

Family Talk About Feeling States and Children's Later Understanding of Others' Emotions

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We examined the relation between individual differences in 36-month-old children's conversations about feeling states with their mothers and siblings and their later ability to recognize emotions in an affective-perspective-taking task at 6 years. Subjects were 41 children observed at home. Differences in discourse about feelings (in frequency, causal discussion, diversity of themes, and disputes) were correlated with later ability to recognize emotions. The associations were independent of children's verbal ability and of the frequency of talk in the families. Results highlight the significance of family discourse in even very young children's developing emotional understanding.

There is growing interest among psychologists in the nature of very young children's understanding of emotions—a core aspect of human development about whose early stages we still know little (see Harris, 1989; Miller & Aloise, 1989, for reviews). One important source of evidence for children's interest in emotions, and their grasp of cause and consequence of emotions, is their talk about feeling states. A number of studies have now provided converging evidence that from around 20 months children use emotion-descriptive terms in daily interaction with family members (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Bretherton, McNew, & Beeghly-Smith, 1981; Dunn, Bretherton, & Munn, 1987; Ridgeway, Waters, & Kuczaj, 1985). Using parental reports, Ridgeway and her colleagues documented a dramatic increase in children's vocabulary of emotion terms between 24 and 36 months. In addition, the studies show that children by 36 months talk about past and future emotions and discuss the antecedents and consequences of emotional states—findings further supported by recent studies of children's causal understanding of emotions (Huttenlocher & Smiley, in press; Stein & Levine, in press-a).

The primary focus of these studies of children's talk about feeling states has been the description of normative development—the documentation of the frequency and range of emotion terms used by children of different ages. Although this research has clarified the achievements and limitations of the abilities of children of different ages, one major issue remains

relatively unexplored. This is the question of the developmental significance of individual differences in very young children's participation in talk about feeling states. The extent of individual differences in children's talk about emotions and in their exposure to discussion of feeling states has been little considered, beyond one descriptive paper focussed upon 24-month-olds (Dunn et al., 1987); we know nothing about the later correlates of such individual differences. Do children differ much in their participation in discussion of feeling states and their causes within the family, and are such differences in early family experiences associated with later differences in children's abilities to judge others' emotions? These questions are of considerable developmental importance; they center upon the relation of language experiences to conceptual development—a core aspect of human development.

Although differences in children's abilities to recognize and understand others' feelings are clearly important, we know relatively little about their origins. It is often assumed that early experience within the family must have a major impact; however, the nature of that influence is not yet well understood. It is important here to make a distinction between *recognizing/understanding* another's feeling state and *behavioral responses* to others' emotional expressions. With regard to the latter, there is evidence for connections between parental behavior and emotional expressiveness and children's later response to others' distress or anger. Zahn-Waxler and her colleagues found that parental reactions to a child's causing hurt or distress to another were related to later differences in the children's "reparative" behavior towards their victims (Zahn-Waxler, Radke-Yarrow, & King, 1979). There is also evidence for links between family emotional expressiveness and children's behavior with peers (Cassidy & Parke, 1989; Denham, McKinley, Couchoud, & Holt, 1990). A number of lines of evidence support the hypothesis that family discourse about feelings is important in relation to children's later social behavior. For instance, the studies by Zahn-Waxler and her colleagues showed verbal explanation

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concerning cause and consequence of emotions to be one feature of parental behavior that was associated with the later differences in child behavioral outcome. Secondly, associations between maternal talk about feelings to firstborn children and these children's later friendly behavior towards their infant siblings have been reported in two separate studies (Dunn & Kendrick, 1982; Howe & Ross, 1990).

On the issue of whether there are links between parental behavior and emotional understanding, however, little information is available. Studies of abused children indicate that in these extreme cases there may indeed be associations between parental behavior and the ability to recognize others' feelings (Camras, 1989). It remains unclear whether such connections apply within the normal range. Denham and Couchoud's (1988) finding that parents' self-reports of their socialization practices were associated with differences in preschool children's ability to identify emotions stands very much alone.

