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Patterns of Nonverbal Adaptation in Supportive Interactions

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This study seeks initial evidence for the patterns of nonverbal adaptation predictive of emotional improvement after a troubles talk conversation. A total of 128 dyads composed of two unacquainted individuals engaged in a 5-minute conversation about a stressful event, and the nonverbal behaviors of both the supportive listener and discloser were coded for immediacy. We detected a general pattern of matching between interlocutors, which was positively associated with disclosers' reported emotional improvement above and beyond listener immediacy. Importantly, we found primary support for a discloser-matching model whereby emotional improvement is a function of disclosers matching highly immediate listeners but no support for a listener-matching model whereby emotional improvement is a function of listeners matching disclosers to signal empathy.

Keywords: *Comforting; Matching; Mimicry; Social Support; Supportive Communication*

Social support is an important coping resource (Holt-Lunstad, Smith, & Layton, 2010). Enacted emotional support, or the behaviors engaged by a supportive listener that express care and concern, is particularly beneficial to human health

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Color versions of one or more of the figures in the article are available online at <http://www.tandfonline.com/rcst>.

and functioning (Goldsmith, 2004). Over 30 years of research has provided compelling evidence that specific verbal and nonverbal actions have reliable effects on a range of support outcomes including individual health and well-being (MacGeorge, Feng, & Burleson, 2011). While these findings are powerful, the data upon which they are based are limited in at least two important respects. First, the majority of studies have relied on the so-called *message perception paradigm* in which participants evaluate preformulated comforting strategies that exhibit theoretically relevant message characteristics (for review, see MacGeorge et al., 2011). Particularly problematic within this paradigm is the fact that the supportive listener remains a hypothetical provider, and the comforting message is detached and acontextual. In other words, participants evaluate sheer text that is of little phenomenal relevance. Consequently, although providing theoretical specificity and methodological control and allowing, for instance, the ability to “assess naïve actors’ perceptions of different comforting strategies in isolation from other, potentially confounding factors” (Burleson & Samter, 1985, p. 113), this paradigm lacks in ecological validity; it does not help us understand what supportive listeners *actually do* as they comfort others; that is, the multitude of behaviors they enact when trying to cheer someone up.

Second, the vast amount of research on enacted support has focused exclusively on verbal instantiations of support with one message characteristic, the person-centeredness of message content, receiving the bulk of attention (Jones & Bodie, 2014). Features of person-centered messages include encouragements to disclose, inquiries about and acknowledgements of emotional states, and appraisal incentives to view an event from a different perspective (Burleson, 2003). Verbal message features are crucially important when providing support, but they also can be misguided and hurtful; indeed, even the most well-intentioned support provider often enacts poor verbal support (Maisel & Gable, 2009). Moreover, in many situations, there is little one can say to enhance coping for another (MacGeorge, Feng, & Thompson, 2008). For these reasons, nonverbal behaviors may play a particularly important role in supportive conversations (Dolin & Booth-Butterfield, 1993). At least one study reported that “being there” is an important indicator of social support, and it is likely that sheer presence is nonverbally communicated (Woodgate, 2006).

Our study is situated at the confluence of these two limitations. In particular, in work attending to how nonverbal manifestations of support impact outcomes, attention is almost exclusively focused on the relative importance of specific behaviors for emotional improvement (Bodie, Vickery, Cannava, & Jones, 2015; Jones & Guerrero, 2001). This literature is ultimately one sided, ignoring the potential that patterns of behavioral matching might influence outcomes over and above the behaviors of a single support provider (Cannava & Bodie, 2014; Jones, 2011; Jones & Wirtz, 2007). Indeed, Goldsmith (2004) argued cogently that the direct effects model implied by much work on supportive communication largely ignores the important role played by patterns of interaction in the comforting process (see also Burleson & Goldsmith, 1998; L. F. Clark, 1993). Below, we advance and test several theoretical models for the relationship between nonverbal responsiveness and emotional improvement. Before

presenting our study, we situate it within the literature on nonverbal immediacy and its role in the comforting process.

