−.32**	−.39**	−.42**	
5. Loneliness 2[b] (UCLA)	3.46	2.05	−.18**	−.26**	−.27**	.65**

[a]Single-item measure. [b] UCLA scale.
**$p < .01$.

Table 8. *Study 4*: Descriptive Statistics by Experimental Conditions.

Topic/listening quality	Variable	Moderate-quality listening		High-quality listening	
		M	SD	M	SD
Bad luck	Listening quality	4.88	1.91	7.93	1.19
	Relatedness	4.45	2.00	7.34	1.27
	Autonomy	6.14	1.78	8.04	1.00
	Loneliness I[a]	2.26	1.04	2.07	1.30
	Loneliness 2[b]	2.45	1.14	2.61	1.61
Social rejection	Listening quality	5.23	1.95	7.75	1.31
	Relatedness	4.83	1.76	7.00	1.66
	Autonomy	6.29	1.63	7.77	1.23
	Loneliness I[a]	4.53	2.09	2.91	1.85
	Loneliness 2[b]	4.81	1.90	4.02	2.35

Note. $n_{moderate\text{-}quality\ listening/bad\ luck} = 85$, $n_{high\text{-}quality\ listening/bad\ luck} = 94$, $n_{moderate\text{-}quality\ listening/social\ rejection} = 85$, $n_{high\text{-}quality\ listening/social\ rejection} = 90$.
[a]Single-item. [b] UCLA measure.

topic conditions. As predicted, the listening manipulation had a significant main effect on listening $F(1, 350) = 262.46$, $p < .001$, $\eta_p^2 = .43$. Participants who recalled a high-quality listening experience reported higher listening scores from the conversation partner than participants in the moderate-quality listening condition, 95% CI = [2.45, 3.12]. No main effect was observed for the topic condition (social rejection / bad luck), $F(1, 350) = 0.26$, $p = .61$, $\eta_p^2 = .00$, 95% CI = [−0.25, 0.42]. The Listening × Topic interaction was not significant, $F(1, 350) = 2.41$, $p = .12$, $\eta_p^2 = .007$.

Relatedness. A two-way ANOVA indicated a main effect of the listening manipulation on relatedness, $F(1, 350) = 199.07$, $p < .001$, $\eta_p^2 = .36$. Specifically, participants in the high-quality listening condition reported more relatedness to their listeners than participants in the moderate-quality listening condition, 95% CI = [2.18, 2.88]. There was no main effect for the topic condition, $F(1, 350) = 0.10$, $p = .75$, $\eta_p^2 = .00$, 95% CI = [−0.33, 0.37]. The Listening × Topic interaction did not reach significance, $F(1, 350) = 3.91$, $p = .05$, $\eta_p^2 = .01$. These results supported Hypothesis 2.

Autonomy. A two-way ANOVA indicated a main effect of the listening manipulation on autonomy, $F(1, 350) = 122.52$, $p < .001$, $\eta_p^2 = .26$. Participants in the high-quality listening

condition felt more autonomy than those in the moderate-quality condition, 95% CI = [1.39, 1.98]. There was no main effect for the topic condition, $F(1, 350) = 0.16$, $p = .69$, $\eta_p^2 = .00$, 95% CI = [−0.36, 0.24]. The Listening × Topic interaction was not significant, $F(1, 350) = 1.91$, $p = .17$, $\eta_p^2 = .005$. These results provide additional support for Hypothesis 3. The main effects did not change when controlling for age and gender.

State loneliness. A two-way ANOVA indicated a main effect on the single-item loneliness scale, $F(1, 350) = 27.33$, $p < .001$, $\eta_p^2 = .07$. Participants in the high-quality listening condition reported lower loneliness than participants in the moderate-quality listening condition, 95% CI = [−1.24, −0.56]. There was a main effect for the topic condition, $F(1, 350) = 81.19$, $p < .001$, $\eta_p^2 = .19$. Participants in the social rejection condition felt lonelier when talking about the event than participants in the bad luck condition. The Listening × Topic interaction was significant, $F(1, 350) = 17.29$, $p < .001$, $\eta_p^2 = .05$. Specifically, high-quality listening significantly reduced loneliness for social rejection, $p < .001$ 95% CI = [−2.10, −1.14], $\eta_p^2 = .11$, but not for bad luck, $p = .45$ 95% CI = [−0.66, 0.29], $\eta_p^2 = .00$.

