

Review

Connecting cues: The role of nonverbal cues in perceived responsiveness

Cheryl L. Carmichael^{1,a} and Moran Mizrahi^{2,a}**Abstract**

Nonverbal cues powerfully shape interpersonal experiences with close others; yet, there has been minimal cross-fertilization between the nonverbal behavior and close relationships literatures. Using examples of responsive nonverbal behavior conveyed across vocal, tactile, facial, and bodily channels of communication, we illustrate the utility of assessing and isolating their effects to differentiate the contributions of verbal and nonverbal displays of listening and responsiveness to relationship outcomes. We offer suggestions for methodological approaches to better capture responsive behavior across verbal and nonverbal channels, and discuss theoretical and practical implications of carrying out this work to better clarify what makes people feel understood, validated, listened to, and cared for.

Addresses

¹ Department of Psychology, Brooklyn College, CUNY, 2900 Bedford Avenue, Brooklyn, NY 11210, USA

² Department of Psychology, Ariel University, 3 Kiryat HaMada, Ariel 40700, Israel

Corresponding author: Mizrahi, Moran (miz.moran@gmail.com)

^a Both authors contributed equally to this manuscript.

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Nonverbal cues contain vast amounts of information and powerfully impact social exchanges. Humans' ability to effortlessly process nonverbal signals without conscious awareness facilitates rapid and efficient social judgments across social domains, and strongly shapes interpersonal experiences. Research in the fields of nonverbal behavior and close relationships has largely been carried out in parallel, but we propose that cross-fertilization

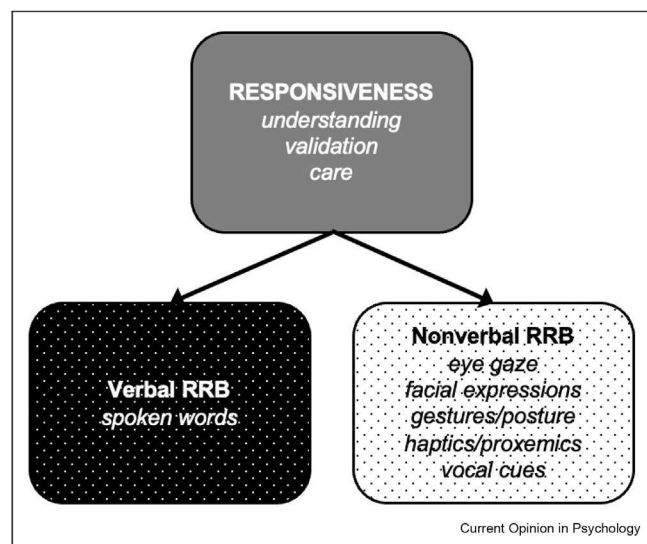
between the two disciplines will enrich the understanding of how nonverbal cues contribute to relationship processes, and how relationship factors provide context for nonverbal processes. We illustrate the benefits of making this connection using nonverbal responsiveness as an exemplary mechanism.¹

Responsiveness is the process through which relationship partners listen and respond supportively to each other's needs by demonstrating understanding, validation, and care. Robust findings show that the enactment and perception of responsive behaviors are cornerstones of satisfying relationships [1]. High-quality listening is crucial to the provision of responsiveness [2], and both listening and responsiveness may be conveyed through verbal (e.g., asking questions, reflecting emotions, and providing verbal encouragement) and nonverbal (e.g., facial expression, vocal inflections, eye gaze, and touch) reactions to personal disclosures. However, empirical work in the field of close relationships rarely differentiates between verbal and nonverbal displays of listening and responsiveness. We argue that nonverbal cues deserve to be more prominently situated in the study of close relationship processes, and differentiated from responsive verbal behaviors to provide a more nuanced account of responsive relationship behavior (RRB) (see [Figure 1](#)).