The Role of Nonverbal Immediacy in the Comforting Process

Nonverbal behaviors are universally recognized as important components in the comforting process (Geerts, Bouhuys, & Bloem, 1997; Miczo & Burgoon, 2008; Trees, 2005; Winstead et al., 1992). One set of nonverbal behaviors, those generally classified as nonverbal immediacy (NVI) cues (e.g., head nods, eye contact, forward body lean, pleasant vocal tone), seem to play particularly poignant roles in supportive talk (Jones, 2004; Jones & Guerrero, 2001). In the context of supportive conversations, NVI expresses, “important emotional dynamics ... constituting a supportive and caring climate within which the emotionally distressed person can feel safe to disclose difficult emotions” (Jones & Guerrero, 2001, p. 568).

Extensive evidence attests to the impact of *individual* nonverbal cues in supportive talk (e.g., Foyne & Freyd, 2013), suggesting a powerful *independent* effect of nonverbal immediacy on emotional improvement. That is, the nonverbal immediacy cues exhibited by the listener generate greater emotional improvement in the discloser. As long as the support provider exhibits positive involvement cues (eye contact, vocalic warmth, forward lean), alleviation of difficult and uncomfortable emotions seems assured. Direct evidence of the role of NVI behaviors in supportive conversations, however, comes from a limited number of datasets. The work by Jones and her colleagues utilized stranger confederates trained to enact various levels of NVI and showed that the use of various molecular nonverbal behaviors such as frequent head nods, sustained eye contact, and appropriately timed forward body lean lead to more satisfactory supportive conversations and a greater degree of emotional improvement for distressed persons. We seek to replicate this result using data from naturalistic conversations:

H1: Nonverbal immediacy engaged by a listener is positively related to reports of distressed others' emotional improvement after a supportive conversation.

The Dyadic and Interdependent Nature of Supportive Listening

An axiom of all interpersonal communication is that it is interdependent. That, of course, includes enacted emotional support, which is considered a dyadic process that unfolds over time (Goldsmith, 2004). Numerous lines of work examine features, qualities, or dimensions of verbal and nonverbal behavior in supportive interactions, including work on rapport (Tickle-Degnen, 2006), empathic accuracy (Zaki, Bolger, & Ochsner, 2009), interpersonal sensitivity (Hall, Murphy, & Mast, 2006), and broaden-and-build theory (Vacharkulksemsuk & Fredrickson, 2012). While these approaches view nonverbal behavior as an integral part of supportive conversations, none of them examine how and in what ways the interdependent exchange of nonverbal immediacy

unfolds over time such that it ultimately leads to emotional change. Coordination of interdependent behaviors is not only relevant but essential to generating affect change, a central tenet of various communication-focused theories of social support including the theory of conversationally induced reappraisals (Burleson & Goldsmith, 1998) and sensitive interactions system theory (Barbee & Cunningham, 1995; Jones, 2011). These latter theories share with work conducted under the auspices of behavioral synchrony a set of alternative (potentially but not necessarily competing) models to the independent effects model posited for H1.

The correlational model

Behavioral coordination during interaction is natural. People match each other's nonverbal (Chartrand & van Baaren, 2009) and verbal (Giles, Coupland, & Coupland, 1991) behaviors regularly and automatically, and coordinated interactions are perceived as more pleasant, satisfying, and comfortable (Tickle-Degnen, 2006). Common outcomes of matching include conversational satisfaction (Miczo & Burgoon, 2008) and rapport (Chartrand & Bargh, 1999). Particularly relevant for supportive communication scholarship are findings that mimicking emotions can help facilitate emotion recognition (Niedenthal, 2007), involvement and approval (Kendon, 1970), and bonding (Condon, 1980).

We focus in this study on a pattern of coordination called behavioral matching, thought to be primarily "automatic" (Burgoon, Stern, & Dillman, 1995). Previous research (Jones & Wirtz, 2007) showed that disclosers matched the nonverbal behavioral cues of a listener rather quickly. We, therefore, predict a high degree of matching for our study participants as well:

H2: Listener and discloser immediacy behaviors are positively and substantively related.

