Discourse Strategies of Competent Communicators: Selected Cohesive and Linguistic Devices

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Competent communication involves the ability to generate and interpret coherent communication. But research has traditionally neglected this aspect of communication competence for two reasons. First, most people manage conversations reasonably well. The mechanisms for coherent communication (e.g., references, pronouns, topicality, turn-taking) are built into the linguistic system and acquired by language users at an early age. They must become second nature. Second, it is only recently that researchers have begun to clarify the process of producing coherent conversation (Craig & Tracy, 1983; Sanders, 1987). The fact that speakers and hearers must integrate multiple social and cognitive resources, under various conditions of constraint, underscores the magnitude of this pragmatic accomplishment. Presumably, variations in a communicator's ability to accomplish such pragmatic work would lead to variations in coherent conversation. Moreover, individual differences with respect to skillful production of coherent conversation

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presumably result in differential abilities to manage and accomplish coherent conversation.

This study advances a line of research that focuses on how speakers with different levels of communicative competence use different patterns of cohesion devices in conversations (Villaume, 1988; Villaume & Cegala, 1988). Specifically, we posit a series of hypotheses designed to measure whether high- and low-competent communicators vary in type and pattern of the cohesive devices they use. This study demonstrates that the cohesive strategies of high- and low-competent communicators exhibit differences attributable to the cognitive models that speakers use to hold information "in focus" and thereby establish meaning.

COMMUNICATION COMPETENCE AND COHESION

In viewing Communication as a "practical" discipline (Craig, 1989) it is natural that theorists have been working to uncover the qualities and characteristics of skilled, effective, and competent communicators. For this reason, communication competence has received considerable attention (Spitzberg & Cupach, 1989; Rubin, 1990). The original formulations of communication competence were preoccupied with higher order constructs that presupposed coherent conversation but were primarily concerned with dimensions of competence such as "appropriateness," "empathy," "adaptability," and "affiliation." The one dimension that has been discussed that is directly related to coherence in interaction is Wiemann's (1977) dimension of interaction management.

The interaction management dimension involves the communicator's skill at communicating such that topicality is maintained or changes effectively, turn-taking is smooth, and linguistic resources are mobilized to assist with understanding and coordination of the interaction. Some research demonstrates that individuals designated as highly competent choose language to reflect the ongoing negotiation of meanings and goals (Holstein, 1988), and they integrate linguistic forms with situations to produce effective messages. Moreover, competent communicators are able to recognize many language options in the
ongoing management of interaction. They fluidly exchange turns and monitor the linguistic and rhetorical functions of interaction that are necessary for the collaborative accomplishment of communication (Spitzberg & Hecht, 1984; Spitzberg & Cupach, 1989).

This study used a global measure of communication competence. Our goal was to test whether competent communicators did manage interaction in terms of the use of some specific cohesion devices. We operationalized communication competence by using Spitzberg and Cupach’s (1989) trait-oriented measure and then tested hypotheses related to patterns of usage of specific linguistic devices in interactions, contrasting the usage of individuals who had been identified by observers as high or low in communication competence.

Except for the work of Villaume and Cegala (1988), which was primarily concerned with interaction involvement, there is no research that tests the relationship between communication competence and the production of cohesive conversation. If we assume that interaction management is a fundamental skill of competent communicators, and that cohesive communication is a necessary outcome of conversation, then competent communicators should utilize linguistic resources that are more associated with achieving cohesive conversation. There are two lines of theorizing that predict this relationship between communication competence and cohesion.

The first is the distinction between “meaning-based” and “text-based” processing strategies described by Villaume, Jackson, and Schouten (1989). This is associated with the level of speakers’ involvement with the flow of conversation. Meaning-based strategies require a participant to attend to deeper, more elaborate meanings in a conversation. A speaker must construct a cognitive representation (or schema) produced cumulatively by the meaning of his or her own turns and those of the other participant (Gartham, 1987) and use these representations to establish discourse or conversational meaning. In contrast, a text-based processing strategy means that a participant in a conversation is orienting only to surface textual information from the most recent utterances and does not integrate this into a larger and more complex mental representation of conversational meaning. Given that competent communicators attempt to construct coherent and competent communication, we therefore expect that they rely on meaning-based strategies.

A second line of theorizing is very related to the concern with
processing strategies just discussed but has developed independently. Hankamer and Sag (1976) and Sag and Hankamer (1984) conducted work on anaphoric references in natural language. They argued that previous theories of anaphora are incomplete if they only refer to an idealized semantic system abstracted from the psychology of those who use them. Hankamer and Sag (1976) demonstrated that when a conversational participant is constructing meaning by searching for an anaphoric reference, he or she can use a deep processing strategy or a surface processing strategy. A deep processing strategy is comparable to a meaning-based strategy because it is pragmatically controlled. That is, understanding is facilitated because the participant has developed an elaborate mental representation of conversational meaning that is held “in focus” and used for interpretation. Surface processing is similar to text-based strategies because it is dependent on textually immediate propositional representations. Surface strategies are good only for short-term information and interpretation and they contribute to confusion if they are applied to anaphoric references that occur too far away from a “base” propositional representation.