The main effect for the listening condition on the UCLA loneliness scale was not significant, $F(1, 350) = 2.71$, $p = .10$, $\eta_p^2 = .008$, whereas the main effect for the topic was
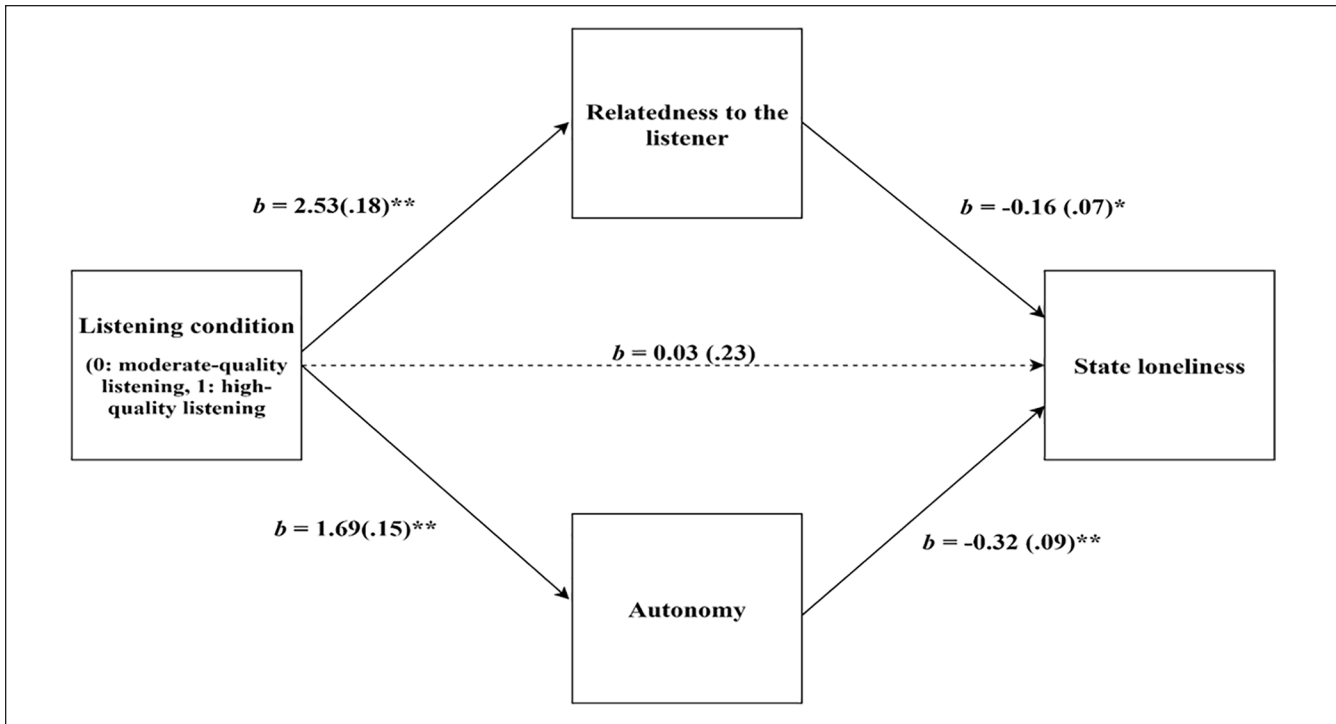
Figure 6. *Study 4*: Mediation model for the effect of the listening manipulation on state loneliness (single item) via relatedness and autonomy.
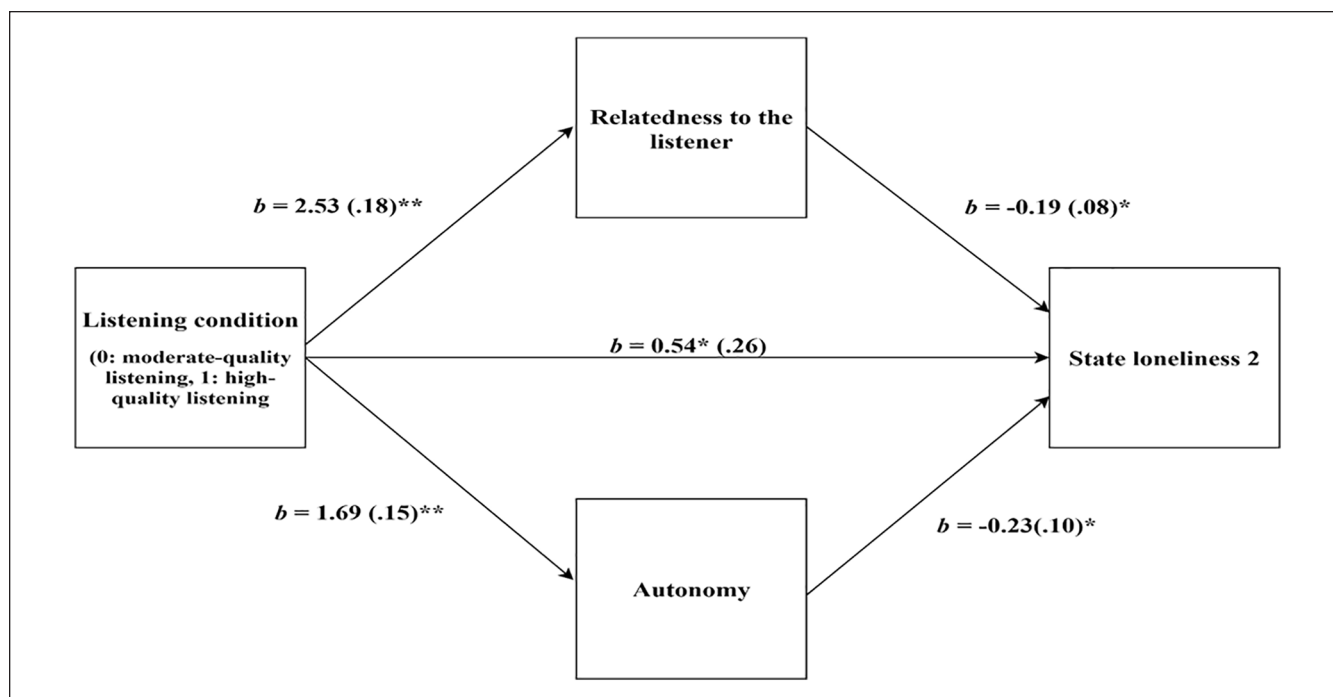*Note.* Standard error in parentheses.
*$p < .05$. **$p < .01$.