Whether differences in parental talk about affect and in explicit discussion of cause and consequences of feeling states are systematically related to differences in later emotional understanding is an intriguing but unexplored question, one which raises the central developmental issue of the relation between language experiences and conceptual development. It has been argued that the ability to talk about emotion serves the function of enabling children to "distance" themselves from, and to reflect upon, the experience of emotion (Bretherton et al., 1986; Stern, 1985). Stern argues that this allows children and their significant others to "negotiate shared meanings" about experience. If discourse serves this function, then discussion of feelings should play an important role in children's developing understanding of emotions: we might predict that in families in which mothers and children engage relatively frequently in such talk, the children's ability to understand the feelings of others would be fostered. That is, an association between the *language experience* and the later ability of the children to *understand* others' emotions might be expected. From this general prediction, more specific questions about which particular features of the language experience are related to later individual differences in conceptual development follow. Is the experience of discourse about emotions important because the child is encouraged to reflect on and articulate the causes and consequences of feeling states? Does its importance lie in the child's exposure to discussion of a diversity of emotional themes? Are discussions of negative and positive feeling states both related to later outcome, or does discourse about negative feelings have special significance? Do the families who discuss feeling states talk more frequently in general—and are later differences in conceptual ability attributable to these differences in family talk, rather than to differences in family talk about feelings per se?

A further issue to be explored is the significance of the context in which such discourse about feeling states takes place. For instance, do disputes, in which children are faced with the challenge of another's viewpoint, have special developmental significance? From Piaget's proposal that argument between peers is of special significance in the development of social understanding, social conflict has been highlighted as of particular importance (see Shantz, 1987). It has also been argued that angry emotions and situations of frustration and failure are more fre-

quently associated with evaluative, thoughtful behavior than are situations in which people are happy or successful (Schwarz, 1988; Stein & Levine, in press-b). At present, little information is available on what social processes may be implicated in the development of the ability to understand others' feelings, even though this is such a central aspect of human development. In contrast to the proposal that disputes or contexts of thwarted self-interest (Dunn, 1988) are of special significance, it has also been proposed that discourse about the social world that takes place in the context of calm reflective discussion between family members, not directly concerned with immediate practical goals, is especially important in fostering social understanding (see, e.g., Tizard & Hughes, 1985). These different proposals each remain to be tested.

In this article these questions concerning the developmental significance of individual differences in family discourse about feelings are considered in light of data from a longitudinal study of children observed within the family. The children were observed at home in the toddler and preschool period and then were tested at 6½ years on an affective perspective-taking task—Rothenberg's assessment of social sensitivity (Rothenberg, 1970). The study thus offers the opportunity to examine associations between individual differences in family talk about feelings in the preschool years and later differences in children's ability to grasp what others may be feeling.

Specifically, the article has two goals. The first is to present descriptive data on individual differences in a range of features of discourse about feeling states. We will consider differences in frequency, theme, and pragmatics of feeling state talk between 36-month-olds and their mothers at home, in the discussion of cause and consequence within such feeling-state conversations, and the significance of disputes as a context in which these causal discussions about feelings take place. The second goal is to examine associations between differences in each of these features of early talk about feelings and individual differences in performance on the Rothenberg assessment of social sensitivity 3 years later.

Method

Subjects

Forty-one sibling pairs and their mothers in Cambridge and surrounding villages in England were observed when the second child was 36 months old. The families were recruited either through Health Visitors or through a newspaper advertisement. The social class of the families according to the Registrar General's (1973) classification was 1/11 (professional/managerial) for 26 families, 111 (white collar) for 4 families, 111 (skilled manual) for 8 families, and IV/V (semi-skilled or unskilled manual) for 3 families. There were 8 girl-girl pairs, 8 boy-boy pairs, 13 older boy-younger girl pairs, and 12 younger boy-older girls pairs. The mean difference between the siblings in age was 26 months (range 12–57 months). The families participated in a follow-up visit when the secondborn children were 6 years, 6 months old. In this article the secondborn child is referred to as the *child*, and the firstborn as the *sibling*.