While Jones and Wirtz (2007) found that disclosers matched the immediacy behaviors of confederate listeners, their findings are limited in two important ways. First, because confederates were utilized, their work focused on one individual, "the discloser," and thwarts the ability to understand communication as a transaction whereby both individuals coordinate joint actions and have few (if any) predetermined behavioral constraints (H. H. Clark, 1996). Although the use of confederates has its advantages and should be used when appropriate, their use tells us little about how listening operates within naturalistic interaction (Bodie, 2013). Second, and more important, Jones and Wirtz failed to provide evidence that matching actually matters. In their study, the primary dependent variable was liking for the confederate, and liking did not vary as a function of matching. While liking is certainly an important support outcome, other (and potentially more) important coping outcomes were absent from their study. In particular, supportive conversations should result in relatively proximal outcomes such as improved felt emotions. Indeed, emotional improvement is thought to be the central outcome variable in work on supportive

communication (Burleson, 2010) even if it is the least investigated to date (Jones & Wirtz, 2006). This shortcoming leads to the obvious question: *Why* should nonverbal matching lead to emotional improvement?

The matching dividends model

There are several theories suggesting that coordinated behaviors, rather than the behaviors of one conversational partner alone, predict support outcomes. One particularly relevant explanation comes from Bavelas and colleagues who proposed that matching is a direct and unambiguous sign of empathy (Bavelas, Black, Lemery, & Mullett, 1986). Indeed, the very act of matching can operationalize empathy. As a communicative act, behavioral matching is directed toward another person and is thought to be an instinctual reaction to another's situation rather than to one's own experience. Bavelas, Black, Chovil, Lemery, and Mullett suggested that matching is relative, such that the observer takes the role in relation to the other and displays feeling with (not "into") the other person (1988, p. 282). Thus, matching or mirroring emotional states during a supportive conversation signals empathy, similarity, rapport, and understanding to the individual disclosing a distressful event. As a result, matched supportive conversations add dividends to support outcomes; these conversations ought to impact emotional states in a positive direction more so than unmatched supportive conversations. In short, matching nonverbal behaviors benefits the recipient *above and beyond* the outcomes one would expect as a result of the support that is provided independently:

H3: After controlling for listener nonverbal immediacy behavior, nonverbal immediacy matching is positively related to the recipient's self-reported (SR) affect improvement after a supportive conversation.

Thus far, we have argued that conversational partners should naturally coordinate their behaviors with one another and that the supportive context is one in which this matching should have important practical impacts. Our logic, while accounting for the dyadic nature of supportive listening, fails; however, to account for the fact that supportive listening is also an "*interdependent process that unfolds over time*" (Jones, 2011, p. 92, emphasis in original). What we have argued above is that highly immediate listeners will be able to generate emotional improvement and that higher degrees of matching will engender higher levels of improvement. However, these two perspectives are augmented by a third, the central question of which is: Whose behaviors should be reciprocated and how? We test two alternative hypotheses.

The listener-matching model

First, the literature on behavioral matching reviewed above suggests that supportive listeners should match disclosers in order to communicate empathy and that this pattern of matching will, in turn, influence discloser affect. The reason that listener matching should influence supportive communication outcomes is because matching signals

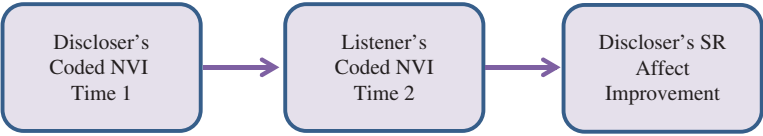


Figure 1 Hypothesized path model for the listener-matching model.

empathy and positive regard. How expressions of positive regard lead to affective change has been examined in embodied cognition and semantic priming studies. For instance, a research study by Bargh and Shalev (2012) found that physical warmth directly influenced perceptions of emotional and interpersonal warmth. The model implicated in H4, what we call the *listener-matching model*, is presented in Figure 1:

H4: Listener matching of discloser nonverbal immediacy cues leads to increased emotional improvement.