This integration is warranted because nonverbal cues are spontaneously generated as a function of one's implicit evaluation of a relationship partner [3] and play a crucial role in determining the interpretation of verbal statements (e.g., verbal apologies were more impactful when accompanied by kneeling or crying) [4]. Moreover, growing evidence shows that nonverbal cues are crucial to fundamental relationship processes, such as the development and maintenance of intimacy and interpersonal trust, as we describe below. We review recent findings on the contribution of responsive nonverbal cues (i.e., facial expressions, vocal cues, affectionate touch, and bodily gestures) to relationship outcomes; then, we discuss how future research may advance our understanding of how responsiveness promotes positive relationship outcomes by capturing and differentiating its signals across verbal and nonverbal channels.

¹ This review is about displays of responsiveness that reflect authentic desires, motivations, and efforts to be responsive. While we acknowledge that disingenuous attempts may occur, that topic warrants a separate discussion.

Figure 1



Subdivisions of responsive relationship behavior (RRB) that convey responsiveness.

Responsive nonverbal relationship behavior

Often, the first and primary reaction a person shows in response to a disclosure is a nonverbal one — a high-pitched squeal of delight in response to loved one's good news or a hug at the sight of a friend's dejected face often precedes a verbal response. Nonverbal responses are inevitable in interpersonal communication, and when respondents find themselves at a loss for words (e.g., in response to disclosure about a traumatic loss), nonverbal signals may be the only ones sent. Recent findings from across four nonverbal channels — touch, vocal tone, facial expressions, and bodily gestures — showcase the relational impact of nonverbal responsiveness. Responsive nonverbal behaviors may convey attentiveness, care, understanding, and respect toward one's needs above and beyond the content of verbal statements, as well as signal listening, warm feelings, and availability toward the speaker in a rapid and unmediated manner. Conversely, their absence, or the presence of nonresponsive nonverbal cues such as eyerolls, sneers, or sighs of boredom or exasperation, can convey the opposite — inattentiveness, disregard, disrespect, and unavailability.

Touch can be used to accurately communicate a variety of emotions between relationship partners, including love, happiness, and gratitude [5]. This suggests that touch is a means of self-disclosure, a vital component of the intimacy process [6,7]. Supporting evidence indicates that daily touch between romantic partners bolsters relationship quality [8] and promotes positive engagement between couples [9]. Moreover, receiving touch from a

relationship partner in the context of discussing a personal stressor or an area of conflict in the relationship buffers stress for the discloser and facilitates their positive personal and relationship outcomes [10,11]. Evidence from a daily diary study differentiating provided and received touch in romantic relationships, establishes important discriminant validity for touch provision by demonstrating that receiving touch promotes the recipient's perception of the provider as responsive, but touch providers do not perceive recipients as responsive [8].

Facial expressions reflect emotional states with universal interpretation in shared cultural contexts [12,13] and may even “leak” feelings the sender wishes to conceal [14]. Facial mimicry of emotion, particularly for positive emotions [15], is commonly used to signal affiliative intentions [16] and serves important functions in the development and maintenance of relationships. Information from facial expressions fosters cooperation when uncertainty is high [17] and wearing a face mask (a widespread behavior to ward off COVID-19 transmission) compromises emotion-recognition accuracy and interferes with perceivers' ability to establish trustworthiness [18]. Accurately evaluating a romantic partner's facial expression of negative emotion buffers against destructive conflict behaviors, which, in turn, promotes greater relationship satisfaction [19]. Facial expressions of emotion are so fundamental to social interaction that the growth of largely verbal communication mediums (email, text, and social media) was accompanied by the development of emojis — proxies that allow for the sharing of nonverbal signals in predominantly verbal communication channels. Including emojis in support-relevant text exchanges increases perceptions of responsiveness, particularly when their use is mutual [20].²

