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Discourse Features Among Providers, Patients, and Companions and Their Effect on Outcomes of Dementia Diagnosis Disclosure

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Abstract

Objectives: Receiving a diagnosis of dementia has major implications. Although protocols for disclosing difficult information have been developed for other health conditions, no such evidence-based method exists for dementia. As a step toward that goal, this study analyzed the discourse within dementia diagnosis disclosure sessions to identify conversational features associated with psychological outcomes.

Method: The Roter Interaction Analysis System (RIAS) was used to code the discourse among patients, their companions, and providers during 84 dementia diagnosis disclosure sessions following an initial evaluation at an Alzheimer's Disease Research Center.

Results: Providers dominated the conversation in terms of overall time spent talking. With more severe dementia, patients spoke less and companions spoke more. Provider-positive rapport building was associated with lower patient depression and anxiety following the disclosure session. Patient-positive rapport building was associated with higher companion anxiety, but only when the patient was not suspected to have dementia. No associations were found between other types of discourse and patient or companion psychological outcomes.

Discussion: A relatively small amount of positive rapport building by providers can lead to reduced distress following dementia disclosure. Dementia disclosure best practices should emphasize patient-centered communication techniques in order to minimize psychological distress following diagnosis.

Keywords: Alzheimer's disease, Patient-centered communication, Patient–physician communication, RIAS, Triadic communication

Receiving a diagnosis of Alzheimer's disease or another form of dementia is a momentous event, with major implications for individuals receiving the diagnosis and their family. Survey data confirm that most people would want to know if their physician suspected they had dementia ([Blendon et al., 2012](#)) and consensus statements from dementia organizations advocate for early and candid communication of a dementia diagnosis consistent with a person's preferences ([Alzheimer's Association, 2012](#); [Alzheimer's Society, 2014](#)). While the detection of dementia is moving

earlier in the course of the disease ([Sperling et al., 2011](#)), research and practice guidelines on appropriate ways to share diagnostic information have lagged. In order to develop a set of empirically supported best practices for disclosing a dementia diagnosis, more information is needed about what elements of dementia diagnostic disclosure—both process and content—achieve the most optimal outcomes for patients and their companions. The purpose of the current study was to use a standardized, well-validated system for analyzing features of medical interactions to examine

dementia diagnosis disclosure sessions. Our goal was to identify meaningful associations among discourse features within the dementia disclosure conversations and short-term psychological wellbeing.

One desirable outcome of dementia disclosure is an adaptive psychological response to the news by individuals and their care partners. Receiving a diagnosis of dementia can be an emotional experience, and previous reviews of the literature have found evidence of both negative (e.g., anxiety) and positive (e.g., relief) effects of disclosure (Bamford et al., 2004; Mitchell, McCollum, & Monaghan, 2013). However, results from this research are obscured by methodological limitations, such as small sample sizes, a lack of standardized assessments of emotional reactions, and a reliance on qualitative interviews, in some cases undertaken long after diagnostic disclosure. Thus, it is unclear what might lead to a negative versus positive outcomes. A previous study from our research group attempted to address some of these limitations with a prospective design and found that most individuals do not experience adverse psychological reactions after receiving diagnostic feedback (Carpenter et al., 2008).

Among factors that likely influence psychological reactions to a diagnosis of dementia, aspects of the diagnostic disclosure conversations themselves, such as who participates and what they say, have not been the focus of much research. In many areas of health care, there is a growing emphasis on the importance of communication between health care providers and their patients (Henry, Holmboe, & Frankel, 2013; Levinson, Lesser, & Epstein, 2010) and communication is equally important in dementia-related care, which involves some unique complexities. For example, the presence of a companion is common in geriatric health care encounters (Greene & Adelman, 2013), and in the context of dementia, both providers and companions must balance a patient-centered focus while still obtaining the necessary information from a patient who may have cognitive deficits. Previous research with provider-patient-companion triads has documented that providers dominate genetic counseling sessions (Guan et al., 2017; Lerner et al., 2014) and primary care office visits (Schmidt, Lingler, & Schulz, 2009), and triadic conversations regarding dementia can often oscillate between provider-to-patient talk and provider-to-companion talk (Karnieli-Miller, Werner, Neufeld-Kroszynski, & Eidelman, 2012).