Observations at Time 1

Observations were carried out when the child was 36 months old. Two observations of 1 hr each were carried out. All observations were

made in the home at a time when the mother, child, and sibling were present. Audiotape and pencil-and-paper recording methods were used. To reduce the intrusive effect of the observer, one visit was paid to the home before conducting the first observation, and recording did not begin for at least 10 min after arrival. The same observer visited the family each time. The mothers continued to carry out their usual routine while the observer was present; it was emphasized to them that we wanted to study normal interaction between the siblings and to disrupt family patterns of interaction as little as possible. The frequency of conflict, arguments, and extended bouts of pretend play (Dunn & Dale, 1984; Dunn & Munn, 1985) suggests that attempts to minimize the intrusive effects of the observers' presence were reasonably successful. Family conversation during the observation was recorded on a small portable stereo taperecorder and transcribed by the observer following the observation.

Coding of Transcripts

A categorization system was designed for the analysis of conversations in which family members referred to feeling states. References included conversational turns in which the speaker used a feeling state term (e.g., "sad" or "happy"), those in which the speaker used a phrase that connoted a feeling state (e.g., "make a fuss"), and those in which an expletive was used that connoted a particular feeling state (e.g., "Yuck!" [disgust]). Nonspecific expletives (e.g., "Aha!"), crying, laughter, and other nonverbal expressions of affect were not included. Because the analyses were limited to feeling state references, internal state terms indicating volition, motivation, or cognition were not included. Statements of a moral or evaluative nature were included only if their content specifically denoted or connoted a feeling state on the part of the speaker or referee (e.g., "That's disgusting!"). The label *nice* was included if it was used to express liking but excluded if it was used in the moral sense of "good" (i.e., well-behaved) or if it was used as a simple evaluative adjective. The term *like* was included only when it referred to a state of enjoyment or dislike, not when it indicated desire or volition, as in the example "Would you like to have this toy?" Terms that projected feeling states as attributes into the objects that elicited them (e.g., "poor" or "scary") were included. Both individual conversational turns in which feeling state references were made and conversations in which a feeling state was discussed were included in the analyses.

A *conversational turn*, referring to feeling states, was defined as all of one speaker's utterances bounded by the utterances of another speaker, in which an explicit reference to a feeling state was made. If an individual's utterances within one conversational turn referred to more than one emotional theme or to more than one individual's feelings, each reference was coded separately. Each conversational turn that referred to a feeling state was coded in terms of the following categories: (a) *conversational partners*—who the speaker was and to whom the turn was addressed; (b) *referent*—the person whose feeling state was referred to by the speaker; (c) *theme*—the emotion-descriptive theme of each turn; (d) *disputes*—whether the conversational turn involved a dispute over either the action, intentions, or beliefs or points of view of another (see Dunn & Munn, 1987); (e) *causal reference*—the occurrence of a turn within a feeling state conversation in which a causal relation was discussed. The turn was required to be related to the causal component of the conversation (e.g., as either the antecedent or consequent of the causal reference). The criteria used to determine whether a causal inference was made were based on those developed by Hood and Bloom (1979). Causal statements by young children and also by adults do not invariably contain causal connectives (see Hood & Bloom, 1979); thus turns coded as causal included, in addition to those in which an explicit causal term was used (e.g., "why" or "because"), turns in which a reference was made to two events or states that had a conditional rela-

tion (e.g., "Don't jump—you'll hurt yourself!"). (f) *pragmatic context*—the explicit or inferred intention of the speaker when making the reference to feeling states was coded. Twelve categories of pragmatic context were developed from studying the transcripts; these were then grouped into three broad categories each for children's and for mothers' turns. For children these were (a) *self-interest*—efforts to gain assistance or comfort and to meet own immediate needs; (b) *discussion/pretend*—commentary and discussion about past events, solo or shared pretend; (c) *influencing affect*—efforts to change the feelings of others, including friendly and provocative teasing, comforting others, and attempts to avoid blame and excuse own actions. Mothers' turns were grouped according to the following categories: (a) *control*—efforts to control or reinforce socially acceptable behavior; (b) *discussion/pretend*—commentary and discussion about past events, solo or shared pretend; (c) *influencing affect/other*—efforts to change the feelings of others (e.g., comforting and altruistic efforts; mother's efforts to get own needs met). Note that turns were coded independently with respect to disputes, causal, and pragmatic context categories. That is, disputes could and did occur in each pragmatic category, and conversely, nondisputed conversations occurred in each pragmatic category. Similarly, causal references were made in all of the pragmatic contexts.