Like facial expressions, *vocal cues* are strong indicators of emotional states [21,22]. Vocal cues are inescapable in face-to-face conversations and help determine the meaning of lexical information [23]. They augment the emotion conveyed in a verbal message and may play a larger role in accurate emotion perception than do verbal cues [24]. Using vocal cues alone, people are nearly as accurate at determining whether the emotional tone of a conversation is positive or negative as when they have access to verbal and vocal cues combined [25]. Additional evidence comes from a study in which Hebrew and German participants accurately identified specific emotions (anger, fear, happiness, and sadness) from vocal cues, despite being unable to speak or understand the language in which the message was spoken [26]. Moreover, fundamental vocal frequency (f_0), a cue akin to pitch, may be instrumental in the nonverbal

² Important differences in the interpretation of in-person and computer-mediated nonverbal signals have been documented, but they are beyond the scope of this work.

communication of responsiveness because it reflects emotional arousal [27]. Although it has been identified as a harbinger of romantic failure in research on conflict discussions [28], f_0 can also be used to signal love and affection [29,30], and warrants exploration in supportive and positive contexts.

Responsive nonverbal cues can also be manifested in *bodily reactions and gestures*. For example, head nods synchronized to a partner's disclosure convey understanding [31], placing one's hand with a flat palm in the center of the chest conveys empathy [32] and postural openness (arms and head raised) signals warmth [33]. Feeling "moved" in response to another's disclosure may be displayed through tears or moist eyes, getting choked up, or having goosebumps [34]. These spontaneous bodily reactions often occur unintentionally and reveal the listener's sensitivity [35] and the powerful impact of the disclosure, not only symbolically, but as an actual display that is visible to the discloser. Such reactions may be comprehended similarly by people of different cultures and languages [36,37] and are associated with closeness and willingness to engage in communal relationships [34]. Aside from being associated with emotional closeness, bodily gestures such as synchronized motions can even instill a sense of intimacy [38].

While the above findings highlight the importance of nonverbal responsive behaviors, it remains necessary to differentiate them (and their effects) from verbal responsive behavior. A compelling reason for this is because isolating their effects has the capacity to reveal the relative primacy of nonverbal versus verbal cues, and whether that primacy is context dependent. Some evidence suggests that when verbal and nonverbal cues diverge, nonverbal cues set the tone and determine the perception of a partner's intentions and affective state. For example, vocal information played a larger role than semantics in identifying positive and negative emotions in speech [24], and when incongruence emerged between semantic and vocal information, listeners relied primarily on vocal tone to comprehend the emotional message [39].

Similarly, perceivers more accurately differentiated indirect responses (ones meant to save face) from direct responses or lies when they relied on gestures like a palm reveal, face shrug, or head tilt in addition to the verbal content of a response [40]. Another example comes from an ongoing study by Mizrahi and Itzhakov, in which participants share a hurtful personal story with a confederate who responded with nonverbal (e.g., eye contact and warm facial expressions) or verbal (e.g., "I can understand how it feels," "I am sorry to hear about your experience") responsiveness. Confederates who provided responsive messages that were exclusively nonverbal were perceived as more responsive and

trustworthy than those who provided exclusively verbal messages.

Although these findings suggest the primacy of nonverbal cues, other research suggests the opposite. For example, the interpretation of nonverbal behavior is affected by semantic information [41,42], and it has been argued that authentic attentive listening is better conveyed verbally than nonverbally to avoid concern about deceptive intentions [43]. Moreover, verbal responses are crucial for people whose ability to process nonverbal information is compromised (e.g., people with autism, blindness, or deafness in the case of vocal cues), or in situations where nonverbal cues are limited (e.g., a telephone call). Importantly, features that distinguish nonverbal cues from verbal ones (e.g., lack of vocabulary, syntax, or precise definitions) [44] suggest that they may serve different communicative functions. Taken together, these findings lead us to propose that the contribution of responsive verbal and nonverbal cues to relationship outcomes may diverge and be context dependent.