Based on prior research, speakers are expected to show differences in their ability to monitor the flow of conversation. Villaume and Cegala (1988) found that grammatical cohesive devices and measures of lexical and structural elaboration varied between differently involved dyads on the basis of their use of either text-based or meaning-based strategies. Interaction involvement has been discussed as a component of competent communication (Cegala, 1981; Tannen, 1989). Being interactionally involved means that a speaker is sensitive to the flow of conversation because he or she integrates expressed thoughts, feelings, and attitudes into a cognitive representation of the ongoing conversation. Cegala's work clearly demonstrates that low-involved speakers are inattentive, uncertain, and psychologically removed from the interaction, and highly involved speakers monitor many aspects of communication. Interaction involvement is conceptually related to communication competence, although the topic of involvement has a research history separate from the literature on communication competence. We thus used the involvement literature as a resource for expectations about communicative competence. We reasoned that the use of processing strategies and cohesion devices related to trait-based measures of involvement should also be associated with trait-based measures of communication competence.
Given this relationship between involvement and communication competence, we expected that speakers scoring high on a measure of communication competence would use meaning-based processing strategies, and those scoring low would use text-based strategies. We expect meaning-based strategies to be characteristic of high competents because meaning-based strategies require a speaker to be involved in the interaction. Moreover, competent communicators should attend to more subtle and remote meanings in the interaction and use the necessary linguistic cohesion devices to accomplish this. A speaker using meaning-based strategies holds information in memory longer and makes more connections among ideas and semantic units. We assume competent communicators do this. Those who are identified as low in communication competence should participate more like low-involved speakers and use more text-based meaning strategies because they attend primarily to immediate vocabulary and utterances; that is, they respond to utterances in the immediately preceding turn rather than integrating their own communication with broader units of meaning. This reasoning forms the basis of Hypothesis 1, described later.

Additionally, the high competents should be characterized by elaborated turns at talk and utilize meaning-based grammatical devices, as well as extended and complex syntactical turns. In contrast, low competents generally should be more removed from conversation and uncertain about their goals. They will be marked by simpler turns, passing moves, and heavy reliance on surface processing strategies. Hypothesis 2 represents the assumption that there should be such additional linguistic indicators of competence. Moreover, because situational sensitivity and adaptation over time are a hallmark of communication competence, we further expect changes in use of cohesion devices over time for high competents (Hypothesis 3).

EXAMPLES OF COHESION DEVICES AND PROCESSING STRATEGIES

The three basic types of cohesion devices examined in this study are reference, substitution, and ellipsis (Halliday & Hasan, 1976).
Reference. Primarily the use of a pronoun, definite article, or comparative to refer to something else.

A: I have Communication 428 this semester.
B: Is it a good class? (Pronoun it refers back to Communication 428.)

Substitution. The use of one word to take the place of another.

A: I am doing an internship this year.
B: I am doing one too. (One substitutes for internship.)

Ellipses. The deletion of a previously used word or phrase, creates a blank slot that the hearer fills in.

A: Have another chocolate.
B: No thanks, that was my third. (Fill in 3 with chocolate.)

Each of these cases is an anaphoric reference that forces a hearer to go elsewhere in a text for its meaning.

Deep processing or meaning-based strategies have a long life in memory because the talk is embedded in a cognitive representation of conversational meaning that a competent communicator holds in place for use in interpretation. The grammatical devices listed in the examples that follow, and the reasoning that links the devices to either deep or surface processing, are further explained in Hankamer and Sag (1976) and Sag and Hankamer (1984). The devices that represent deep processing strategies are the pronoun in example (1), sentential it in example (2), and the null complement in example (3).

Referential pronouns mean "go elsewhere for interpretation." Consider example (1), drawn from the data used in this study in which participants were "getting to know one another."

(1) 6 A: I was from Marymount in Virginia

\[\text{(10 lines deleted)}\]

17 B: Is that an all-girls' school?

Speaker B has held a conversational focus on "Marymount" in memory and uses the pronoun "that" to re-enter it explicitly into the conversa-
tion. The pronoun “that” is cohesive and interpretable only if a speaker or hearer can retrieve “Marymount” as the focus of the broader discourse context.

(2) 11 A: It is strange going to an all-girls' school.

The “it” in example (2) is sentential; that is, it refers to an implicit proposition about the subjective aspects of going to school. The meaning of “it” involves a deep processing strategy because it is not interpreted by reference to specific antecedents, but rather by reference to cognitive representations formed by the conversation.

(3) 33 A: I am taking an AUC course and I really look forward to it. I even do the reading, ha.
34 B: Yea, I was thinking of taking that when I can Ø.

The meaning of the null complement in line 35 depends on using a deep processing strategy because its understanding has to do with more than the transmission of information in the usual text-based sense, but with information “presupposed” by its illocutionary force as a disclaimer or account. Such information is assumed in order to fully understand why B is not presently taking an AUC course. Meaning is assigned through knowledge of when and how students take classes rather than by reference to something else in the text. In contrast, surface processing of ellipses is syntactically governed by antecedents.