Conversations about feeling states. In addition to coding individual speaker turns that included explicit reference to feeling states, we decided to include a measure of conversations about feeling states, on the grounds that the topic of the feeling state frequently continued over several turns in a conversation beyond the turn in which it was explicitly mentioned. That is, children were frequently participants in conversations about feelings that extended over several turns, turns that were not captured by the measure of explicit reference to feelings. Feeling state conversations were defined as those conversational turns that included a specific reference to a feeling state and those turns surrounding the explicit references that had the feeling state itself as their topic (following Dunn et al., 1987). Conversations were coded in terms of (a) who the speakers were, (b) the number of conversational turns each speaker made, (c) whether a dispute occurred in the conversation, and (d) whether a causal reference was made during the conversation.

Mean length of utterance (MLU). The mean length and the upper-bound mean length of each child's utterances were coded (Shatz & Gelman, 1973) from the 100 consecutive child utterances that followed the child's first 10 conversational turns on the transcript. The number of words in the 10 longest of these utterances was used to determine the upper-bound mean length of each child's utterances.

Total talk. The total number of conversational turns, including feeling state turns, exchanged between mothers and children was counted for each observation.

Reliability of Transcript Coding

The transcripts were coded by Judy Dunn and Jane Brown. Inter-coder agreement was assessed by both coders coding eight 1-hr transcripts. Cohen's kappa for the measures were as follows: Categorization of a turn as concerned with *feeling state* = .94; turns within a *conversation about feeling states* = .75; *participants* in a conversation about feeling states = .90; *referent* of feeling state reference = .75; *theme* of the feeling state reference = .73; *pragmatic context* of feeling state turn = .73; categorization of a turn as *causal* = .73; categorization of conversation as *dispute* = .73. After this assessment, each coder coded half the transcripts—that is, disagreements were not discussed.

Affective Perspective Taking: Rothenberg Test of Social Sensitivity

At 6½ years the children's ability to identify others' emotions was assessed with the Rothenberg (1970) test of social sensitivity. The chil-

dren listened to four tape-recorded scenarios of a man and a woman interacting. The four emotions represented in the scenarios were happiness, anger, anxiety, and sadness. The child was asked to concentrate on one of the actors in each scenario—the woman in two of the scenarios and the man in the other two. Each scenario depicted a change of feelings for that actor from his or her initial comments to his or her later ones in which the target emotion was portrayed. Photos of a man and a woman depicting the appropriate feelings states were used in conjunction with the tapes. The child was then asked to identify how the actor felt at the start of the scenario and at the end. Transcripts of the scenarios are reported in Rothenberg (1970).

Scoring reflected the accuracy of the child's description of the actor's feelings. Most credit was given for accurately mentioning changes in the actor's feelings (+2). Accurate mention of one of the feelings portrayed by the actor received less credit (+1), no mention of feelings received no credit (0), and an inaccurate description of the actor's feelings lost credit (-1). Evidence for the validity of the measure was reported by Rothenberg: Positive correlations were found between high scores on the assessment and teacher ratings of the children on leadership, sensitivity to others and friendliness, and peer ratings on friendliness and leadership. Furthermore, in an observational and interview study of 6- and 9-year-olds, children scoring high on the Rothenberg test were observed to tease more frequently during conflict with siblings (behavior that entailed understanding what would upset the other child) and to use conciliation strategies more frequently (Beardsall, 1986).