For example, if one feels obliged to provide verbal responsiveness, but has trouble figuring out "the right thing to say" (a common experience among support providers) verbal messages may not promote perceived responsiveness. In such situations, it may be easier to display feelings of sensitivity, care, and concern nonverbally. Alternatively, in other circumstances using only nonverbal responsiveness may dampen the experience of feeling understood and validated (e.g., showing nonverbal enthusiasm for a close friend's good news, but not asking any questions about it). It may be specifically intriguing to explore when communication channels conflict (e.g., paraphrasing in a way that conveys attention and understanding while scrolling on one's phone). More research is needed to better understand the interplay between responsive verbal and nonverbal displays, and clarify the contexts in which each reigns supreme.

Future directions and methodological approaches

The evidence for responsive nonverbal behavior, and the important role it plays in relationship processes that we have highlighted above, provides a compelling case for more interdisciplinary work integrating nonverbal behavior and relationship science. To fully grasp and accurately assess the influence of nonverbal cues of high-quality listening and responsiveness requires examining the unique effects of verbal and nonverbal cues and isolating the relative contributions of each. This requires multimethod approaches that incorporate the assessment of nonverbal cues across multiple channels, not to the exclusion of self-report and verbal cues, but in addition to those measures. We describe methods at our disposal for carrying out such work.

Assessing nonverbal behavioral cues requires that researchers audio- and video-record participants. Conversations can be recorded in laboratory sessions or in daily life with tools such as the Electronically Activated Recorder (EAR) [45]. Recordings accompanied by video afford researchers the opportunity to analyze multiple nonverbal channels in isolation from each other. For example, one can rate behavior (facial expressions, gestures, and touch) with or without vocal cues, and vocal cues (i.e., voice messages) with or without access to visual information. Researchers may also contrast perceptions of responsiveness in typed text messages versus audio recordings containing the same content. In these examples, the verbal content of conversations can be transcribed and rated by independent judges to assess understanding, validation, and care, independent from nonverbal cues. Isolating the degree of RRB conveyed across each distinct communication channel will allow us to examine the unique contributions of each.

We acknowledge that these methods can be expensive, time-consuming, and labor-intensive. However, they may be crucial for identifying processes at the core interest of relationship science. For example, a recent study found that nonverbal (but not verbal) gestures of love and affection were associated with greater positive emotions and receptiveness (i.e., behavioral displays of engagement) among highly avoidant individuals [46]. These findings provide novel insight into the dynamics of affectionate exchange among avoidant individuals that are only available through the use of nonverbal information. The accessibility of audio and video methods has drastically increased as the use of virtual meetings (e.g., via Zoom, Skype, and Google Meet) became common in everyday interpersonal interactions due to the COVID-19 pandemic [47]. Although virtual meetings are limited in capturing certain nonverbal information (e.g., full body posture and touch), and there may be obstacles to intimacy (e.g., background noises and poor Internet connection), they may provide a handy tool to capture nonverbal communication in any laboratory.

Conclusions

Developing knowledge about responsive nonverbal behaviors and isolating their effects across nonverbal channels will provide a richer and more nuanced understanding of high-quality listening and responsiveness. It can also introduce a framework for research that can begin to clarify conditions under which different kinds of responsive behavior might be most effective, as well as allow us to test how easily manipulated and trained nonverbal signals of listening and sensitive responding might be for those who are genuinely trying to convey it. In addition to being theoretically useful, identifying the “active ingredients” in these behaviors

may have practical implications, such as in clinical training or psychoeducation practices, teaching people which communication channel is most effective in different circumstances and how to shape their nonverbal signals (with or without verbal ones) to show affection, be supportive, or otherwise convey responsiveness. Instead of looking under the lamppost for the key we lost on the other side of the dark street, we offer ideas about how to cast light on some of the darkened areas to find new answers to our questions about what makes people feel listened to, understood, validated, and cared for.