Text-based strategies and surface processing should be more characteristic of low competents because interpretation is based on immediate propositional representation rather than holding a more general conversational meaning in focus. Ellipses are good examples of surface processing. They are used for short-term information carry overs and have a syntactic shape similar to that which they refer. Ellipses contribute to confusion if they occur too far away from a specific propositional representation. The most common examples of ellipses and surface processing are the verb phrase ellipses in example (4) and the gaps in example (5).

(4) 7 A: I have a final presentation due in nonverbal.
8 B: When do you go for that?
9 A: Next week, at least I think I do Ø.
The verb phrase ellipses in line 9 is syntactically governed by preceding utterances. The ellipsis can be filled in by adding "go next week," which is simply recoverable from immediate text. The same is true in example (5).

(5)  67 A: He said we were going to go out, but 0 not 0  
68   this week.

HYPOTHESES

Because the establishment of cognitive representations or models of interaction in order to assist with comprehension is more complex and requires additional skill, high competents (as measured by Spitzberg & Cupach, 1989) should use cohesion devices associated with a meaning-based discourse strategy as opposed to a text-based one. The high competents take more care to map ideas and use the appropriate cohesion devices to integrate new information with the broader discourse model. Low competents should use surface processing strategies or grammatical devices that refer to immediately preceding utterances. This forms the basis of the first hypothesis.

Hypothesis 1: Highly communicatively competent individuals will engage in more deep anaphoric processing and therefore use more references and substitutions than low competents. This will be true in the case of both interactive and noninteractive references and substitutions. Low competents will be more oriented to surface processing (dependent on recent propositional meaning) and therefore use more ellipses.

A second hypothesis is suggested because of reasons for assuming that there should be additional linguistic indicators of communication competence than reference and substitutions. The rationale for this second hypothesis is motivated by Villaume's (1988) finding of two significant canonical varieties relating textual measures to high- and low-involved speakers. The first variate represented grammatical elab-
oration and was associated with highly involved speakers. The second variate exhibited a pattern of text-based strategies and simpler development. Simply, if involvement is correlated with competence, and highly involved communicators exhibit textual elaboration, then competent communicators should also be characterized by textual elaboration (see also Diez, 1984; Schwalbe, 1988). Because the current state of theory warrants only a broad-based prediction relating textual elaboration to communication competence—and not the specific identification of variables—the hypothesis is stated as follows:

*Hypothesis 2:* An array of linguistic features will distinguish patterns of language use by high and low competents. The array of values on measures of lexical and structural elaboration will distinguish high competents from low. High competents should also be distinguished by second person and relational pronouns.

Hypothesis 3 is intended as a test of one of the hallmarks of communication competence—change (adaptation) over time. Change and behavioral flexibility are consistently noted research and anecdotal characteristics of competent communicators. In fact, they are perhaps the single most frequently cited qualities of competent communication (Spitzberg & Cupach, 1989). Communicative change involves the competent communicator using his or her diverse and larger repertoire of behavioral skills by effectively adjusting to changes in the interaction. The ability to adjust communication over time is directly related to the interaction management dimension of competence (Wiemann, 1977). Successful management of interaction is dependent on learning the explicit and implicit rules of interacting, and we would presume that a competent communicator adjusts as he or she continues to acquire information about the other. More specifically, we expect linguistic convergence such that high competents will begin to mirror their partners, whereas low competents will remain stable.

*Hypothesis 3:* There will be a competence by time period interaction with high competents using fewer deep processing strategies over time, and low-competents remaining stable. High-competents will, however, increase their linguistic
elaboration over time (Villaume, 1988) and use more adjectives, qualifiers, and intense language.

Finally, we posed a research question based on the possibility of gender differences in uses of cohesion devices. The literature on gender and interaction indicates linguistic styles based on gender differences, such that men and women differ with respect to verbosity, directives, tag questions, and commands (Coates, 1986). But these findings are always conditioned by strong arguments about how context and socialization are more predictive of language use than gender. Moreover, the cohesion data generated in this study are part of the linguistic system and we know of no research that has examined patterns in use of cohesion devices in relation to gender.

Research Question 1: Does gender account for patterned cohesion devices such as reference, substitution, and ellipsis? What other variables distinguish men from women?

METHOD

Participants

Students enrolled in a multisectioned, undergraduate interpersonal-communication course served as the initial subject pool for this study. The students were fairly representative of the university student body that draws predominantly from the Northeast but includes students from every state and many countries. The data collection occurred over a two-year period and involved 232 individuals composing 116 dyads. Participants earned course credit.

Procedures

At the onset students were given a class list and asked to identify those individuals they considered friends or acquaintances. This was
defined generally as "anyone they would talk with outside of class." Each individual was then paired with a stranger, that is, someone whose name they had not identified. These stranger dyads were then scheduled to meet with one of the authors. Upon arrival, the dyads were escorted to a campus television studio where they were videotaped as they interacted. The students were told that this was a communication study in which they would be asked to simply "get to know one another" for about 10 min. After completing their conversation, the students were debriefed and dismissed.