The discloser-matching model

The supportive communication literature suggests an alternative theoretical model to the listener-matching model. In particular, work by Jones showed that high levels of immediacy on the part of a supportive listener produced more positive emotional improvement than moderate or high levels of immediacy (Jones, 2004; Jones & Guerrero, 2001). It is possible that listeners who are highly immediate help create a climate within the supportive conversation that invites approaching the emotionally distressing event rather than avoiding these emotions. This assumption is entirely in line with various theories suggesting that when people are invited to explore emotions in a nurturing environment, affect is improved (Burleson & Goldsmith, 1998; L. F. Clark, 1993). The model implicated by this logic, what we call the *discloser-matching model*, is one in which listener nonverbal immediacy works to improve discloser emotions by first influencing the degree to which the discloser is engaging in a high degree of immediacy; that is, listener NVI enables the discloser to relax and engage in behaviors that likely signal comfort and relieve negative affect (i.e., nonverbal immediacy behaviors). As such, we make the following prediction (see Figure 2):

H5: Discloser matching of listener nonverbal immediacy cues leads to increased emotional improvement.

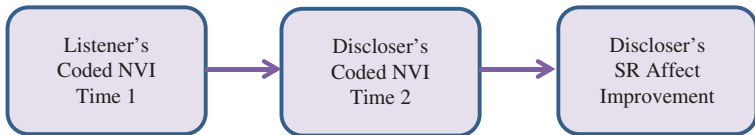


Figure 2 Hypothesized path model for the discloser-matching model.

Method

Participants and Procedures

Participants for this study ($N = 256$) were students enrolled in introductory Communication Studies courses at Louisiana State University and Agricultural & Mechanical College (LSU A&M). An online system permitted 2 participants to sign up for each appointment time, resulting in 128 dyads. In exchange for successful participation, participants received a small portion of course credit (3% of the course grade). The majority of participants were approximately 21 years old ($SD = 4.08$), female ($n = 150$; 9 missing), and self-identified as Caucasian ($n = 182$).

All procedures were approved by the appropriate Institutional Review Board. Upon arrival at the laboratory for their appointments, participants were greeted by two research assistants who confirmed the participants did not know each other and provided each with a copy of the consent form. After securing written consent, the research assistants followed a script for the experiment, first having participants draw slips of paper to randomly assign the conversational roles of “discloser” and “listener.” Participants were separated so that disclosers could complete information about the emotionally distressful event they would be talking about in the subsequent 5-minute conversations; listeners completed measures not germane to this article (e.g., Big Five Inventory). The discloser identified and rated two recent emotionally distressing events on a scale that ranged from 1 (*not at all emotionally distressing*) to 7 (*very emotionally distressing*). Instructions indicated disclosers should only write down stressors they were comfortable disclosing. Listed events were primarily everyday stressors relevant to college students, including academic stressors (e.g., failing a test), relationship problems (e.g., roommate spats), family problems (e.g., parents fighting), and health-related issues (e.g., a recent surgery). Research assistants were trained to help select an event that was at least moderately stressful ($M = 5.12$; $Mdn = 5.00$; $Mode = 5.00$; $SD = 1.02$). To ensure the discloser was comfortable discussing the selected stressor, the research assistant asked a final time, “Are you comfortable disclosing this event?” All participants answered in the affirmative.

Participants were reunited in the observation portion of the laboratory where research assistants prepared participants for the ensuing conversation, instructing each to “behave as you normally do in a conversation about emotionally distressing events.” Participants were given 1 minute to engage in small talk that was not recorded and then engaged in a 5-minute, video-recorded conversation about the selected event. After this conversation, participants were separated for a final time and completed various post-conversation measures including measures capturing the discloser’s self-reported emotional improvement.

Emotional Improvement

Emotional improvement was assessed by having disclosers respond to three items from the Comforting Response Scale (R. A. Clark et al., 1998) used in prior work (Jones & Wirtz, 2006). As an appropriate operationalization of emotional

improvement, all items ($\alpha = .88$) referred to the recipient's emotional state as opposed to evaluations of the helper or the message: (a) I feel better after talking with my conversational partner, (b) I feel more optimistic after talking with my conversational partner, and (c) My conversational partner made me feel better about myself.