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Authors' contributions

Cheryl Carmichael: conceptualization; writing — original draft preparation, reviewing; writing — review & editing, Moran Mizrahi: conceptualization; writing — original draft; preparation, reviewing; writing — review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

References

Papers of particular interest, published within the period of review, have been highlighted as:

- * of special interest
- ** of outstanding interest

1. Reis HT, Clark MS, Holmes JG: **Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness.** In *Handbook of closeness and intimacy*. Edited by Mashek DJ, Aron AP, Lawrence Erlbaum Associates Publishers; 2004:201–225.
2. Itzchakov G, Reis HT, Weinstein N: **How to foster perceived partner responsiveness: high quality listening is key.** *Soc Pers Psych Comp* 2022, **16**, e12648, <https://doi.org/10.1111/spc3.12648>.
3. Faure R, Righetti F, Seibel M, Hofmann W: **Speech is silver, nonverbal behavior is gold: how implicit partner evaluations affect dyadic interactions in close relationships.** *Psychol Sci* 2018, **29**:1731–1741, <https://doi.org/10.1177/0956797618785899>.
4. Hornsey MJ, Wohl MJA, Harris EA, Okimoto TG, Thai M, Wenzel M: **Embodied remorse: physical displays of remorse increase positive responses to public apologies, but have negligible effects on forgiveness.** *J Pers Soc Psych* 2020, **119**: 367–389, <https://doi.org/10.1037/pspi0000208>.

When nonverbal signals of kneeling or crying accompanied a public apology, the apology was perceived as more satisfying, and the apologist was perceived more positively, more remorseful and empathic,

and less likely to reoffend. This highlights how nonverbal signals alter perceptions of verbal messages and showcases the importance of capturing both verbal and nonverbal cues.