Two graduate students were trained to use Spitzberg and Hurt's (1987) Conversational Skills Rating Scale (CSRS). These raters viewed the videotape and independently rated the communicative behavior of each member of each dyad. The CSRS consists of 25 observational items and five semantic differential-type scales that assess molar perceptions of communication competence. The 25 observational items ask raters to focus on specifics such as body orientation, knowledge of topic, and so on. The five scales drew on those observations and served as the criterion measure of competence impressions. The five scales were unskillful conversationalist-skillful conversationalist, inexpressive-expressive, inattentive and unresponsive-attentive and responsive, anxious and nervous-relaxed and confident, and inappropriate and ineffective-appropriate and effective. Spitzberg and Cupach (1988) noted that the CSRS has often been successfully employed as a rating instrument. The intrarater reliability was calculated using a simple correlation between rater scores on the CSRS ($r = .75$, $p < .01$).

Following the rating of each dyadic member, the individual competence scores were broken into quartiles with a score of 2.9 or below representing the bottom quartile, and a score of 3.7 or above representing the top quartile (scores ranged from 1.0 to 5.0). This resulted in 36 low-competent speakers and 60 high-competent speakers. As the purpose of this study was to examine hypotheses about individual communication competence, and not the communicative behavior of individuals in particular dyad types, it was necessary to control for such dyadic effects. Therefore, we extracted for use in this study from the 116 dyads recorded only dyads where a high competent was paired with a moderate, and a low competent with a moderate. Thus, the final sample comprised 27 dyads with 11 high competents paired with moderates and 16 low competents paired with moderates.
Variables and Coding Procedures

Each dyad interacted for about 10 min and these interactions were transcribed into textual form. The entire interaction was then segmented into thought units (T-units). Each T-unit was the unit of analysis and each unit was coded on 23 variables. A coding sheet was devised that displayed each code for each T-unit. The first variable coded was sex of speaker and the second was simple word count.

Following the theoretical lead of Cegala (1989) and others we coded linguistic indices associated with various aspects of communication competence and meaning-based and text-based discourse strategies. These included indices of uncertainty, pronoun use, and article use. Uncertainty was operationalized by identifying qualifiers and intensifiers that have been shown to distinguish between powerful and powerless speech (Bradac & Mulac, 1984) and levels of psycholinguistic engagement (Camden & Verba, 1986). Pronouns were not only a measure of the interaction involvement component of communication competence but, of course, central to discourse cohesion. Four types of pronouns were coded: first person (e.g., I, me), second person (e.g., you, yours), third person (e.g., he, she, him, her), and relational (e.g., we, us, ours). Definite articles suggest cognitive involvement and indefinite articles indicate disengagement (Camden & Verba, 1986), and they were coded as linguistic indicators of communication competence rather than cohesion. Articles are technically a class of demonstratives and thereby cohesive, but they were not coded for that conceptual reason in this study.

Another set of variables that were coded tap structural and lexical elaboration. They are indices of sentence complexity and relate to complexity of expression (Poole, 1975; van den Broeck, 1977). Structural and lexical elaboration contribute to explicitness and logical relationships between ideas. The ability to translate goals and selected responses into specific linguistic forms is a necessary ingredient of communication competence (Spitzberg & Cupach, 1989). Key indicators of lexical elaboration are subordinate clauses and prepositions. Coders identified phrase groups that functioned as nouns, adjectives, or adverbs and were typically introduced by subordinating conjunctions and relative pronouns. Prepositions were those parts of speech that showed a relationship between nouns or noun-equivalents (e.g., at,
after, under, with, etc.). Lexical elaboration—necessary for refined meaning and verbal embellishment—was operationalized as measures of adjectives and adverbs. These measures used only descriptive adjectives. We did not code pronomial possessive adjectives, demonstratives, interrogatives, indefinite, or numerical adjectives (see Ellis & Hamilton, 1985).

Linguistic cohesion was measured in accordance with procedures described in Villaume and Cegala (1988) and Halliday and Hasan (1976). Anaphoric and cataphoric cohesive devices were identified and coded for each T-unit. We coded references, substitutions, and ellipses and also coded the interactional direction of the devices. Interactional direction is the measurement of whether a cohesive device ties a T-unit to something in the speaker’s own turn at talk or in the talk of another interactant (Fine, 1978). An interactive direction is when a cohesion device ties to a T-unit of the other speaker. A noninteractive-between direction indicates that a device ties to a prior T-unit of the same speaker. A noninteractive-within direction is when the cohesive device refers to something within the same T-unit in which it was uttered. The flow and pattern of conversation is complex. Competent communicators must make interactive references in order to satisfy the Cooperative Principle (Grice, 1975) and make their turn at talk relevant to the previous turns. Yet they must also make their own turns coherent by within-turn cohesive devices. There were nine such cohesion variables (interactive reference, noninteractive-between reference, noninteractive-within reference, etc.) that completed the total of 23 variables. The following is an example of coded text:

Robin: I have Communication 428 this semester.
Bill: Is it an easy class? (It is coded as an interactive reference).
Robin: Not bad. ((Coded as interactive Ellipsis: “The class” is not bad.))
Bill: That’s good. ((Coded as Interactive substitution: That substitutes for the class is “not bad.”))