At a more micro level, specific conversational features may facilitate adjustment to a dementia diagnosis. For example, attempts to express empathy, to learn about a patient's experience or a companion's expectations, can lead to enhanced satisfaction (Derksen, Bensing, & Lagro-Janssen, 2013). Other key communication functions of the provider associated with adaptive outcomes include exchanging adequate information, responding to emotions, managing uncertainty, guiding decision making, and enabling self-management (Epstein & Street, 2007). Standardized analysis of provider-patient interactions has

revealed that these kinds of patient-centered verbal behaviors are associated with positive patient outcomes (Beck, Daughtridge, & Sloane, 2002; Roter, 2010). The extent to which patients, companions, and providers use similar conversational features also may influence how people react to a dementia diagnosis. To our knowledge, however, no prior research has analyzed the content of dementia diagnosis disclosure conversations.

In the current study, we apply a well-validated coding system developed to characterize medical interactions, the Roter Interaction Analysis System (RIAS; Roter & Larson, 2002), to recordings of dementia diagnosis disclosure conversations, with two primary goals. First, we quantify the content of diagnostic conversations, examining the prevalence of different types of discourse across parties in the conversation and severity of dementia. Second, we investigate the association between conversational elements, dementia severity, and psychological outcomes in people receiving diagnostic results.

Methods

Participants

Participants were volunteers at an Alzheimer's Disease Research Center, visiting for their initial diagnostic evaluation (see Table 1 for sample characteristics). Of the 90 dyads that completed baseline and follow-up questionnaires, one participant was removed from analysis because of cognitive impairments that prevented completion of self-report questionnaires, and five sessions were lost due to recording or coding malfunctions. The final sample includes 84 interactions.

Procedure

Before their evaluation, participants and companions were both mailed a baseline questionnaire with self-report measures of anxiety and depression. Participants and companions then attended the clinic for their evaluation, which included a review of medical history and a physical and neurological examination (Morris & Storandt, 2006). At the conclusion of the evaluation, participants and companions were brought together for a videotaped feedback session during which the provider gave a diagnostic formulation. Twenty-nine participants (34%) did not have dementia and 65 were suspected of having either very mild (43%) or mild dementia (23%). Participants were given a written summary of the diagnostic formulation. Seven providers conducted the evaluations that are the focus of the current study (all neurologists, geriatric psychiatrists, or geriatricians). Following their evaluation, participants and companions were called by telephone ($M = 2.7$ days after evaluation, $SD = 2.0$) and interviewed separately, during which they responded to the same self-report measures answered at baseline.

Table 1. Demographic Characteristics of the Sample ($N = 84$ dyads)

	Patients		Companions	
	<i>M/n</i>	<i>SD/%</i>	<i>M/n</i>	<i>SD/%</i>
Age (years)	73.2	8.1	63.1	13.4
Female	51	61%	59	70%
White	75	89%	75	89%
Education (years)	14.8	3.1	15.1	2.9
Relationship to patient				
Spouse	—	—	50	60%
Child	—	—	19	23%
Other family	—	—	6	7%
Friend	—	—	9	10%
Diagnostic outcome				
No dementia	29	35%	—	—
Very mild dementia	36	43%	—	—
Mild dementia	19	22%	—	—

Note: Information on race was not reported by three companions. Percentages represent proportions within the group (i.e., patients or companions).

Assessments and Measures

Demographics

Age, sex, race, education, and relationship were recorded for participants and companions.