5. McIntyre S, Hauser SC, Kusztor A, Boehme R, Mounbou A, Isager PM, Homman L, Novembre G, Nagi SS, Israr A, Lumpkin EA, Abnoui F, Gerling GJ, Olausson H: **The language of social touch is intuitive and quantifiable.** *Psychol Sci* 2022, **33**:1477–1494, <https://doi.org/10.1177/09567976211059801>.
Emotions such as love, happiness, sadness, and gratitude were accurately conveyed to romantic partners and unacquainted strangers using touch alone. Communication between romantic partners was intuitive, and used to create standardized touch expressions that were taught to trained senders and accurately interpreted by unacquainted strangers. This work is important because it suggests the possibility of training responsive nonverbal behaviors using touch.
6. Reis HT, Shaver P: **Intimacy as an interpersonal process.** In *Handbook of personal relationships: theory, research and interventions*. Edited by Duck S, Hay DF, Hobfoll SE, Ickes W, Montgomery BM, John Wiley & Sons; 1988:367–389.
7. Laurenceau JP, Barrett LF, Pietromonaco PR: **Intimacy as an interpersonal process: the importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges.** *J Pers Soc Psych* 1998, **74**: 1238–1251, <https://doi.org/10.1037/0022-3514.74.5.1238>.
8. Carmichael CL, Goldberg MH, Coyle MA: **Security-based differences in touch behavior and its relational benefits.** *Soc Psychol Personal Sci* 2021, **12**:550–560, <https://doi.org/10.1177/1948550620929164>.
In a daily diary study of provided and received affectionate touch with romantic partners, receiving touch was associated with receivers' perceptions of the touch givers' responsiveness, but providing touch was not associated with providers' perceptions of the touch recipients' responsiveness. This demonstrates that touch nonverbally signal responsiveness, and the pattern that receiving but not giving conveys responsiveness is an important display of discriminant validity.
9. Jakubiak BK, Fuentes JD, Feeney BC: **Affectionate touch promotes shared positive activities.** *Pers Soc Psychol Bull* 2023, **49**:939–954, <https://doi.org/10.1177/01461672221083764>.
10. Jakubiak BK, Feeney BC: **Hand-in-Hand combat: affectionate touch promotes relational well-being and buffers stress during conflict.** *Pers Soc Psychol Bull* 2019, **45**:431–446, <https://doi.org/10.1177/0146167218788556>.
11. Jakubiak BK, Feeney BC: **Interpersonal touch as a resource to facilitate positive personal and relational outcomes during stress discussions.** *J Soc Pers Rel* 2019, **36**:2918–2936, <https://doi.org/10.1177/0265407518804666>.
12. Ekman P: **Facial expressions.** In *Handbook of cognition and emotion*. Edited by Dalgleish T, Power MJ, John Wiley & Sons; 1999:301–320, <https://doi.org/10.1002/0470013494.ch16>. Ltd.
13. Gendron M, Roberson D, van der Vyver JM, Barrett LF: **Perceptions of emotion from facial expressions are not culturally universal: evidence from a remote culture.** *Emotion* 2014, **14**:251.
14. Porter S, ten Brinke L, Wallace B: **Secrets and lies: involuntary leakage in deceptive facial expressions as a function of emotional intensity.** *J Nonverbal Behav* 2012, **36**:23–37, <https://doi.org/10.1007/s10919-011-0120-7>.
15. Küncke J, Wilhelm O, Sommer W: **Emotion recognition in nonverbal face-to-face communication.** *J Nonverbal Behavior* 2017, **41**:221–238, <https://doi.org/10.1007/s10919-017-0255-2>.
16. Hess U, Blairy S, Kleck RE: **The influence of expression intensity, gender, and ethnicity on judgments of dominance and affiliation.** *J Nonverbal Beh* 2000, **24**:265–283.
17. Behrens F, Kret ME: **The interplay between face-to-face contact and feedback on cooperation during real-life interactions.** *J Nonverbal Beh* 2019, **43**:513–528, <https://doi.org/10.1007/s10919-019-00314-1>.
18. Grundmann F, Epstude K, Scheibe S: **Face masks reduce emotion-recognition accuracy and perceived closeness.** *PLoS One* 2021, **16**, e0249792, <https://doi.org/10.1371/journal.pone.0249792>.