Behavioral Coding

After all data were collected, nonverbal immediacy cues were coded from the video-taped interactions with a modified version of Andersen, Andersen, and Jensen's (1979) nonverbal immediacy scale. Two research assistants blind to the study's purpose were trained by the fourth author and evaluated nine immediacy cues (e.g., "orient her/his body toward the other person," "smile when it's appropriate?") and one global immediacy evaluation on 7-point scales (1 = *not at all*; 7 = *very much*).¹ The immediacy cue stem read, "To what extent is/does the person(s)..." and coders were directed to code the immediacy cues of one of the two interlocutors.

Coders assessed the nonverbal cues twice, once after the first half of the conversation and then again after the second half of the conversation ($r_s > .65$). Thus, NVI at Time 1 represents immediacy from the beginning of the conversation until approximately 2:30. NVI at Time 2 represents immediacy from the midpoint of the conversation until approximately 5:00. Although this division does not capture moment-to-moment immediacy, it allows us to test the primary theoretical models that are the focus of this article (see limitations in the "Discussion" section). Intraclass correlations using Cronbach's alpha are based on 40 dyads and suggest that coders coded immediacy cues quite reliably ($\alpha_{\text{listener}} = .81$; $\alpha_{\text{discloser}} = .70$). Because we were interested in nonverbal immediacy as a gestalt and not with the matching of individual behaviors, the variable used in all analyses represents the composite immediacy score.

Results

Table 1 features correlations between the variables included in the study. H1 posited that listener nonverbal immediacy is positively related to discloser reports of emotional improvement after a supportive conversation, while H2 predicted that nonverbal immediacy behaviors of discloser and listener are positively related. H1 was not supported at the bivariate level; listener immediacy behaviors were unassociated with reported emotional improvement.² The positive relationship between listener nonverbal immediacy (LNVI) and discloser nonverbal immediacy (DNVI) at Time 1 and Time 2 and their composites as well as the moderate-to-large size of these relations support H2.

H3 predicted that matched nonverbal immediacy behaviors between partners are positively related to discloser reports of emotional improvement after controlling for listener nonverbal immediacy. To evaluate this hypothesis, we first created a variable to represent the overall discrepancy between listener and discloser nonverbal immediacy, namely the absolute value of the difference between the two composite variables. Thus, lower numbers represent lower levels of discrepancy with 0 representing

Table 1 Zero-Order Correlations Between All Study Variables

	1	2	3	4	5	6
1. LNVI T1	–					
2. LNVI T2	.82**	–				
3. LNVI	.96**	.95**	–			
4. DNVI T1	.47**	.45**	.47**	–		
5. DNVI T2	.46**	.47**	.48**	.83**	–	
6. DNVI	.49**	.48**	.50**	.96**	.95**	–
7. AI	–0.01	0.08	0.03	0.12	.25**	.19*

Notes. LNVI = Listener Nonverbal Immediacy; T1 = First Half of Conversation; T2 = Second Half of Conversation; DNVI = Discloser Nonverbal Immediacy; AI = Affect Improvement; SR NVI = Self-Report Nonverbal Immediacy.

* $p < .05$. ** $p < .01$.

no discrepancy between the overall immediacy of a listener and discloser. We then computed a partial correlation between this discrepancy score and emotional improvement, controlling for listener nonverbal immediacy. This partial correlation was in the appropriate direction, $r = -.18$, and statistically significant using a one-tailed criterion, $p = .028$; the two-tailed significance level was .057. Thus, there is some support for H3, but these results are interpreted cautiously.