Psychological outcomes

Symptoms of anxiety were assessed using the “state” version of the State-Trait Anxiety Inventory (STAI; [Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983](#)). Twenty items are rated on a 4-point scale ranging from 1 (*not at all*) to 4 (*very much so*), with total scores ranging from 20 to 80. The STAI has reasonable reliability and validity when used with older adults ([Stanley, Beck, & Zebb, 1996](#)), and in the current sample internal consistency was excellent in participants (coefficient $\alpha = .94$ at baseline, .92 at follow-up) and companions (.96 at baseline, .93 at follow-up).

Symptoms of depression were assessed using the 15-item Geriatric Depression Scale (GDS; [Yesavage & Sheikh, 1986](#)). One point is assigned for each symptom endorsed, yielding total scores that range from 0 to 15. The GDS has good sensitivity and moderate specificity in older adults ([Leshner & Berryhill, 1994](#)), and in the current sample, internal consistency was good in participants (coefficient $\alpha = .77$ at baseline, .74 at follow-up) and companions (.74 at baseline, .63 at follow-up).

Medical interaction coding

The Roter Interaction Analysis System ([Roter & Larson, 2002](#)) was used to code the diagnostic feedback conversations. Audiotapes were coded by trained staff at Johns Hopkins University who developed the RIAS. A random sample of 10 interactions was double coded and the intercoder reliability was .87, comparable with reliability reported in other studies ([Roter & Larson, 2002](#)). In

the RIAS system, a set of 41, mutually exclusive codes are assigned to “utterances,” the smallest unit of expression to which a meaningful code can be assigned. These utterances are coded as task-focused conversational elements (e.g., gathering information, giving instructions, asking questions about the disease) and socioemotional elements (e.g., building rapport, providing reassurance). The codes capture differences in form (informative, persuasive, interrogative, affective, and process-oriented) and content (medical condition, therapeutic regimen, lifestyle, and psychosocial) ([Cavaco & Roter, 2010](#)). Thirty-six codes are applicable to all speakers, one code is patient-specific (Request For Services), and four codes are provider specific (Partnership Statements, Self-Disclosure Statements, Counseling—Medical/Therapeutic, and Counseling—Lifestyle/Psychosocial).

In the current study, RIAS codes were applied separately to provider, nurse, patient, and companion speech. In 70 of the interactions, a nurse was present along with the provider but nurse utterances accounted for less than 3% of total utterances ($M = 2.98\%$, $SD = 2.29\%$). Consequently, utterances belonging to nurses were excluded from analysis. Five codes were excluded from analyses because of their infrequency (Gives Information—Other, Asks Open Ended Question—Other, Asks Closed Ended Question—Other, Bid For Repetition, Unintelligible Utterance). In total, these five codes accounted for only 61 of 19,174 utterances (0.32%). The remaining codes were grouped into 10 previously used composites ([Cavaco & Roter, 2010](#); [Lerner et al., 2014](#)). Examples of the composites, codes within them, and exemplars from the current data can be found in Supplementary Table 1. To account for variability in conversation length, the frequency of utterances was calculated as a proportion of total utterances in the conversation.

Data analysis

We analyzed the overall proportion of utterances and frequency of RIAS composite codes across speakers using a series of repeated measures multivariate analysis of variance (RMANOVA) with speaker as the within-subjects factor and patient dementia severity as the between-subjects factor. We report the Greenhouse-Geisser statistic when the sphericity assumption was violated as indicated by Mauchly's Test of Sphericity. We analyzed the two RIAS composite codes relevant only to providers (Counseling—Medical/Therapeutic, Counseling—Lifestyle/Psychosocial) using a one-way ANOVA with patient dementia severity as the between-subjects factor.

To examine psychological outcomes, we first conducted one-way ANOVAs with GDS scores and STAI scores for both patient and companions following the disclosure session as dependent variables, with patient dementia severity as the between-subjects factor. No significant differences were found between scores for individuals with very mild dementia and mild dementia, with the exception of STAI scores for companions. Given these findings,

we dichotomized diagnostic feedback (no dementia = 0, dementia = 1).