significant, $F(1, 350) = 96.31$, $p < .001$, $\eta_p^2 = .22$, 95% CI $= [1.51, 2.27]$. The Listening × Topic interaction was significant, $F(1, 350) = 6.01$, $p = .01$, $\eta_p^2 = .02$. Consistent with the other loneliness measure, high-quality listening significantly reduced loneliness for social rejection, $p = .004$, 95% CI $= [−1.33, −0.25]$, $\eta_p^2 = .02$, but not for bad luck, $p = .57$, 95% CI $= [−0.38, 0.69]$, $\eta_p^2 = .00$. Namely, high-quality listening reduced state loneliness when participants shared an experience of social rejection but not when they shared a negative event unrelated to loneliness, supporting Hypothesis 5.

The main effects did not change when controlling for age and gender.

Mediation analyses. We conducted a mediation analysis using Model 4 in PROCESS with 5,000 bootstrapped samples. The independent variable was a dummy variable that contrasted the conditions of high-quality listening (coded as 1) with the conditions of moderate-quality listening (coded as 0). The parallel indirect effect of the Dummy variable through relatedness to the single-item state loneliness was significant, $b = −0.40$, $SE = .20$, 95% CI $= [−0.80, −0.01]$. The parallel indirect effect through autonomy was also significant, $b = −0.55$, $SE = .19$, 95% CI $= [−0.93, −0.16]$. The direct effect

was not significant, $b = 0.03$, $SE = .23$, $p = .89$, 95% CI $= [−0.42, 0.48]$ (Figure 6). Concerning the UCLA loneliness scale, the parallel mediation model indicated a significant indirect effect through relatedness, $b = −0.48$, $SE = .21$, 95% CI $= [−0.92, −0.09]$. The indirect effect through autonomy was also significant, $b = −0.39$, $SE = .19$, 95% CI $= [−0.76, −0.02]$. The direct effect was significant, $b = 0.54$, $SE = .26$, $p = .04$, 95% CI $= [0.03, 1.06]$ (Figure 7). These results support the mediating roles of relatedness and autonomy in the effect of listening quality on speakers' loneliness (Hypothesis 4).

Study 4 conceptually replicated the results of our previous studies using a series of confirmatory analyses and further expanded the generalizability of the effects to a new population. This study also increased the construct validity of the effect of listening on state loneliness by using an additional scale. More importantly, this study suggested that the listening-induced effect on loneliness could not be attributed to any disclosure of a negative event. Specifically, high-quality listening reduced loneliness when participants recalled a conversation about social rejection that involved a high-quality listener but did not reduce loneliness when they recalled a conversation about bad luck, even in the presence of a high-quality listener.

Figure 7. *Study 4*: Mediation model for the effect of the listening manipulation on State Loneliness 2 (UCLA scale) via relatedness and autonomy.
Note. Standard error in parentheses.
*p < .05. **p < .01.

Study 5

Study 5 was a scenario experiment designed with two goals in mind. First, our previous studies considered listening in zero acquaintance dyads or friends, in both cases horizontal relationships with relatively equal power distributions. Study 5 sought to extend the model to vertical relationships with one's supervisor in the workplace because supervisor listening has been shown to be a powerful way to support employees in this important life domain (Kluger & Itzchakov, 2022) and because the dynamics of rejection and loneliness play an essential role in workplace well-being and productivity (Ozcelik & Barsade, 2018).

Our second goal for the final study was to explore two aspects of autonomy that may have driven the effects we identified in the previous studies: self-congruence and choice (Silva et al., 2014). Specific to the current work, the widely used measure of autonomy we measured in Studies 1 to 4 (La Guardia et al., 2000) included items tapping self-congruence ("I would feel free to be who I am"), but arguably, a second important aspect of autonomy that we did not measure was the sense that one can be choiceful in the conversation, for example, by guiding the topic of discussion and how it is shared (Weinstein et al., 2022). We preregistered the hypotheses, measures, sample size, exclusions, and analysis plan: https://aspredicted.org/N9C_7DT.