The interactions were coded by the authors, who trained for 6 months to become reliable on the coding procedures. Each dyad was coded without knowledge of the dyad type. Reliability was calculated
using Scott's (1955) Pi, which adjusts the reliability statistic for the expected agreement among all coded categories. When reliability on all variables reached at least .80 the coders began to code the data. At two additional times in the coding process reliability was recalculated on the entire set of codes to check for decay. Intercooder reliability was .84 and .81, respectively.

RESULTS

The data were subject to discriminant analyses and analyses of variance (ANOVAs) using the various language variables as the unit of analysis. All data were converted to ratios in order to minimize the influence of unequal frequencies of different variables. This data strategy boosts the conservatism of the test and increases the confidence of significant results.

Hypothesis 1 predicted cohesion device differences between high competent and low competent. We assessed the ability of each cohesion variable to discriminate between the two dependent groups. This analysis produced a significant discriminant function (Wilks's lambda = 0.989), \( \chi^2(9, N = 1,798) = 18.702, p < .03 \), with the strongest variables being ellipsis and substitutions within utterances as most descriptive of the low competent. The structure coefficients appear in Table 1 and are supportive of the hypothesis. The strongest loadings are for the variables that predict low competence.

<table>
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<th>TABLE 1</th>
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<tr>
<td>Structure Coefficients for Cohesion Variables (Hypothesis 1)</td>
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<tr>
<td>Function 1</td>
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<td>Substitutions within</td>
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<td>References between</td>
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<td>Interactive substitutions</td>
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<td>Ellipses between</td>
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<td>Substitutions between</td>
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<td>References within</td>
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The second hypothesis posited a relationship between communication competence and lexical and structural elaboration, in addition to second person and relational pronouns. This hypothesis also tested for theorized relationships between interaction involvement, as measured in Cegala (1989), and communication competence. This discriminant analysis resulted in a significant discriminant function (Wilks lambda = 0.983), $\chi^2(12, N = 1,799) = 30.20, p < .01$. Intensifiers, adjectives, second person pronouns, and relational pronouns were most descriptive of the high competent, and qualifiers were most characteristic of the low. The structure coefficients for Hypothesis 2 appear in Table 2.

Hypothesis 3 predicted a competence by time period interaction and was also supported. This hypothesis was tested with a 2 × 3 (Low- and High-Competence × Early, Middle, and Late Time Periods) analysis of variance. The discriminant analysis indicated significant multivariate effects so the statistical treatment for this hypothesis consisted of probing univariate analyses and Scheffé tests for post hoc comparisons. A time period variable was created to account for changes in the dependent variables. The time variable was based on T-units rather than clock time because dyads produced different numbers of T-units within the interaction. SPSS statements were used to divide the data into thirds and create the time variable.

The ANOVA on the linguistic and cohesion variables yielded significant main effects for communication competence on intensifiers (INTS) $F(1, 1793) = 12.06, p < .01, \eta^2 = .08$; qualifiers (QUALS) $F(1, 1793) = 3.67, p < .05, \eta^2 = .04$; adjectives (ADJ) $F(1, 1793) =$

### Table 2

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<tr>
<th>Function</th>
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3.81, \( p < .05 \), \( \eta^2 = .05 \); substitutions-within (SUBWIN) \( F(1, 1792) = 3.55, p < .06, \eta^2 = .04 \); and ellipses-within (ELLWIN) \( F(1, 1792) = 4.52, p < .05, \eta^2 = .07 \).

There were significant main effects on the time variable for intensifiers \( F(2, 1793) = 3.63, p < .05, \eta^2 = .06 \); qualifiers \( F(2, 1793) = 3.67, p < .05, \eta^2 = .06 \); subordinate clauses (SUBCL) \( F(2, 1793) = 3.12, p < .05, \eta^2 = .06 \); second person pronouns (2PP) \( F(2, 1793) = 13.69, p < .01, \eta^2 = .12 \); and substitutions-between (SUBTWN) \( F(2, 1793) = 3.43, p < .05, \eta^2 = .06 \).

There were significant interactions between competence and time for first person pronouns (IPP) \( F(2, 1793) = 3.54, p < .05, \eta^2 = .04 \); second person pronouns \( F(2, 1793) = 3.63, p < .05, \eta^2 = .13 \); substitutions-within \( F(2, 1792) = 3.73, p < .05, \eta^2 = .06 \); and ellipses-between (ELLBET) \( F(2, 1792) = 3.65, p < .05, \eta^2 = .06 \). Table 3 reports the mean ratios for the competence by time period conditions.