Results

Descriptive Data on Individual Differences in Feeling-State Talk

In Table 1, the frequencies and ranges of the measures of talk about feeling states from the observations at 36 months are shown. It can be seen that the number of explicit feeling state turns by individual children varied a great deal; the frequency ranged from no turns to 27.2 turns per hour of observation. Individual differences between mothers in frequency of explicit references were marked too: They ranged from 0 to 21.5 turns per hour. Although on average there were 8.4 conversations per hour between mothers and children involving talk about feelings, the range was from 2.1 to 25.0. The frequency of talk about feelings between children and their siblings was much lower. In the analyses that follow we have focused, therefore, upon conversations about feelings between children and their mothers; the low frequency of sibling-child talk about feelings in many families meant that comparison by partner (mother vs. sibling) would not have been appropriate. The analyses do include those triadic conversations in which mothers, children, and siblings were involved. Table 1 shows that mothers referred equally frequently to the feelings of others and to the feelings of the child, and children referred most often to their own feelings. The frequency of conversational turns in each pragmatic category is also shown in Table 1: Individual differences between families in each of these were marked. Table 1 shows that there were also notable differences between families in the frequency with which causality was discussed in these feeling-state conversations (range from 0.8 to 12.9 per hour). Causal discussions occurred on average in 52% (range: 13%–100%) of the conversations.

The issue of how frequently discussions of feeling states in-

Table 1
Mean Frequencies (per hour) of Conversational Turns and Conversations Referring to Feeling States

Variable	<i>M</i>	<i>SD</i>	Range
Conversational turns referring to feeling states			
Child to mother	4.9	5.1	0–27.2
Mother to child	7.7	5.7	0–21.5
Child to sibling	1.9	2.4	0–8.7
Sibling to child	2.7	3.1	0–13
Conversations referring to feeling states			
Mother-child			
Mother-child-sibling	8.4	6	2.1–25.0
Total conversational turns			
Mother to child	133.4	69.8	17.8–372.1
Child to mother	128.3	66.8	22.8–375.7
References to child's feelings			
Child-to-mother turns	3.6	3.9	0–19.7
Mother-to-child turns	3.9	3.2	0–13.6
Reference to others' feelings			
Child-to-mother turns	1.2	1.7	0–7.6
Mother-to-child turns	3.8	3.7	0–15.5
Pragmatic category			
Child-to-mother turns			
Self-interest	1.6	2.0	0–8.3
Discussion/pretend	2.0	2.5	0–9.1
Influencing affect	1.1	2.0	0–9.1
Mother-to-child turns			
Behavior controlling	2.5	2.9	0–10.9
Discussion/pretend	3.6	2.9	0–13.1
Influencing affect/other	1.6	1.5	0–5.3
Feeling-state conversation measures			
Disputes	1.8	1.9	0–8.2
Causal references	4.1	2.9	.8–12.9

involved disputes between conversational partners was next considered. The wide range of individual differences was again evident here (range: 0 to 8.2 per hour). Twenty-two percent of all conversations in which feelings were discussed between mother and child or among mother, child, and sibling involved a dispute (range: 0%–75%). The relation between discussion of cause and the context of disputes was examined in light of the arguments that children begin to consider cause and consequences of others' feelings when in argument with others. The results showed that in disputes, discussion of cause was particularly common: Overall 67% of the conversations in which a dispute took place included a causal turn. In contrast, only 45% of conversations in which no dispute occurred included a causal reference, a significant difference (*t* test for difference of two proportions, $t = 31.42, p < .001$).

Emotional Themes

A number of different emotional themes were discussed by the 36-month-olds and their mothers and siblings, as summarized in Table 2. There were marked individual differences in the number of different emotional themes discussed. Although the mean number referred to by the children was 2.5 per hour, the range was from 0 to 9.5. For mothers, the mean was 4.1 (range: 0.7 to 10.3), and the mean for mother-child conversa-

Table 2
Emotion Descriptive Themes: Number of Mothers and Children Who Made Reference to Each Theme and Mean Percentage of Turns by Theme

Theme	No. of mothers who referred to theme	Mean % of mother-to-child turns on theme	No. of children who referred to theme	Mean % of child-to-mother turns on theme
Pleasure ^a	28	24	19	22
Fatigue	13	6	7	6
Surprise	1	<1	0	0
Anger ^b	13	7	4	2
Fear ^b	6	4	5	3
Distress ^b	14	6	8	6
Indifference	1	<1	1	<1
Concern	14	6	1	<1
Affection ^a	4	1	4	2
Sympathy ^a	11	5	4	4
Dislike (people) ^b	3	<1	2	<1
Shyness	2	<1	0	0
Disgust ^b	12	5	6	4
Pain ^b	29	28	23	38
Amusement ^a	4	1	5	3
Dislike (things) ^b	9	4	9	7
Remorse	3	<1	1	<1
Positive themes	30	32	23	28
Negative themes	29	38	23	31

Note. Superscript *a* refers to emotion themes included in category of positive themes; superscript *b* refers to emotion themes included in category of negative themes.

tions was 4.9 (range: 1.2–13.1). These individual themes were grouped into two categories of *positive* and *negative* emotions for the subsequent analyses examining the relation of positive and negative feeling state discourse to later affective perspective taking.