Method

Participants. We recruited 785 paid participants from Prolific Academic. Of these, we excluded 45 who failed to answer the attention question (see preregistration) correctly. The final sample size of $N = 740$ ($M_{age} = 38.09$, $SD = 11.93$, 57.4% female) has a power of above 95% to detect the average effect size obtained on state loneliness in Studies 1 to 4 and a power of above 80% power to detect a small effect size, $\beta = .02$, on an indirect effect with a dichotomous predictor.

Procedure. We randomly assigned the participants to a high-quality or moderate-quality listening condition using written scenarios. Such scenarios have been used in previous listening research (Itzchakov et al., 2018). Participants in both conditions read the following preface:

> *For the next minute or two, take the time and imagine that you are a new employee at a company. You like your new job, the work is meaningful, and there are clear opportunities for advancing. But, since you started, you have felt a little like you were an "outsider," that your new colleagues were socially rejecting you. Multiple times, you felt their conversations quieted when you approached, and you felt hurt they did not invite you to their weekly after-work get-together.*

Table 9. *Study 5*: Descriptive Statistics and Correlations.

Variable	M	SD	1	2	3	4	5	6
1. Listening manipulation	NA	NA						
2. Listening quality	6.32	2.09	.85**					
3. Relatedness	4.50	1.97	.74**	.81**				
4. Self-congruence autonomy	6.34	1.95	.67**	.82**	.73**			
5. Choice autonomy	6.31	1.84	.67**	.82**	.74**	.87**		
6. Loneliness 1 (single-item)	4.14	2.19	−.61**	−.66**	−.66**	−.63**	−.59**	
7. Loneliness 2 (UCLA)	4.39	2.22	−.57**	−.62**	−.60**	−.57**	−.55**	.77**

Note. Listening manipulation: 0 = moderate-quality listening, 1 = high-quality listening.
**$p < .01$.

Table 10. *Study 5:* Descriptive Statistics by Experimental Conditions.

Group	Moderate-quality listening		High-quality listening	
	M	SD	M	SD
1. Listening quality	4.58	1.30	8.15	0.80
2. Relatedness	3.09	1.24	6.00	1.42
3. Self-congruence Autonomy	5.07	1.65	7.68	1.20
4. Choice autonomy	5.10	1.56	7.57	1.12
5. Loneliness 1 (single-item)	5.46	1.84	2.76	1.61
6. Loneliness 2 (UCLA)	5.61	1.78	3.09	1.88

Note. $n_{\text{moderate-quality listening}} = 380$, $n_{\text{high-quality listening}} = 360$.

You have your first quarterly meeting with your new manager. At the beginning of the conversation, your manager asks how things are going—if you want to share anything about your experiences at work. You decide to share your experiences with your new colleagues, so you can ask for advice on what to do.

The rest of the scenario for participants in the experimental condition described a manager who exhibits high-quality listening behaviors, whereas the manager in the control condition exhibits moderate-quality listening behaviors (see Supplementary Materials for the complete scenarios). After reading the scenario, participants answered questionnaires on the research variables and demographics and were debriefed and compensated.

Measures. Measures were anchored from 1 (*not at all*) to 9 (*very much*) on a Likert-type scale. The listening manipulation check ($\alpha = .97$), relatedness ($\alpha = .86$), and the loneliness measures ($\alpha = .96$) were similar to the previous studies. We measured autonomy satisfaction with two measures. The first measure (hereafter: self-congruence autonomy) consisted of two of the three items from the scale used in the previous studies ($\alpha = .94$). We did not measure the third item: "I felt controlled and pressured to behave in a certain way," which did not clearly distinguish between the two forms of autonomy. The second measure was new to this study and reflects "choice autonomy." It included the items, "I would feel I could choose

the direction of the conversation," "I would feel I had a choice about what to share," "I would feel I could take the conversation to important places," and "I would feel I could share sensitive topics" ($\alpha = .93$). These items were adapted from previous work (Chen et al., 2015). We conducted a pilot study ($N = 121$) to examine these items and found a correlation of $r = .68$ between the two autonomy measures.

Results

Table 9 presents the descriptive statistics and correlations between the variables. Table 10 presents the means and standard deviation by experimental condition.