To test H4 and H5, we used techniques developed by Preacher and Hayes (2008) for the statistical assessment of mediated models. For each hypothesis, reported emotional improvement was the dependent variable. For H4, discloser NVI at Time 1 was the independent variable and listener NVI at both Time 1 and Time 2 were included as potential mediators. The model for H4 was not supported, $F(3, 109) = 1.67$, $p = .18$, $R^2 = .04$, $R^2_{adj} = .02$. The only statistically significant paths were those from the independent variable to both mediators (LNVI at Time 1 = .54, LNVI at Time 2 = .61), and the bootstrap results for the total indirect effect estimated the confidence interval to include zero (–.38, .22). For H5, listener NVI at Time 1 was the independent variable and discloser NVI at both Time 1 and Time 2 were included as potential mediators. H5 was supported, $F(3, 109) = 3.45$, $p = .02$, $R^2 = .09$, $R^2_{adj} = .06$; only discloser NVI at Time 2 was a significant mediator, $B = 1.22$, $SE = .42$, $t = 2.94$, $p = .004$. Importantly, the bootstrap results for the indirect effect showed the confidence interval for discloser NVI at Time 2 did not include zero (.17, .74). In addition, the model showed evidence of inconsistent mediation (MacKinnon, Fairchild, & Fritz, 2007) as the total effect for listener NVI on emotional improvement was statistically similar to zero (a result in line with the nonsignificant bivariate relationship displayed in Table 1). The valence of the coefficients indicated that listener nonverbal immediacy during the first half of the conversation was positively related to discloser nonverbal immediacy during the second half of the conversation (i.e., high immediacy begets high immediacy). In addition, disclosers who exhibited high levels of immediacy during the second half of the conversation also reported feeling better about their stressful event.

Discussion

The purpose of this study was to examine several theoretical models testing the role of nonverbal immediacy in the comforting process. Our results explain some mechanisms of the comforting process, particularly focusing on the interdependent, dyadic nature of supportive listening. The findings of our study suggest that the behavioral coordination of those nonverbal immediacy cues that signal warmth and care in a supportive context can and do impact reported emotional improvement. Indeed disclosers reported feeling better after the conversation, and disclosers' nonverbal immediacy during the second half of the conversation was the largest contributor to those reports.

Most interestingly, our results showed that listener immediacy (LNVI) did not significantly impact affect change in the discloser (H1). Listener NVI alone does not account for a significant portion of the variance in discloser-reported affect improvement. Although at first blush this result seems to counter Jones and Wirtz (2006), it is instructive to investigate the magnitude of the effect they reported. In their model, LNVI was correlated with discloser reports of emotional improvement at $r = .13$. With $N = 258$, the lower bound estimate of the 95% confidence interval is .009, and the lower bound estimate of the 99% confidence interval is $-.03$. Thus, even if listener NVI (in isolation) does have an effect on discloser reports of emotional improvement, that effect is likely rather small, at least in conversations between strangers that occur in a laboratory setting. Our study was underpowered to detect small effects. More studies and subsequent meta-analytic work are needed to fully investigate this issue as are studies that explore the role of NVI in more established relationships. Moreover, it is important to note that NVI is not a magic bullet, somehow directly influencing emotional improvement without recourse to some underlying mechanism. Our results show that the coordinated nonverbal behaviors of both support provider and seeker must be examined to locate the emotional improvement. A plausible explanatory mechanism for the effect of listener NVI on discloser reports of affect improvement is the matching of those behaviors by the discloser. Importantly, discloser NVI at Time 2 but not Time 1 achieved a significant indirect effect estimate in the test of H5.

Consequently, although NVI behaviors throughout the conversation are correlated with one another, our results also show that the specific *matching* of NVI behaviors is associated with emotional improvement in the discloser. In particular, it seems most plausible that *matching over time* becomes a significant predictor of affect change. For example, NVI scores of a discloser and a listener at Time 1 and at Time 2 were positively correlated with one another (H3); these results explain that behaviors of both individuals contribute to each other's actions throughout a conversation. It is important to note, however, that the causal path seems to start with the listener and not the discloser as there was no support for the listener matching model (H4) that specifies the importance of matching an interlocutor in an effort to show empathy.

Of course, a situation in which supportive listeners who are highly immediate interact with disclosers who are also highly immediate seems unlikely because distressed help recipients are unlikely to commence the conversation on an immediate