Participants showed a marked decrease in their ability to accurately identify the emotional expressions of stimuli from a normed database when the same stimuli were masked vs. unmasked. Unmasked faces expressing negative emotion were deemed more untrustworthy than were the same faces displayed wearing a face mask. This points to the detrimental interpersonal effects of being unable to access full facial expressions of emotion, which is increasingly common given the increased use of face mask to control viral spread.
19. Yoo SH, Noyes SE: **Recognition of facial expressions of negative emotions in romantic relationships.** *J Nonverbal Beh* 2016, **40**:1–12, <https://doi.org/10.1007/s10919-015-0219-3>.
20. Coyle MA, Carmichael CL: **Perceived responsiveness in text messaging: the role of emoji use.** *Comput Hum Behav* 2019, **99**:181–189, <https://doi.org/10.1016/j.chb.2019.05.023>.
21. Hall JA, Horgan TG, Murphy NA: **Nonverbal communication.** *Annu Rev Psychol* 2019, **70**:271–294, <https://doi.org/10.1146/annurev-psych-010418-103145>.
22. Laukka P, Elenbein HA: **Cross-cultural emotion recognition and in-group advantage in vocal expression: a meta-analysis.** *Emotion Review* 2021, **13**:3–11, <https://doi.org/10.1177/1754073919897295>.
23. Filippi P, Congdon JV, Hoang J, Bowling DL, Reber SA, Pasukonis A, Hoeschele M, Ocklenburg S, de Boer B, Sturdy CB, Newen A, Güntürkün O: **Humans recognize emotional arousal in vocalizations across all classes of terrestrial vertebrates: evidence for acoustic universals.** In *Proceedings of the Royal Society B: Bio Sci*, **284**; 2017, 20170990, <https://doi.org/10.1098/rspb.2017.0990>.
24. Ben-David BM, Multani N, Shakuf V, Rudzicz F, van Lieshout PH: **Prosody and semantics are separate but not separable channels in the perception of emotional Speech: test for rating of emotions in speech.** *J Speech, Lang, Hearing Rsrch* 2016, **59**:72–89, https://doi.org/10.1044/2015_JSLHR-H-14-0323.
25. Dunbar RIM, Robledo JP, Tamarit I, Cross I, Smith E: **Nonverbal auditory cues allow relationship quality to be inferred during conversations.** *J Nonverbal Beh* 2022, **46**:1–18, <https://doi.org/10.1007/s10919-021-00386-y>.
26. Shakuf V, Ben-David B, Wegner TGG, Wesseling PBC, Mentzel M, Defren S, Allen SEM, Lachmann T: **Processing emotional prosody in a foreign language: the case of German and Hebrew.** *J Cult Cog Sci* 2022, **6**:251–268, <https://doi.org/10.1007/s41809-022-00107-x>.
German and Israeli participants were able to accurately identify the degree of anger, fear, happiness, and sadness conveyed through statements made in the other group's language despite being unfamiliar with that language. This showcases the ability of nonverbal vocal cues to convey emotion, regardless of verbal content.
27. Scherer KR: **Vocal communication of emotion: a review of research paradigms.** *Speech Commun* 2003, **40**:227–256, [https://doi.org/10.1016/S0167-6393\(02\)00084-5](https://doi.org/10.1016/S0167-6393(02)00084-5).
28. Weusthoff S, Baucom BR, Hahlweg K: **The siren song of vocal fundamental frequency for romantic relationships.** *Front Psychol* 2013, **4**:439, <https://doi.org/10.3389/fpsyg.2013.00439>.
29. Farley SD, Hughes SM, LaFayette JN: **People will know we are in love: evidence of differences between vocal samples directed toward lovers and friends.** *J Nonverbal Beh* 2013, **37**: 123–138.
30. Floyd K, Ray GB: **Human affection exchange: IV. Vocalic predictors of perceived affection in initial interactions.** *Western Jnl of Comm* 2003, **67**:56–73.
31. Hale J, Ward JA, Buccheri F, Oliver D, Hamilton AFDC: **Are you on my wavelength? Interpersonal coordination in dyadic conversations.** *J nonverbal beh* 2020, **44**:63–83, <https://doi.org/10.1007/s10919-019-00320-3>.
32. Farley SD, Akin K, Hedgecoth N: **Exploring the meanings of the “heartfelt” gesture: a nonverbal signal of heartfelt emotion and empathy.** *J Nonverbal Beh* 2021, **45**:567–585, <https://doi.org/10.1007/s10919-021-00371-5>.
The gesture of placing a flat palm to the chest was identified by participants as conveying feelings of being moved by love, touched, or reflecting empathy and heartfelt feelings. Use of the gesture was