Gender Differences

Because an earlier study (Dunn et al., 1987) had reported differences between girls and boys in the frequency of their references to feeling states, and in their mothers' references to feeling states, each measure was examined for possible gender differences. None were found.

Relations Between Measures of Feeling-State Talk

The relations between the different measures of talk about feelings, the context of the feeling-state talk (dispute or nondispute), the children's verbal fluency as reflected in the MLU and upper-bound MLU, and the amount of verbal discussion in the family more generally was considered next. The correlations with MLU and upper-bound MLU were very similar; we report only those for the upper-bound measure. Table 3 shows the correlations between the different measures of feeling-state talk, children's upper-bound MLU, and the total amount of talk between mothers and children. Children's upper-bound MLU was related positively to the measures of feeling-state talk, but significantly only for talk to the mother. For simplicity of presentation, the pragmatic categories and referent of talk are not included in Table 3. Each of these measures was significantly positively correlated with the total feeling-state talk measure, with causal talk, and with diversity of themes. The pragmatic

categories were also each correlated positively with the frequency of disputes, with one exception: The pragmatic category of *discussion/pretend* was not significantly related to disputes in feeling-state talk for mother or for child. In summary, in families in which mothers and children talked frequently about feelings, they discussed a wide variety of emotional themes, referred to the feeling states of both child and others, discussed feelings in a variety of pragmatic contexts, discussed cause relatively frequently, and were often engaged in disputes in these conversations.

Relations Between Feeling-State Talk and Later Performance on the Rothenberg Assessment of Social Sensitivity

The second goal of the article was to examine the relations between the feeling-state talk measures and the children's later ability to identify the feelings of others in the Rothenberg test. The mean score for the children on the Rothenberg was 2.23 ($SD = 2.16$), with a range from -2.0 to 6.0 . Correlations between these scores and the feeling-state talk measures are shown in Table 3. Differences in scores on the Rothenberg assessment were correlated with a number of the earlier feeling-state talk measures: frequency of mothers' and children's talk about feelings, diversity of themes discussed, frequency of causal feeling-state conversations, and disputes in feeling-state conversations. Each of the pragmatic categories also showed positive correlations with later affective perspective taking. These were as follows: For children, *self-interest*, $r(40) = .30$; *discussion/pretend*, $r(40) = .33$; *influencing affect*, $r(40) = .33$. For mothers, *control*, $r(40) = .43$; *influencing affect/other*, $r(40) = .34$; all significant at $p < .05$. For mothers, *discussion/pretend*,

Table 3
Correlations Between Feeling State Talk Measures, Child's Upper-Bound MLU, Total Talk (all at Time 1), and Rothenberg Test of Social Sensitivity at Time 2

Variable	1	2	3	4	5	6	7	8	9
1. FST—Child to mother	—								
2. FST—Mother to child	.72*	—							
3. FST—Total mother & child	.92*	.94*	—						
4. FSC—Disputes	.60*	.63*	.66*	—					
5. FSC—Causal	.75*	.82*	.85*	.46*	—				
6. FSC—Diversity of themes	.57*	.85*	.77*	.39*	.65*	—			
7. Child's upper bound MLU	.38*	.24	.24	.06	.37*	.18	—		
8. Total mother-child talk	.41*	.51*	.50*	.26	.37*	.37*	.26	—	
9. Rothenberg test of social sensitivity	.42*	.40*	.45*	.34*	.36*	.47*	.13	.21	—

Note. FST = feeling-state turn; FSC = feeling-state conversation; MLU = mean length of utterance.

* $p < .05$.