Prior to subsequent analyses, we screened for outliers on baseline GDS and STAI scores and removed from their respective regression analyses three cases based on patient GDS, one case based on patient STAI, and two cases based on companion STAI that were greater than three standard deviations above the mean. Additionally, three disclosure sessions did not involve a companion and therefore were not included in this analysis. Multiple linear regression analysis was used to develop models to predict patient and companion scores on the GDS and STAI following the diagnostic disclosure session. We ran separate analyses for each RIAS code of interest, chosen based on previous theoretical implications and relative frequency within our data set. Independent variables were baseline GDS or STAI score, dementia status (no dementia = 0, dementia = 1), RIAS codes (for patient, companion, and provider), and all interaction terms. The RIAS composite codes that were analyzed were Positive Rapport Building, Patient Activation and Facilitation, Counseling—Medical/Therapeutic, Counseling—Lifestyle/Psychosocial, Information—Medical/Therapeutic, and Information—Lifestyle/Psychosocial.

Results

In terms of the overall proportion of utterances across speakers (see the last row of Table 2), there was a significant interaction between speaker type and patient dementia severity, $F(3,34) = 6.71$, $p < .001$. Post-hoc analysis revealed that, with increasing dementia severity, patients spoke proportionately less, $F(2,83) = 13.16$, $p < .001$, and companions spoke proportionately more, $F(2,83) = 9.57$, $p < .001$, though still significantly less than providers. There were no significant differences in proportion of time spent talking across sociodemographic characteristics of patients and companions, including the companion's relationship to the patient (e.g., spouse vs child; subsamples of other dyadic combinations were too small to enable meaningful comparisons).

Descriptive statistics for the RIAS discourse features and results of group comparisons appear in Supplementary Table 2. Main effects for speaker were found for all but one of the RIAS composite categories, with providers using each feature proportionately more than patients and companions. In addition, patients used Lifestyle/Psychosocial Information and Emotional Rapport Building features proportionately more than companions, and providers and patients used Negative Rapport Building more than companions. Beyond these statically significant speaker differences, it is also worth noting the relative frequency (or infrequency) of each conversational feature. For example, compared to their other conversational elements, providers engaged in more Emotional Rapport Building, Patient Activation and Facilitation, and providing Lifestyle/

Table 2. Composite Categories as Percentages of Total Utterances (M/SD)