Main effects. Participants in the high-quality listening condition reported better listening than participants in the moderate-quality condition, $t(738) = 45.24$, 95% CI = [3.41, 3.73], $d = 3.28$. Participants in the high-quality condition reported higher relatedness than participants in the moderate-quality condition, $t(738) = 29.77$, 95% CI = [2.72, 3.10], $d = 2.19$. Participants in the high-quality condition reported greater autonomy as measured by the self-congruence $t(738) = 24.70$, 95% CI = [2.40, 2.82], $d = 1.80$, and choice measures, $t(738) = 24.88$, 95% CI = [2.27, 2.67], $d = 1.81$. Participants in the high-quality condition reported lower levels of loneliness as indicated by the single item, $t(738) = -21.14$, 95% CI =
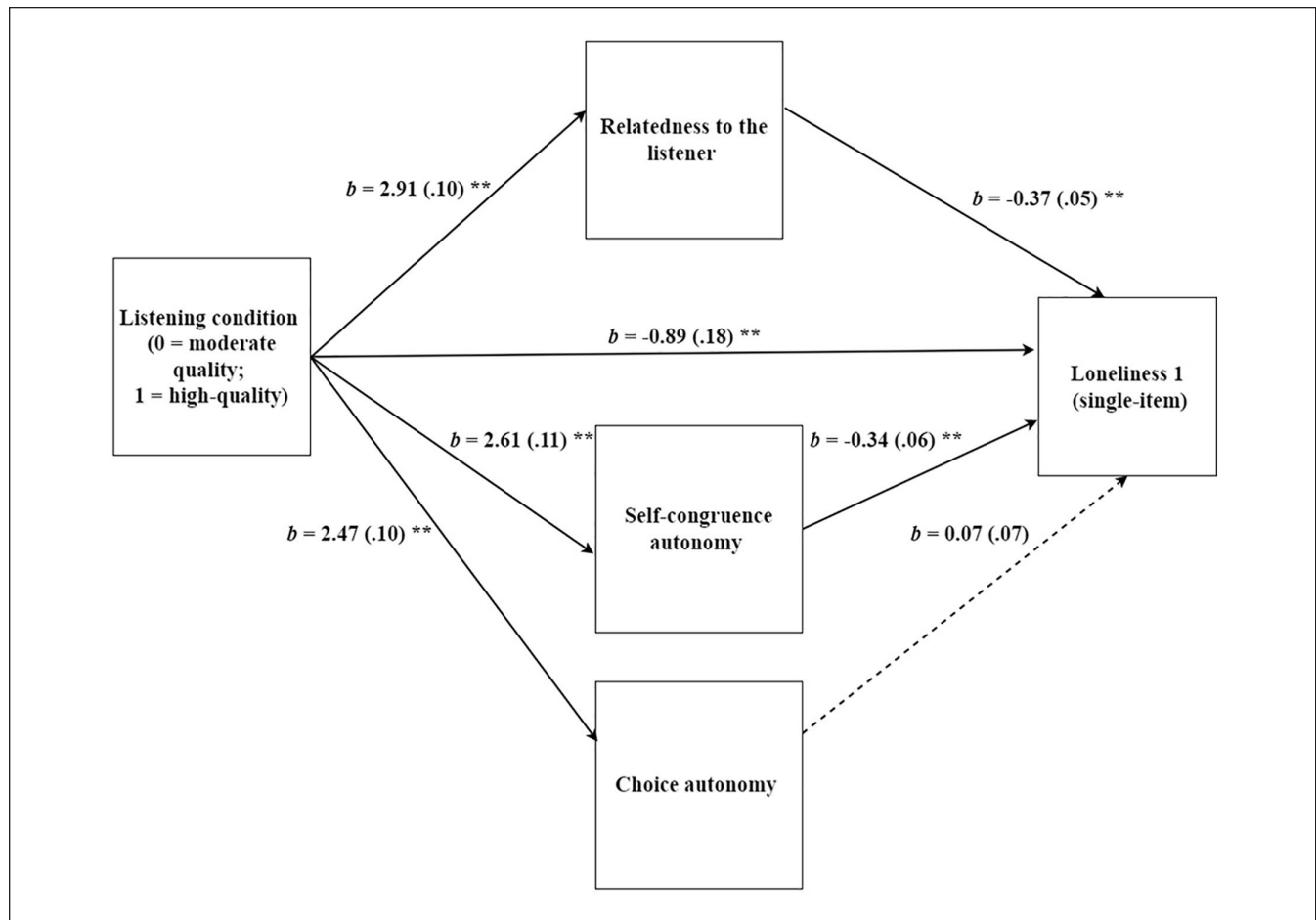
Figure 8. *Study 5*: Mediation model for the effect of the listening manipulation on Loneliness 1 (single item) via relatedness, self-congruence autonomy, and choice autonomy.
Note. Standard errors in parentheses.
**p < .01.

[−2.94, −2.44], *d* = 1.55, and the UCLA loneliness measures, *t*(738) = −18.69, 95% CI = [−2.77, −2.25], *d* = −1.37, all *p*s were smaller than .001. Although not registered, the main effects remained similar when controlling for age and gender.

Mediation analyses. We conducted parallel mediation analyses as before. To test whether choice autonomy mediated the listening–loneliness relationships, we entered it as a mediator with self-congruence autonomy and relatedness. The original two-mediator analyses with relatedness and self-congruence autonomy (previously labeled "autonomy") replicated Studies 1 to 4 and are reported in the Supplementary Materials.