High competent use more intensifiers and adjectives, whereas lows use more qualifiers, substitutions-within, and ellipses-within. Moreover, high and low competent increase their use of intensifiers and qualifiers respectively over time. Subordinate clauses and substitutions-between both increase over time, and second person pronouns decrease over time, with high competent beginning with the most second person pronouns and ending with the fewest. There was a significant interaction for first person pronouns such that low competent use fewer of them over time and highs increase their frequency. This latter relationship is

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<td>ELLBET</td>
<td>023</td>
<td>022</td>
<td>024</td>
<td>015</td>
<td>065</td>
<td>017</td>
</tr>
</tbody>
</table>

Note. Cells with no superscript letter in common differ significantly from one another.
LT1 = Low Competents in Time One, etc.; HT1 = High Competents in Time One, etc.
Competent Communication

opposite the one for second person pronouns. The interaction for substitutions-within indicated that at Time One low competents were most likely to use this cohesion device and highs the least likely. The lows increase their use over time. The interactions involving ellipses-between are generally supportive of Hypothesis 3 because, as predicted by the discourse processing model, high competents are least likely to use them. This is true except for the middle time period, when high competents use the most ellipses between.

The research question probed differences that might be attributable to gender. We abstracted a sample of the data and equalized the number of high- and low-competent men and women (see Table 4). Each experimental man or woman was paired with a moderate of the opposite sex. A significant multivariate effect obtained when the variables in the study were used in a discriminate analysis with gender as the dependent variable. The analysis produced a significant discriminant function (Wilks's lambda = 0.965), χ²(21, N = 1,533) = 53.37, p < .01. The significant variables, which were all characteristic of women, were relational pronouns, adjectives, adverbs, substitutions-between, intensifiers, and subordinate clauses.

TABLE 4
Structure Coefficients For Gender Analysis

<table>
<thead>
<tr>
<th></th>
<th>Function 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational pronouns</td>
<td>.47</td>
</tr>
<tr>
<td>Adjectives</td>
<td>.39</td>
</tr>
<tr>
<td>Adverbs</td>
<td>.38</td>
</tr>
<tr>
<td>Substitutions between</td>
<td>.31</td>
</tr>
<tr>
<td>Intensifiers</td>
<td>.30</td>
</tr>
<tr>
<td>Subordinate clauses</td>
<td>.26</td>
</tr>
<tr>
<td>Second person pronouns</td>
<td>-.22</td>
</tr>
<tr>
<td>Interactive substitutions</td>
<td>.21</td>
</tr>
</tbody>
</table>

DISCUSSION

The hypotheses examined in this study received fairly strong support. Essentially, communicators who have been identified as competent, or skilled at managing the various requirements of interactions,
use cohesive devices and linguistic resources that make for more explicit grammatical ties and forms of expression. Moreover, the data provide reasonably good support for the discourse processing models used to form Hypotheses 1 and 2, and the assumptions about adaptability over time that inform Hypothesis 3. Competency type was reasonably well discriminated and, more importantly, those discriminations were reflective of the predicted use of language and cohesion variables.

The structure coefficients for variables on the discriminant function testing Hypothesis 1 (Table 1) reveal two interesting patterns. The first pattern is in accordance with our hypothesis. The theoretical reasoning that underpins this hypothesis is that low competents will be more reliant on propositional content or text-based discourse strategies than high competents who, however, construct more general models of meaning and link their discourse with more explicit references to these models. The strongest loadings are for the low competents. Ellipses and substitutions-within are very predictive of low competents probably because low competents vary their language behavior less. The high competents use predictive indices that adjust their behavior more, so these indices do not load as strongly. Villaume and Cegala (1988) and Villaume et al. (1989) found that low-involved speakers, a variable conceptually associated with competence, use more text-based strategies, more ellipses, and are generally more reliant on the other participant. The category of ellipses-within utterances is the highest loading variable in this discriminant analysis and it is characteristic of low competents. Moreover, references-between is most descriptive of the high competents. The high competents are using more explicit pronoun forms, demonstratives, and comparatives to elaborate their content and tie the meaning of one T-unit to the meaning of another in pursuit of their conversational goals. Ellipses-within and references-between are prototypical text-based and meaning-based strategies, respectively, and these findings are highly consistent with research cited earlier.

The second interesting pattern in these results is the tendency for low competents to use cohesive strategies within T-units and the high competents to use them between their own T-units. None of them are interactive. In the Villaume et al. (1989) study, the authors argued that a text-based or propositionally based discourse strategy would exhibit more attention to recent textual information rather than more general meaning-based models. They supported this contention by demonstrating that low-involved speakers, who use text-based meaning strat-
egies, were more likely to extend an event rather than an issue, and extended issues under more restrictive circumstances (see also Tracy, 1983). The tendency for low competents to use within-utterance cohesive devices, that is, leave gaps or use lexical substitutions within their own T-unit (not one that occurred earlier), is very consistent with the expectation that low competents are attending to more recent textual information. The fact that the high competents are distinguished by between T-unit ties lends additional support for this finding. The high competents are keeping stronger meaningful relations foregrounded in the interaction and use running between T-unit ties to reference these relations.