Composite categories	Clinical dementia rating = 0			Clinical dementia rating = 0.5			Clinical dementia rating = 1.0		
	Patients	Companions	Providers	Patients	Companions	Providers	Patients	Companions	Providers
Questions (Medical/Therapeutic)	0.27 (0.46)	0.13 (0.36)	0.23 (0.37)	0.47 (0.88)	0.41 (0.65)	0.85 (0.95)	0.22 (0.52)	0.76 (0.85)	0.60 (0.69)
Questions (Lifestyle/Psychosocial)	0.39 (0.94)	0.11 (0.26)	0.33 (0.52)	0.28 (0.48)	0.19 (0.39)	0.60 (0.58)	0.19 (0.33)	0.27 (0.43)	0.59 (0.67)
Information (Medical/Therapeutic)	2.18 (2.46)	0.27 (0.73)	15.01 (7.35)	2.42 (2.33)	1.66 (2.60)	21.99 (8.93)	0.96 (1.57)	1.46 (1.75)	24.67 (8.28)
Information (Lifestyle/Psychosocial)	5.49 (4.61)	0.93 (1.17)	13.71 (6.83)	3.84 (3.41)	1.56 (1.66)	12.12 (4.86)	2.61 (3.18)	2.85 (3.05)	12.41 (5.41)
Patient Activation and Facilitation	0.56 (0.78)	0.24 (0.60)	4.22 (3.98)	0.61 (0.68)	0.49 (0.91)	3.65 (2.79)	0.57 (1.02)	0.49 (0.64)	5.25 (3.98)
Rapport Building (Positive)	13.18 (7.54)	2.46 (2.22)	9.54 (4.00)	7.96 (4.91)	4.42 (3.41)	7.47 (2.45)	5.11 (4.27)	5.56 (3.71)	6.88 (3.08)
Rapport Building (Emotional)	2.38 (1.91)	0.84 (2.48)	10.11 (4.91)	1.25 (1.30)	0.60 (0.80)	8.39 (3.95)	0.91 (1.40)	0.78 (0.97)	9.67 (4.39)
Rapport Building (Negative)	0.21 (0.46)	0.05 (0.15)	0.15 (0.42)	0.33 (0.71)	0.03 (0.10)	0.10 (0.19)	0.19 (0.31)	0.06 (0.15)	0.24 (0.64)
Rapport Building (Social)	0.01 (0.06)	0.00 (0.00)	0.30 (0.63)	0.07 (0.44)	0.02 (0.10)	0.37 (0.74)	0.00 (0.00)	0.00 (0)	0.19 (0.34)
Procedural	0.14 (0.30)	0.09 (0.26)	3.99 (2.00)	0.39 (0.47)	0.13 (0.31)	3.62 (1.88)	0.13 (0.31)	0.20 (0.30)	3.20 (1.52)
Counseling (Medical/Therapeutic)	-	-	3.76 (3.50)	-	-	4.80 (2.47)	-	-	4.32 (2.78)
Counseling (Lifestyle/Psychosocial)	-	-	9.24 (5.84)	-	-	8.90 (5.10)	-	-	8.67 (6.96)
Total	24.81	5.13	70.59	17.63	9.50	72.87	10.88	12.43	76.69

Note: Counseling utterances are only coded for providers. Percentages are calculated separately for each Clinical Dementia Rating group. The Total for Patients, Companions, and Providers within each Clinical Dementia Rating group sum to 100%.

Psychosocial Information, but used Lifestyle/Psychosocial Questions, Negative Rapport Building, and Social Rapport Building less frequently. Within patient speech, there was more Positive Rapport Building and provision of Lifestyle/Psychosocial Information, whereas asking Medical/Therapeutic or Lifestyle/Psychosocial Questions was relatively rare. Companions engaged in Positive Rapport Building more than any other conversational feature and asked few questions.

For two RIAS codes, there were significant interactions between speaker and dementia severity. Providers gave proportionately more Medical/Therapeutic Information when patients had very mild dementia versus no dementia (mean difference = 6.98%, $p < .05$), and even more when patients had mild dementia (mean difference = 9.66%, $p < .001$). Companions provided proportionately more Medical/Therapeutic Information when patients had very mild dementia relative to no dementia (mean difference = 1.38%, $p < .05$). There were no differences in the use of this conversational feature by companions when patients had very mild versus mild dementia. Patients with very mild dementia did less Positive Rapport Building than patients with no dementia (mean difference = 5.22%, $p < .01$), as did patients with mild dementia (mean difference = 8.07%, $p < .001$). Providers did proportionately less Positive Rapport Building when they were talking with patients with very mild dementia (mean difference = 2.08%, $p < .05$) or mild dementia (mean difference = 2.66%, $p < .05$) compared to when they were talking with patients with no dementia. In contrast, companions did more Positive Rapport Building when their partner had mild dementia compared with companions whose partner had no dementia (mean difference = 3.10%, $p < .01$). Our examination of companion type was limited to comparisons of spouses versus adult children, given the limited number of other companion types. For overall utterances, the interaction between speaker and companion type was not significant, $F(1,67) = 2.18$, $p = .13$. However, for Positive Rapport Building, there was a significant interaction between speaker and companion type. Patients whose companions were adult children did more Positive Rapport Building than patients whose companions were spouses, although the mean difference was relatively small (3.98%, $p < .05$).