Loneliness single-item. The three-mediator parallel mediation model indicated a significant indirect effect through relatedness, *b* = −1.09, *SE* = .16, 95% CI = [−1.40, −0.79], and self-congruence autonomy, *b* = −0.89, *SE* = .18, 95%CI = [−1.26, −0.52]. The indirect effect through choice autonomy was not

significant, *b* = 0.18, *SE* = .17, 95% CI = [−0.15, 0.51]. The direct effect was significant, *b* = −0.89, *SE* = .18, *t* = −5.04, *p* < .01, 95% CI = [−1.24, −0.54] (Figure 8).

Loneliness (UCLA). Consistent with the single-item loneliness measure, the three-mediator parallel mediation model indicated a significant indirect effect through relatedness, *b* = −0.93, *SE* = .17, 95% CI = [−1.27, −0.59], and through self-congruence autonomy, *b* = −0.65, *SE* = .20, 95% CI = [−1.03, −0.25]. Once again, the indirect effect through choice autonomy was not significant, *b* = −0.04, *SE* = .19, 95% CI = [−0.43, 0.33]. The direct effect was significant, *b* = −0.89, *SE* = .19, *t* = −4.60, *p* < .01, 95% CI = [−1.27, −0.51] (Figure 9).

Overall, Study 5 replicated Studies 1 to 4 using a written scenario that described a vertical-relationship conversation with a supervisor at work. The results suggest that high-quality listening increases the speaker's relatedness to the listener and two facets of autonomy (self-congruence and choice)
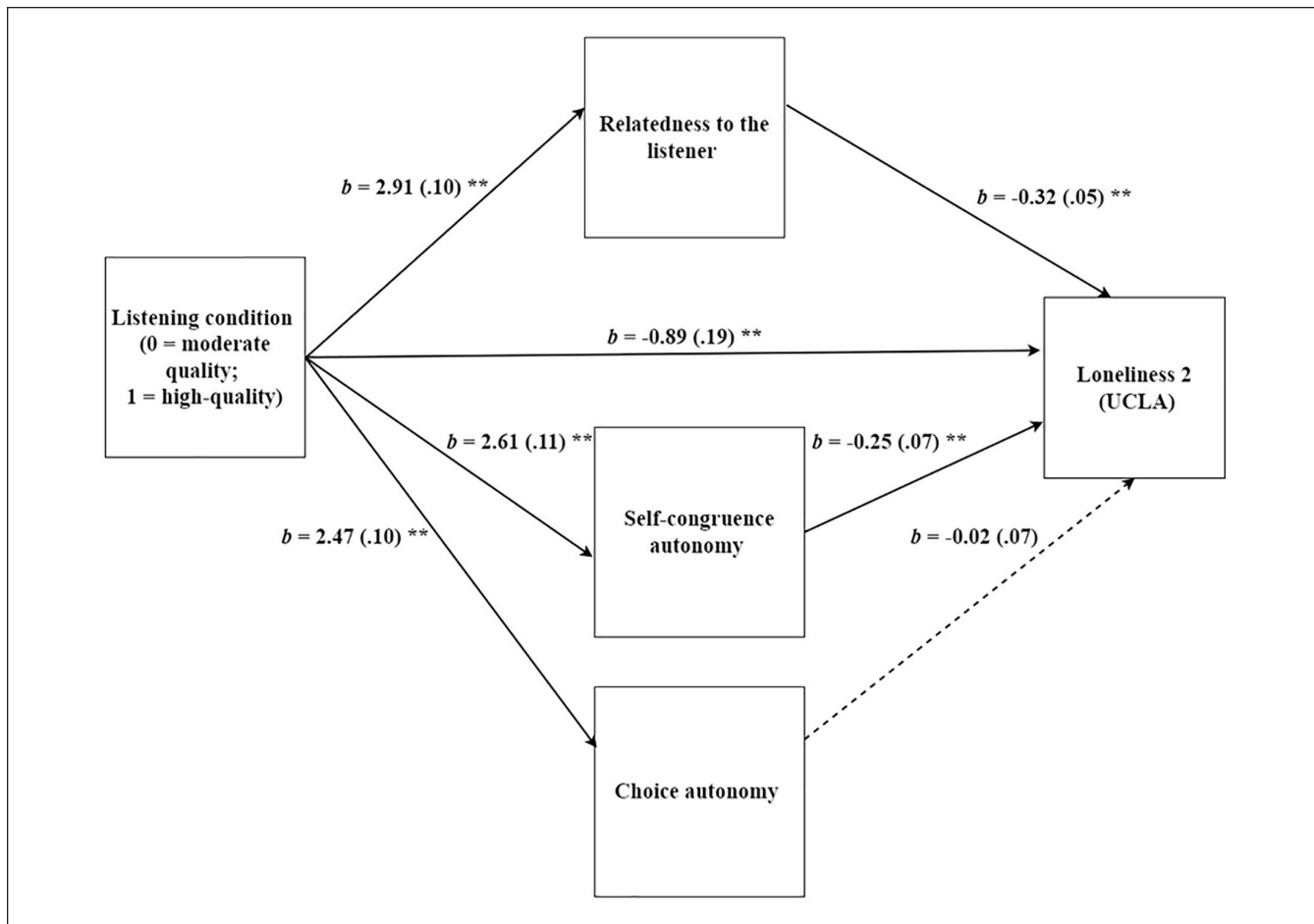
Figure 9. *Study 5*: Mediation model for the effect of the listening manipulation on Loneliness 2 (UCLA) via relatedness, self-congruence autonomy, and choice autonomy.
Note. Standard errors in parentheses.
**p < .01.