There was also support for the second hypothesis. It is increasingly clear that competent communicators are involved with the other participant and the interaction. Scholars (e.g., Camden & Verba, 1986; Cegala, 1989) have demonstrated that pronoun use correlates with the degree of engagement versus detachment that one interactant experiences with respect to the other. Involved and competent speakers are cognitively engaged with the other participant and low competents are detached. This study found a consistent pattern of relational pronoun use for communication competents as Cegala (1989) found for highly involved speakers. Competent communicators are more likely to reference the speaker–other interactional unit, which indicates greater communicative engagement with the conversational partner. High competents take the meaning of the other speaker into account by forming a semantic image of the speaker–other unit and use that image not only to create a sense of immediacy but to establish an interpretive frame. Significant second person pronoun use for competent communicators also reflects greater engagement with the other speaker. First person pronouns only approached statistical significance, $F(1, 1797) = 2.84, p < .10$, $\eta^2 = .04$, in this study but correlate fairly well with low-competent speakers. Low competents appear to be more self-involved and refer to themselves more than others.

The data on article use were nonsignificant. Some previous research (Clark & Marshall, 1981; Camden & Verba, 1986) suggested that article use indexes shared knowledge and cognitive involvement such that definite article use should correlate with high competence and indefinite article use with low competence. The means were in the right direction (Definite Articles High, $M = .028$; Low, $M = .025$; Indefinite Articles High, $M = .020$; Low, $M = .022$) but did not reach statistical
significance. Cegala (1989) also failed to support predictions for article use and involvement. The data from Clark and Marshall (1981) were very specific with respect to the power of articles to indicate degrees of shared knowledge on the part of interactants. Perhaps this coding scheme was not sensitive enough to detect differences or, more likely, the context of the interaction did not warrant the use of such articles that are syntactically rather than lexically produced. Establishing the precise role of article usage poses an opportunity for future research.

Competent communicators are more actively engaged in the interaction and the communication context. They seek to control the situation in pursuit of their goals. Moreover, because competent communicators employ more meaning-based strategies and, as Hypothesis 1 indicates, they tie their utterances together in a more complex fashion, these individuals produce more verbal embellishment, elaboration, and intricacies. The very strong loadings and significant univariate analyses for intensifiers and adjectives indicate that high competents speak with more force and specificity. Intensifiers (e.g., “There is no way I am taking that class.”) charge the communication environment with more active language and make for a livelier atmosphere. They are also indicators of the certainty expressed by a speaker. Adjectives (“That’s an excellent movie.”) increase clarity and reflect lexical elaboration when meanings are more refined. Such lexical forms of expression are representative of discourse models of processing rather than propositional models. The subordinate clause variable, which indexes structural elaboration and should correlate with competency, was not significant. It does load on the high-competence vector but, as we see later, use of subordinate clauses increases over time but does not statistically distinguish between high and low competents.

As expected, qualifiers were most characteristic of low-competent communicators who express themselves with less certainty. Again these results were quite consistent with what Cegala (1989) found for low-involved speakers. That low competents use a preponderance of first person pronouns and qualifiers is consistent with the expectation that they express themselves in a more self-possessed and hesitant manner. Data from Bienvenu (1971) and Stricker (1982) suggest that individuals with less interpersonal competence have a weaker self-concept, do not listen well, and lack clarity of expression. Qualifiers such as *almost*, *maybe*, *probably*, and so on, are lexical choices that operationalize these
qualities. The results reported in Cegala (1989) also support this relationship between qualifiers and competence.

The finding for adverbs indicating greater use by low competents was unexpected (Table 2). Like the results for first person pronouns, the univariate tests were not significant but are suggestive, $F(1, 1797) = 2.70, p < .10$. Compound adverbs (e.g., accordingly, subsequently) and comparative adverbs (more quickly) were originally assumed to index the lexical elaboration that is characteristic of high competents. But in an effort to explain this finding we returned to the data to examine the type of adverbs that were predominantly coded. Most of the codes were simple adverbs (e.g., coordinating conjunctions such as but or so) and adverbs (e.g., yes, no, then). Halliday and Hasan (1976) explained how these serve a locative function; that is, they refer to text and often to recent text. These adverbs, then, might be part of the text-based meaning strategies of low competents. They are mostly syntactically rather than lexically produced and function as coordinating language for responses to recent propositional content. Future work will have to flesh out these relationships.

The third hypothesis predicted changes over time in the interaction. There was a significant main effect for intensifiers and qualifiers such that use of both of them increases over time. The data for the second hypothesis indicate that intensifiers and qualifiers are diagnostic of high and low competents, respectively, because of their correlation with degree of certainty of expression. Certainty and uncertainty are exacerbated over time. The communicative system becomes particularly richer in certainty as the interactants learn more about one another. There is also more uncertainty over time, but this is especially attributable to a dramatic increase in uncertainty by low competents at the end of the interaction. Table 3 shows how intensifiers are at their absolute lowest for low competents at Time One and their highest in the middle of the interaction for high competents. Competent communicators are always more certain and—consistent with Cegala's (1989) finding that highly involved speakers assist the lows in tracking the flow of conversation—low competents talking to others who are more competent exhibit increases in certainty.