Turning to psychological outcomes, there were no significant associations among scores on the GDS and STAI and the proportions of Medical/Therapeutic Information, Lifestyle/Psychosocial Information, Patient Activation and Facilitation, Medical/Therapeutic Counseling, and Lifestyle/Psychosocial Counseling that appeared in the conversations. There were, however, significant associations between psychological outcomes and Positive Rapport Building, as follows.

The model predicting patient depression considering Positive Rapport Building was significant, $F(8,69) = 2.50$, $p < .05$, $R^2 = .22$. There were significant main effects of baseline patient depression ($b^* = 0.39$, $p < .05$) and provider's

Positive Rapport Building ($b^* = -0.52$, $p < .01$), with more positive rapport building by providers associated with lower patient GDS scores. No significant interactions were observed. The model predicting companion depression considering Positive Rapport Building was also significant, $F(8,72) = 7.07$, $p < .001$, $R^2 = .44$. There was a significant main effect of baseline companion depression ($b^* = 0.84$, $p < .001$) but no significant unique effect for positive rapport building by any speaker and no significant interactions. The model predicting patient anxiety considering Positive Rapport Building was significant, $F(8,69) = 3.93$, $p < .001$, $R^2 = .31$. There was a main effect of baseline anxiety ($b^* = 3.33$, $p < .001$) and provider's Positive Rapport Building ($b^* = -1.86$, $p < .05$), with more positive rapport building by the provider associated with lower patient STAI scores. No significant interactions were observed. The model predicting companion anxiety considering patient Positive Rapport Building was also significant, $F(8,69) = 11.09$, $p < .001$, $R^2 = .56$. There was a significant main effect of companion baseline anxiety ($b^* = 6.35$, $p < .001$) and a significant interaction between patient's Positive Rapport Building and dementia status ($b^* = 3.51$, $p < .05$). For companions of patients with no dementia (but not patients with dementia), patient's Positive Rapport Building was positively associated with companion STAI score.

Discussion

This study involved a systematic analysis of the discourse used by providers, patients, and companions during a conversation about the results of a dementia evaluation. We used the Roter Interaction Analysis System to characterize patterns of dialogue and investigate the relationship between conversational features and psychological outcomes following diagnostic disclosure.

Overall, providers spoke more frequently than patients and companions, accounting for, on average, 73% of the dialogue. In the context of diagnostic feedback, providers naturally ask many questions and provide information and previous studies of other kinds of medical interactions with older adult patients have found similarly imbalanced speech (Roter et al., 1997; Schmidt et al., 2009). In contrast to the consistency of provider speech, patient and companion speech varies across dementia severity. In cases when no dementia is suspected, patients do more talking than their companions, and when dementia is suspected, companions do more talking than patients, perhaps stepping in when cognitive impairment limits a patient's insight or ability to self-report. In a recent literature review of triadic geriatric health care encounters, Greene and Adelman (2013) note the importance of understanding the different roles taken on by companions and the need for research to identify how these roles change with specific patient conditions. Previous research on the nature of triadic interactions in dementia disclosure describes this process as an evolution from "companion to caregiver" (Karnieli-Miller,

Werner, Neufeld-Kroszynski, et al., 2012). Our results provide quantitative support for this idea, that when dementia is suspected, the conversation shifts from discourse emphasizing the patient (with companion as accompaniment) to discourse emphasizing the companion (taking on the role of caregiver). Based on our data, this shift occurs even at the very mild stage of dementia, when patients likely retain the capacity to speak, decide, and contribute information themselves, raising questions about what constitutes patient-centered care in the context of dementia evaluations (Reuben & Tinetti, 2012). Previous studies have found significant links between patient-centered communication and increased patient satisfaction and decreased psychological distress (Beck et al., 2002; Stewart et al., 2000). In the context of dementia, it may be patient-centered to acknowledge a person's cognitive limitations during a diagnostic conversation, but not if it compromises patient participation and input.