and reduces loneliness. The mediation analysis suggests that relatedness and self-congruence autonomy mediate the listening–loneliness linkage. Choice autonomy, however, did not serve as a mediator when accounting for the other two mediators, suggesting it may be less important in alleviating loneliness in this context.

General Discussion

Instances of rejection are ubiquitous and painful, and reminders of these past experiences can result in feeling isolated and lonely (London et al., 2007). However, opportunities for new interpersonal connections can heal the wounds of rejection (Leary et al., 1995). They are so effective that psychotherapists rely, in part, on the bond between the therapist and client to heal individuals whose early relationships were chronically rejecting (Malchiodi, 2003). In five studies, we found that high-quality versus low-quality listening resulted

in less loneliness after discussing an experience of social rejection. To the best of our knowledge, these studies are the first to test the link between high-quality listening and reduced loneliness when speakers recall a past rejection. This finding is consistent with previous psychotherapy theories originating from the psychodynamic and humanistic traditions (Hill, 2005; Rogers, 1957). These approaches argue that discussing interpersonal traumas such as rejection helps process those events and enables therapists to develop a rapport through an attentive and understanding listening ear.

In line with this theorizing, in the current studies, we found that feeling related to the listener was an important mechanism that mediated the effect of listening on lower loneliness; the intimate connection speakers felt with their high-quality listeners translated into feeling less generally disconnected (i.e., lonely). Thus, speakers who had reflected on past rejection felt a greater sense of relatedness, or interpersonal connection, to their high-quality listeners. As a

result, they felt less of a sense of global loneliness, the feeling that the quality of their overall relationships was insufficient relative to what they would like (Cacioppo & Patrick, 2008). Their connection to the high-quality listener helped create a healing relational space that pervaded their general relational mood.

Even when controlling for relatedness, speakers' feeling of autonomy—self-congruent expression—when receiving high-quality listening related in turn to less loneliness. In Study 5, we tested an alternate aspect of autonomy alongside self-congruence, namely, the effect of high-quality listening on speakers' perceptions prompted them to feel that they could meaningfully choose the direction of the conversation (choiceful autonomy). We found that high-quality listening promoted a meaningful sense of choice. Yet when tested alongside relatedness and the self-congruence aspect of autonomy, feeling choiceful did not reduce loneliness when high-quality listening was provided.

Altogether, the findings are well aligned with relationship maintenance theory (RMT), which posits that a sense of intimacy can be achieved, not only proximally through relatedness but also when interactions support the self-congruent expression aspects of autonomy (Deci & Ryan, 2014). Consistent with this view, autonomy and relatedness contributed to lower loneliness, presumably by creating a rich and healing sense of connection.

RMT also provides a framework for understanding the strong associations between relatedness and autonomy in the current studies. From the perspective of RMT, supportive interactions that provide understanding, empathy, and valuing lead the recipient to feel satisfied in terms of both autonomy and relatedness needs, which together underlie true intimacy (Deci & Ryan, 2014). Conceptually and empirically, they go hand-in-hand in supportive relationships, possibly even more so within interactions (Weinstein & Ryan, 2010). Because both autonomy and relatedness are met when relational contexts provide support, our findings across the studies that high-quality listening satisfies both psychological needs underline the relationally supportive qualities associated with the listening behaviors we manipulated (Kluger & Itzchakov, 2022).

A random-effects meta-analysis of the five studies revealed large effect sizes: listening quality: $d = 1.90$, 95% CI = [1.16, 2.64]; relatedness: $d = 1.46$, 95% CI = [1.00, 1.92]; autonomy: $d = 1.08$, 95% CI = [0.81, 1.36]; and loneliness[3]: $d = -0.96$, 95% CI = [−1.28, −0.53]. There are two nonexclusive explanations for the large effects. The first is methodological. We designed the studies to manipulate the quality of listening cleanly, but in doing so, we might have created extremely positive listening, as indicated by manipulation checks that were at the very top of their scales. Such listening quality is likely reflective of conversations with well-trained listeners (e.g., coaches, therapists), but we anticipate that effect sizes in conversations in the general population would be smaller.