Interestingly, subordinate clauses increase over time as do substitutions-between. Most of the increase in syntactical complexity is attributable to the high competents who are increasing their specificity
and certainty as the interaction progresses. Subordinate clauses increase for low competents as well but not nearly as rapidly as for the highs. As participants become more involved in the speaker-hearer relationship their messages become more integrated (Chafe, 1982). Integration refers to the incremental packing of information into idea units by adding additional elements and annexing grammatical structures to one another. Subordinate clauses serve to integrate information by adding a predicative element. Although integrated linguistic structures are typically more characteristic of writing than speaking, they are displayed orally in what Ellis and Armstrong (1989) and Ellis (1992) termed the "syntactic code"; that is, communication that makes greater use of direct semantic elaboration. That substitutions-between also increase during the course of the interaction is evidence of continued elaboration of the content and themes of the interaction. The linguistic patterns in the conversation become more complex, because for both high and low competents there is some decreased emphasis on immediate surface text and more attention to the general meaning structures in the conversation.

Both first person and second person pronoun use produced significant interactions. Although post hoc comparisons did not find significant cell differences, the use of first person pronouns is symptomatic of low competents and less so of the high competents until the third time period. High competents dramatically increase their use of first person pronouns at the end of the interaction and lows drop to their lowest levels. The self-possessed detached references of the lows are characteristic of the highs at the very end of the interaction. The reverse is true for second person pronouns. Competent communicators begin the interaction with the highest proportions of second person pronouns and end with the lowest. The most likely explanation for these interactions is that the most descriptive qualities of the subjects appear immediately and then moderate or adjust to unique contextual issues as time passes. The cognitive involvement that is represented by second person pronouns significantly decreases over time but this is most pronounced by the high competents who make adjustments to the situation. However, when compared to the lows, high competents did not increase their use of adjectives, qualifiers, and intense language as predicted.

The data for substitutions-within and ellipsis-between are somewhat supportive of Hypothesis 3, but the Scheffé tests failed to detect specific cell differences. Both substitutions-within and ellipsis-between
are propositionally based strategies and the low competents increase their use over time. The highs also use these strategies and increase the frequency from T1 to T2 but then, as predicted, drop off significantly. The interaction effect for ellipsis-between is interesting because this is a prototypical text-based strategy where the speaker simply copies the logical form of the most recently occurring text (the other speaker's last utterance). The high competents have the most extreme means for ellipsis-between. In the beginning and in the end of the interaction they are very uncharacteristic of competent communication, but their frequency swells in the middle period. If Sag and Hankamer (1984) are correct and elliptical elements are interpreted in terms of propositional representations rather than deeper discourse models, then we can see the adaptation of processing strategy that is peculiar to competent communicators. Competent communicators begin the interaction with more indexicals that reference established discourse models for meaning as they work to orient themselves to the other speaker. After a baseline is established, they produce the simple copying forms of the other before returning to their most preferred model of comprehension.

The research question was about gender differences with respect to the language and cohesion variables under study. The finding of a strong loading for use of relational pronouns is certainly consistent with the assumption that women speak in an “other-oriented” voice and are more concerned with “connecting” to the hearer (Gilligan, 1982). Moreover, the female speakers employ the linguistic indices that are most expressive of lexical and syntactical complexity. Their language is more elaborated, intense, and responsive to refined meaning. The women in this study communicated in a stronger and more certain manner as evidenced by their use of intensifiers and adjectives, and the absence of qualifiers. The use of substitutions-between, in conjunction with the other language variables, might be interpreted with reference to Hypothesis 1; that is, women use a between-turn strategy because their processing is more meaning-based than text-based. Cohesion devices are innate to the language system and we would not expect too many gender differences for such variables. But there is ample sociolinguistic evidence that women differentiate their language from men's language (e.g., Trudgill, 1984; Coates, 1986) and future work must explore this differentiation with respect to cohesion.

These results illustrate that competent communicators vary the use of cohesion devices and language indices because they are sensitive to
the constraints of a particular communicative context. Future research must continue to examine differences between text-based and meaning-based discourse processing strategies, especially the interface between these strategies and pragmatic processes. Cohesion devices are probably responsible for much of the comprehension and synchrony in communication. This study contributes to our understanding of how participants in communication accomplish comprehension. Moreover, it demonstrates that constructs such as communication competence have correlates in on-line language use that constitute the skills of the communicator. Additional research on these relationships should prove valuable.

NOTE

1 The coded qualifiers and intensifiers were applied from a finite list that replicated the list used by Cegala (1989). Cegala created the measure by adapting Camden and Verba's (1986) linguistic engagement index and expanding it with a standard thesaurus. The measure appears as Table 1 in Cegala (1989).

REFERENCES