$r(40) = .26$, $p < .11$. The referent of the conversations also showed positive correlations with the affective perspective-taking measure: Child refers to child, $r(40) = .42$; child refers to other, $r(40) = .30$; mother refers to child, $r(40) = .38$; mother refers to other, $r(40) = .32$; all significant at $p < .05$.

We next considered the broad categories of negative and positive feeling state themes. Correlations with later affective perspective taking did not reach significance for either of these general categories. For mother-to-child talk, the correlations were $r(40) = .24$ and $.14$ for negative and positive, respectively; for child-to-mother talk, $r(40) = .24$ and $.13$ for negative and positive, respectively.

Finally, the possibility was examined that the associations between the feeling-state talk measures and the children's later affective perspective taking were mediated by the children's verbal fluency, and general linguistic experience was examined. It should be noted from Table 3 that the children's verbal ability and the total talk during the observation were not significantly correlated with the outcome measure. However, in light of the significant correlations between several of the feeling-state talk measures and child's upper-bound MLU and total mother-child talk, partial correlations were conducted to determine the extent to which feeling-state language was related to subsequent social sensitivity when these latter measures were controlled. With child's MLU controlled, the pattern of correlations between the Rothenberg scores and the feeling-state discourse measures remained very similar to that reported in Table 3, $r(40) = .41$, $.38$, $.42$, $.34$, $.35$, and $.45$ for the measures child-to-mother feeling-state turns, mother-to-child feeling-state turns, total feeling-state turns, disputes in feeling-state conversations, causal conversations, and diversity of themes, respectively (all significant at $p < .05$). With total mother-child talk controlled, the correlations between the Rothenberg scores and the feeling-state talk measures again were similar to those reported in Table 3, $r(40) = .38$, $.35$, $.40$, $.31$, $.30$, and $.43$, respectively, for the measures listed above and in Table 3.

Discussion

There was wide variation among the 36-month-old children in this study in the frequency with which they talked about

feelings within the family, and there were related differences in their mothers' talk about feeling states. These individual differences were evident in each aspect of talk that we considered—the diversity of themes, the frequency of different pragmatic contexts of feeling-state talk, the causal content, and the extent to which conversational partners were in dispute. These different features of the feeling-state talk were correlated with one another. That is, children and mothers in families that engaged in discussion of a diverse range of feelings were also likely to discuss cause and consequence and to dispute the position held by other family members relatively frequently. The results showed that children were more likely to be engaged in discussion of cause of feelings when they were in dispute with others than when not in dispute—results that support arguments for the significance of social conflict as a setting in which the development of social understanding is likely to be fostered (Dunn, 1988; Shantz, 1987; Stein & Miller, in press).

These differences in discourse about feelings were systematically linked to differences in outcome 3 years later. Children who grew up in families in which such feeling-state talk was frequent were as 6-year-olds better at making judgments about the emotions of unfamiliar adults in the affective perspective-taking task than were children who had not participated in feeling-state talk with such frequency as 3-year-olds. One possibility considered was that because the Rothenberg test depends on children's verbally describing the feelings of the adults in the scenarios, the association with the earlier measure simply reflected differences in children's verbal fluency. However, the upper-bound MLU at 36 months did not correlate significantly with the 6-year measure, and thus differences in verbal ability appear unlikely to be the whole explanation for the pattern of continuity. In one previous cross-sectional study employing the Rothenberg test, no significant correlation was found between verbal IQ and the Rothenberg assessment (Beardsall, 1986), though it should be noted that Rothenberg (1970) found a low positive correlation with verbal IQ. In considering the developmental implications of these findings, three issues in particular merit discussion.