The second explanation is theoretical. There is reason to believe that high-quality listening is a bedrock of deep human connection (Buber, 1970), which elicited strong positive responses from speakers. This may have been especially relevant in deeply emotional conversations, where speakers may have more deeply felt the connection.

We applied an SDT framework to understand listening effects, but other models may also be suitable. For example, perceived acceptance by high-quality listeners may also link listening to lower loneliness (Woodhouse et al., 2012), as may perceived partner responsiveness (Reis & Clark, 2013) or relational value (Leary, 2005). Based on previous models of relationship quality, particularly in the close relationships domain (La Guardia & Patrick, 2008), these constructs may reflect conceptually similar underlying principles to the psychological needs tested here, namely, that individuals feel a strong sense of connection when they can be themselves in nonjudgmental and valuing contexts that show them understanding.

For example, perceived partner responsiveness has components of both autonomy and relatedness (La Guardia & Patrick, 2008). Relational value is how people see their relationship with another as valuable (Leary, 2005). Thus, arguably it also could be seen as an *outcome* of feeling one's relatedness and autonomy; that is, both confer additional importance to the relationship. It would be informative to explore these links in future research, alongside or independent from measuring listening. Regardless, these studies presented an initial test of the impact of high-quality listening on speakers' loneliness and connection and provided useful self-congruent expression tools to explain these benefits.

Although it is difficult to confidently determine the role of "low quality" listening from these studies, which primarily compared moderate-quality with high-quality listening, Study 1 found detrimental effects of low-quality compared with moderate-quality listening. We found that participants who viewed mediocre listening expected they would be unable to express themselves genuinely and self-congruently and would feel less closeness with their listeners; for these reasons, they anticipated feeling lonelier.

This work makes practical contributions. Loneliness has increased worldwide, especially since the pandemic, and has negatively affected mental health. This problem has become so pervasive that the U.K. and Australian governments appointed ministers to deal with loneliness.[4,5] The present work suggests that listening, through the satisfaction of basic psychological needs, can help deal with this problem, for example, by promoting projects such as "Sidewalk Talk," where volunteers trained in listening offer free listening to people who want to share their stories. This listening-focused project, among others, has helped many people around the world deal with their loneliness.[6]

Limitations and Future Research

These findings should be viewed in light of several limitations. First, we selected to optimize internal reliability at the cost of external reliability. Our experimental studies did not measure recent occurrences of rejection, real-life dyads, or close relationships. This research should be extended to testing the effects of listening in daily life, for example, in therapeutic settings or organizations that provide peer support for those who have been bullied or are suffering from mental health problems (e.g., anti-bullying alliance). Furthermore, our mediation models were closely informed by current theory and extensive experimental and naturalistic studies (Ryan & Deci, 2017), but our correlational data are open to alternative causal explanations. For example, although far less evidence supports this causal effect, reduced loneliness could theoretically have driven higher autonomy or another mediator could have explained this link. By accounting for relatedness to the listener, we discounted a highly plausible and conservative alternative explanation for the mediating effects of autonomy on the listening–loneliness link. Still, we cannot discount alternative models at this stage.

In Study 4, participants recalled an experience of average or good listening. A possible caveat of this approach is that memories of average quality listening are less memorable than high-quality and poor listening. Hence, the control condition in this study might have also involved recollections of low-quality listening. However, the model was replicated across many listening forms that do not associate moderate-quality with poor listening. Finally, although speakers usually perceive listening as a holistic phenomenon (Kluger & Itzchakov, 2022), it would be interesting to disentangle its different dimensions and behaviors and examine whether some are more critical than others in facilitating speakers' perception of high-quality listening. Alternatively, it would be worth exploring whether high-quality listening requires a minimum of verbal and nonverbal behaviors.

Future research should look at how high-quality listening affects rejection-related memory. If speakers feel that they are being listened to well, it might increase their acceptance of the previous rejection-related memory.

Conclusion

Conversations such as those concerning past rejection can be difficult and emotional. Across five experiments that used different manipulations of listening quality, we found that after speakers disclosed an experience of social rejection, they reported less loneliness if their listeners manifested high-quality listening. This effect emerged because high-quality listeners helped satisfy the needs of relatedness and autonomy, thus leaving speakers feeling close and connected so they could express themselves congruently and volitionally. The findings suggest that listeners can actively foster positive engagement outcomes.

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Supplemental Material

Supplemental material is available online with this article.

Notes

1. The stopping rule was the end of the fall semester.
2. For detailed analyses, see Supplementary Materials.
3. We used only the Facilitative Listening Scale (FLS; Study 3), did not include choice autonomy (Study 5), and did not include the UCLA measure (Studies 4 & 5).
4. https://www.gov.uk/government/news/pm-launches-governments-first-loneliness-strategy
5. https://www.theguardian.com/society/2018/oct/19/loneliness-minister-proposed-to-tackle-australian-social-isolation
6. https://www.weforum.org/agenda/2018/07/these-volunteers-are-fighting-the-loneliness-epidemic-with-street-listening/

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