In a more fine-grained analysis of discourse content, we found significant interactions between patient dementia severity and speaker, further suggesting that the presence of dementia alters the conversation. First, both providers and companions offer more medical and therapeutic information when the patient has dementia, as they discuss symptoms of dementia and treatment options. Companions are solicited more often to supplement information from patients and providers offer more specific medical and therapeutic information. Second, when patients have dementia, both patients and their providers engage in *less* positive rapport building, whereas companions do *more* of this when their partner has dementia. Here again, we see evidence for the shifting nature of the companion's role, from companion to caregiver, as they engage in more medical/therapeutic information giving and positive rapport building. We speculated that the presumed role (and therefore utterance patterns) might differ when the companion is a spouse versus someone some other relation to the patient (e.g., adult child) due to differing relationship dynamics. In exploratory analyses, we found no differences in overall speech patterns, however patients did *more* positive rapport building when accompanied by an adult child than when accompanied by a spouse, perhaps feeling more of an obligation to take some control of the conversation in their traditional parental role, even when they are the patient. Further research could recruit a more robust and diverse sample of other dyad combinations to explore companion type differences.

We did not find differences in provider counseling for medical/therapeutic or lifestyle/psychosocial issues depending on dementia status of the patient. Originally, we speculated providers would offer more counseling to patients with dementia, but it appears they offer an equal amount of counseling even when patients do not have dementia, perhaps reinforcing the importance of a healthy lifestyle as a protective strategy, consistent with many efforts aimed at prevention as a principle means of combating the disease (Baumgart et al., 2015).

Several conversational features during diagnostic disclosure sessions are also associated with psychological outcomes. The more that providers show agreement or understanding, laugh or tell jokes, and show direct approval (Positive Rapport Building), the fewer symptoms of depression and anxiety patients report shortly after the clinic visit. To describe the magnitude of this effect, when the provider spends 3% more time building positive rapport, it is associated with a 0.5-point lower patient GDS score and a 2-point lower patient STAI score. Creating a positive environment and strong rapport with patients helps lessen psychological distress, and even small shifts in conversational priorities can have an effect on patient depression and anxiety, consistent with the benefits of other patient-centered techniques (Beck et al., 2002; Stubbe, 2017).

In a counterintuitive finding, we observed an *increase* in companion anxiety when patients engaged in more positive rapport building, but only when the patient did not have dementia. After learning that they do not have dementia, patients may experience relief; they show agreement, laugh, and tell jokes with the provider. Companions, on the other hand, may still have doubts about the patient's status, even as patients become more lighthearted. Maynard and Frankel (Maynard & Frankel, 2006) describe "symptom residue" following diagnostic news that is good but lingering uncertainty about the true cause of symptoms. In work by Karneili-Miller and colleagues (Karneili-Miller, Werner, Aharon-Peretz, et al., 2012), companions who did not have their expectations met about the dementia diagnostic outcome expressed disappointment and frustration with the disclosure process. It may be worthwhile for providers to check in with patients and companions at the close of a conversation to explore remaining questions and reservations, perhaps even following up several days later when they have had an opportunity to consider what they have learned.

Several methodological limitations are important when considering these results. First, results may not be generalizable outside the setting of an Alzheimer's Disease Research Center, where diagnostic results are disclosed by highly trained specialists. Second, the RIAS coding system focuses on speech content but not process. Another approach to analyzing medical interactions is to characterize patterns of how a diagnostic conversation unfolds and whether, for instance, it is beneficial for a provider to "front load" positive rapport building at the beginning of an interaction or space out those kinds of statements.

This is the first study, to our knowledge, to apply a systematic coding system to dementia disclosure sessions and relate conversational features to psychological outcomes of patients and companions. Our results suggest that some conversational features may be beneficial to patients and their companions. Results from the current study are an initial step toward developing an evidence base that may inform a best-practice protocol for the disclosure of a dementia diagnosis.

Supplementary Material

Supplementary data is available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

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Conflict of Interest

None reported.

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