The first concerns the inferences to be drawn about the significance of discourse for children's conceptual development. It would clearly be inappropriate to assume from such correla-

tions that there was a simple causal link between these sets of measures, and a number of possible underlying or contributing processes remain to be considered in future research. It seems very likely that families who differ in the frequency of talk about feelings will differ in other respects—for instance, in parental emotional expressiveness or child-rearing patterns, in children's personality or expressiveness, or in their relationships with other family members. Any or all of such differences could contribute to later differences in the ability to judge others' feelings. These caveats are important; nevertheless, it should be noted that the findings do highlight a continuity between patterns of early family discourse and children's understanding of others' emotions—a continuity not explained by the children's verbal fluency as reflected in the upper-bound MLU or by the frequency of mother-child talk. The argument that engaging in verbal discussion about others' inner states may well encourage reflection and understanding of such states—that differences in conceptual development may be mediated through language—is supported by the results. To test for a *unique* contribution of discourse, further research will be needed. But at the very least, future studies of conceptual development aimed at documenting salient early experiences within the family should include measures of family discourse focused on the domains of interest, in addition to more traditional measures such as parental responsiveness and attentiveness.

The second issue concerns the questions raised in the introduction about the specific features of discourse that might be associated with later understanding. The associations over time that were found were comparable for each pragmatic category considered and for talk that was focused on the feelings of the child or of another. No special significance can be attributed to discourse about negative feelings from these results. That is, the results do not support the idea that particular contexts—such as calm reflective discourse or pretend—or particular emotional themes—such as negative emotions—have special developmental importance. Rather, the findings suggest that children may learn about this crucially important feature of other people in a wide variety of settings. By 36 months, those children who are discussing feeling states and their causes relatively frequently are doing so for a range of pragmatic purposes. However, some support for the significance of disputes in the development of this aspect of social understanding is found in the finding that children were more likely to be engaged in the discussion of cause of feelings when they were in dispute with others than when not in dispute—results in keeping with the arguments for the importance of social conflict in the development of social understanding. It should be noted that the dispute category employed here included not only conflict over behavior but also arguments over conflicting beliefs, ideas, and memories. Note, too, that Stein and Miller (in press) comment on their findings from an experimental study that “Argument is the one discourse type where significant conceptual change can occur.”

The third issue concerns the distinction between understanding emotions and sympathetic or prosocial behavior. It is important to emphasize that the differences in understanding revealed in the Rothenberg assessment are not necessarily associated with particularly empathetic or prosocial behavior. As Shantz (1983) and Eisenberg (1986) have pointed out, skill at

understanding others' feelings by no means guarantees friendly or prosocial behavior. Indeed, it is clear that a subtle understanding of what will provoke or upset another expands the possibilities for effectiveness in social conflict. A previous study indicated that success on the Rothenberg assessment was, in fact, correlated with frequent teasing and bossy assertive behavior toward the sibling during observations made at the time of the assessment of social understanding (Beardsall, 1986). In this study, an association was found between feeling-state talk during disputes and success on the Rothenberg assessment. However, because teasing behavior as well as disputes and the judgments of the Rothenberg can each entail relatively sophisticated appreciation of others' feelings, it is particularly important to exercise caution about inferring direction of causal influence. It remains unclear whether children learn about others' feelings through disputatious or teasing exchanges or whether a relatively sophisticated understanding of others contributes to the likelihood that children will become engaged in disputes.

Finally, it should be noted that in this study, discussions between children and their siblings that concerned feeling states were not frequent, and it was thus not possible to compare mother-child and sibling-child differences in discourse about feelings or to examine patterns over time that included dyadic sibling-child discourse about feelings. It could be that when children are only 3 years old, their mothers are more salient conversational partners with whom to talk about feelings—even when the talk arises out of conflict with siblings. Indeed, the children talked predominantly about their own feelings and discussed feelings most often in efforts to meet their own needs during these observations. They may have accurately deduced that their mothers were more likely to be of assistance and to be concerned with the children's own feelings than were their siblings. An important future step will be to explore whether sibling or peer influence on children's understanding of emotions is mediated through discourse about feelings at some later point in development. It may be, however, that such influence is mediated—even with older children—through participation in particular kinds of social interaction—for instance, joint pretend play (see, e.g., Gottman & Parker, 1986) and through the emotional quality of the relationship between children, rather than through the discourse features studied here.

In conclusion, it is likely that individual differences in understanding others' feelings are influenced by many factors; what stands out from the results of this study is that discourse about feelings is, even with such young children, part of a pattern of interaction that shows continuity with this centrally important aspect of human development. The next step in understanding the nature of this continuity will be to examine in more detail the social processes implicated in these discourse differences.

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