high note, even when they are paired with a highly immediate listener. Indeed, visual inspection of the distributions of listener and discloser immediacy seems to suggest that listeners were more likely to start the conversation with a high level of nonverbal immediacy, while disclosers were more variable. This difference not only seems to provide added support to the discloser matching model (that the feeling better process can be enhanced by disclosers matching highly immediate listeners; H5), but it can also help account for the nonsignificant relationship between listener NVI and emotional improvement as the former variable has restricted range. In particular, during the first half of the conversation fewer than 1% of listeners were coded below the midpoint of the immediacy scale (4) while over two thirds (68.7%) were coded 5 or above; 18.7% of the listeners were coded as a 6 or a 7, the highest points of the immediacy scale. Disclosers, however, were more likely to begin with lower immediacy with 19.7% coded below the midpoint, and only 9.8% coded as 5 or above. This may suggest that normative pressures for listeners to be immediate were strong in these conversations, a finding that seems in line with speculation offered by Jones and Guerrero (2001). The range restriction on the listener nonverbal immediacy behavior is considered an important limitation that should be addressed in future research, though we stand by our decision to use naturalistic conversational data rather than restrict our analyses by using confederates in an effort to maintain equal cell sizes. Again, we were interested in representing the behavior of both the listener and the discloser, thus restricting a listener's ability up front (i.e., using confederates) would have limited the claims we could make about interaction and matching as part of conversation and affect improvement.

Here, we should add perhaps a conceptual confusion that has plagued much of immediacy research. On the one hand, we have treated immediacy cues at the formative, empirical level of behavior that is (or is not) matched. However, we also have assumed that immediacy behavior possesses function; it does something quite visceral to people and can therefore be clearly differentiated from other nonverbal functions. At the formative level, it might well be that a sense of immediacy is generated with cues that we did not capture with the NVI scale used to code behaviors. Indeed, recent work on Affection Exchange Theory shows that human abilities to generate a sense of belonging may go far beyond the set of cues that have been identified as formative immediacy cues (Floyd, 2006, 2014).

Perhaps the most notable result in this study is that a discloser's immediacy displays toward the end of a conversation may actually be the best indicator of affective improvement. Correlations found in Table 1 support this contention. It seems feasible that as the conversation unfolds, disclosers relax and use this bodily state as information about how they feel about the stressful event. Of course, this suggestion begs the question: What leads disclosers to relax? Although there are likely several mechanisms that play a role, one plausible contributor is the nonverbal immediacy of the listener. Immediacy displays reflect positively valenced expressions of emotional states; therefore, it stands to reason that disclosers may experience some kind of improved emotional state when engaged in a high level of immediacy precisely because this physical state is internalized as affective warmth (Bargh & Shalev, 2012).

There are several explanations for this: First, the discloser's matching of listener immediacy cues might generate emotional change via neurophysiological processes, such as vagal tone (Kok et al., 2013; Vacharkulksemsuk & Fredrickson, 2012). This explanation suggests that matching plays both a dyadic (between-groups) and individual (within-person) role (see Burgoon et al., 1995). Second, the overall immediacy within the conversation might lead the listener to also produce more supportive messages, which suggests that nonverbal and verbal support behaviors interact with one another in complex ways. The bodily effects of affection displayed toward us by others have been shown in several studies by Floyd and his colleagues (Floyd et al., 2007; Floyd & Riforgiate, 2008); because supportive communication is one way in which we signal affection to others, the same is likely true of nonverbal behaviors that constitute support. Unlike affection, however, which might be considered a type of "invisible" support (Bolger, Zuckerman, & Kessler, 2000), supportive communication is an *explicit* attempt to alleviate upset from a conversational partner who is feeling upset at the beginning of the conversation. Consequently, future work might profitably investigate similarities and differences in the processes and outcomes of various types of affectionate and supportive communication.

In sum, when a supportive listener enacts behaviors such as high levels of nonverbal immediacy and maintains these behaviors in spite of the immediacy level of the discloser, several effects should ensue. Most proximally, the discloser should tend to reciprocate these behaviors (H2). Nonverbal mimicry is largely an automatic process with interlocutors tending to orient to each other's verbal and nonverbal performances. Thus, supportive listeners should be advised to exhibit a high level of nonverbal immediacy in troubles talk conversations because these cues might function as a catalyst setting in motion the discloser's emotional change process. Second, the high level of immediacy exhibited by the discloser should contribute to the process of feeling better (H5). The causal model suggested here is more plausible than a model featuring two individuals who are highly immediate at the onset of the interaction, and our data are more in line with the discloser-matching model than the listener-matching model. It is important to note that other conversational settings (e.g., initial interactions) that are not highly emotionally charged may benefit from a listener-matching model. Indeed, it is instructive to note that, with few exceptions, past work exploring nonverbal adaptation has utilized conversations not involving troubles talk. Practically speaking, then, supportive listeners should resist the tendency to reciprocate a distressed other and, instead, display compensatory behaviors in an effort to "turn that frown upside down."