positively associated with self-reported empathy, exemplifying how nonverbal signals may foster social connection.

33. Van Cappellen P, Edwards ME, Shiota MN: **Shades of expansiveness: postural expression of dominance, high-arousal positive affect, and warmth.** *Emotion* 2022, <https://doi.org/10.1037/emo0001146>.
34. Schubert TW, Zickfeld JH, Seibt B, Fiske AP: **Moment-to-moment changes in feeling moved match changes in closeness, tears, goosebumps, and warmth: time series analyses.** *Cognit Emot* 2018, **32**:174–184, <https://doi.org/10.1080/02699931.2016.1268998>.
35. Zickfeld JH, Schubert TW: **Warm and touching tears: tearful individuals are perceived as warmer because we assume they feel moved and touched.** *Cognit Emot* 2018, **32**:1691–1699, <https://doi.org/10.1080/02699931.2018.1430556>.
36. Seibt B, Schubert TW, Zickfeld JH, Fiske AP: **Interpersonal closeness and morality predict feelings of being moved.** *Emotion* 2017, **17**:389–394, <https://doi.org/10.1037/emo0000271>.
37. Zickfeld JH, Schubert TW, Seibt B, Blomster JK, Arriaga P, Basabe N, Blaut A, Caballero A, Carrera P, Dalgat I, Ding Y, et al.: **Kama muta: conceptualizing and measuring the experience often labelled being moved across 19 nations and 15 languages.** *Emotion* 2019, **19**:402–424, <https://doi.org/10.1037/emo0000450>.
38. Sharon-David H, Mizrahi M, Rinott M, Golland Y, Birnbaum GE: **Being on the same wavelength: behavioral synchrony between partners and its influence on the experience of intimacy.** *J Soc Pers Relationships* 2019, **36**:2983–3008, <https://doi.org/10.1177/0265407518809478>.
39. Jacob H, Brück C, Plewnia C, Wildgruber D: **Cerebral processing of prosodic emotional signals: evaluation of a network model using rTMS.** *PLoS One* 2014, **9**, e105509, <https://doi.org/10.1371/journal.pone.0105509>.
40. Chu M, Tobin P, Ioannidou F, Basnakova J: **Encoding and decoding hidden meanings in face-to-face communication: understanding the role of verbal and nonverbal behaviors in indirect replies.** *J Exp Psych: Gen* 2023, **152**:1030–1053, <https://doi.org/10.1037/xge0001315>.
- In six studies, this work demonstrated that people are more likely to express uncertainty with verbal (words like *possibly*, *maybe*, *suppose*, *I guess*) and nonverbal cues (palm-revealing gesture, face shrug, head tilt) when they are communicating indirectly (in order to save face for another) versus directly or lying. Moreover, perceivers use the nonverbal cues to more accurately distinguish indirect (face saving) responses from direct responses and lies when verbal cues are present or absent.
41. Kotz SA, Paulmann S: **When emotional prosody and semantics dance cheek to cheek: ERP evidence.** *Brain Res* 2007, **1151**:107–118, <https://doi.org/10.1016/j.brainres.2007.03.015>.
42. Paulmann S, Kotz SA: **An ERP investigation on the temporal dynamics of emotional prosody and emotional semantics in pseudo-and lexical-sentence context.** *Brain Lang* 2008, **105**:59–69, <https://doi.org/10.1016/j.bandl.2007.11.005>.
43. Collins HK: **When listening is spoken.** *Current Opinion in Psychology* 2022, **47**:101402, <https://doi.org/10.1016/j.copsyc.2022.101402>.
44. Patterson ML, Fridlund AJ, Criveli C: **Four misconceptions about nonverbal communication.** *Perspect Psychol Sci* 2023, <https://doi.org/10.1177/17456916221148142>.
45. Mehl MR: **The electronically activated recorder (EAR): a method for the naturalistic observation of daily social behavior.** *Curr Dir Psychol Sci* 2017, **26**:184–190.
46. Schrage KM, Maxwell JA, Impett EA, Keltner D, MacDonald G: **Effects of verbal and nonverbal communication of affection on avoidantly attached partners' emotions and message receptiveness.** *Pers Soc Psychol Bull* 2020, **46**:1567–1580, <https://doi.org/10.1177/0146167220910311>.
- Nonverbal (but not verbal) expressions of affection from a romantic partner were met with more engagement for people who were relatively higher in attachment avoidance. This is among the first research to directly contrast verbal and nonverbal expressions of affection in romantic couples, and to show how an individual difference (attachment avoidance) dictates the effectiveness of each cue type.
47. Itzchakov G, Grau J: **High-quality listening in the age of COVID-19: a Key to better dyadic communication for more effective organizations.** *Organ Dynam* 2022, **51**:100820, <https://doi.org/10.1016/j.orgdyn.2020.100820>.