Limitations

As we previously acknowledged, a primary limitation to this study concerns the use of strangers interacting to provide emotional support. Usually when people undergo stress they turn to a friend or family member or at least to someone who has a stable relational history (Goldsmith, 2004), though some have documented that sharing emotional events to strangers is not uncommon (Rimé, 2009). Although results

from our study should not be fully discounted, the use of strangers might have encouraged a more general set of behaviors (and additionally contributed to listeners mainly being highly immediate) rather than behaviors that are nuanced to a specific relationship. Therefore, patterns of adaptation might differ across different relationship domains, and this speculation deserves adequate empirical attention. In addition, our approach to studying naturalistic supportive conversations should be complemented with studies that manipulate specific variables such as situational or interpersonal expectations and the desire for enacting certain forms of supportive listening.

A second limitation has to do with our choice to code nonverbal immediacy at only two points in the conversation. Although having two time points allowed us to test alternative models for the role of nonverbal immediacy, the distinction between Time 1 and Time 2 is not as clean cut as a moment-by-moment-assessment. Indeed, our coding ultimately blurs the line between the end of Time 1 and the beginning of Time 2, similar to studies that perform median splits on self-report variables. Future work should attend to more nuanced ways to measure nonverbal immediacy. With more time points available to represent the truly dynamic nature of nonverbal behavioral displays within a supportive conversation, future work may find support for both the discloser- and listener-matching models. Although our use of the word “alternative” does not directly connote “competing,” the way in which our hypotheses were set up suggests we were treating them that way. Whether these are competing or complementary models is a task for future work. In a similar vein, our analyses were focused only on the aggregate nonverbal immediacy of the interlocutors and not on specific behaviors that were (or were not) matched. Although our choice was driven by a concern regarding nonverbal immediacy as a gestalt construct, it is possible that specific nonverbal behaviors play specific roles in supportive conversations and thus their matching may as well. Future work should also attend to how specific behaviors are (and are not) matched and the potential for these individual patterns to have different relations with outcomes. Finally, because our measure of affective improvement was administered after the conversation, we are left to question when exactly any improvement (or lack thereof) was begun. It is thus possible that disclosers in our sample felt better and then matched or that matching and feeling better are reciprocal processes. The causal order of our model makes theoretical sense, but alternative models can still explain the data. Future work should be designed to tease apart these alternative models by continually assessing not only nonverbal immediacy and matching but also impressions of the conversation and how one feels about his or her problem.

Concluding Remarks

Limitations notwithstanding, our study contributes to the larger literature on supportive communication by offering data from naturalistic conversations, allowing for the exploration of both a direct-effects model and dyadic models for the role of nonverbal immediacy. Although the call to focus attention on the interactions within which support is provided and processed is not new (Albrecht, Burleson, & Goldsmith,

1994), limited data exist to fully capture the dyadic nature of supportive talk. We hope our efforts are complemented by others who attend to the importance of various patterns of adaptation for not only nonverbal but also verbal behaviors and those both automatic and more consciously controlled.

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Notes

- 1 Training consisted of (a) a theoretical discussion of nonverbal immediacy, (b) discussing and visually demonstrating the level of each behavioral cue, (c) coding videotaped interactions, and (d) discussing and adjusting differences in coding. When training the coders, the end points of the scales were conceptualized to fit the specific cue. For example, a high level of eye contact was conceptualized as exhibiting eye contact 80% or more of the time, whereas a low level of eye contact was conceptualized as exhibiting eye contact only 20% of the time or less. All coders were allowed to stop, to rewind, and to fast-forward the videos as much as they needed.
- 2 With $N = 128$ and alpha set at .05, power for zero-order correlations was .30 for small effects ($\rho = .10$), .97 for moderate effects ($\rho = .30$), and above .97 for large effects ($\rho = .50$).

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