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Mothers' Understanding of Their Infants in the Context of an Internal Working Model of Caregiving

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Exploration of mothers' understanding of their infants was guided by the concept of internal working model of caregiving, which includes relationship-relevant expectations and intentions. Twenty-nine mothers of healthy, term infants participated in semistructured interviews concerning actual and hypothetical caregiving episodes. Expectations and intentions were each rated with an ordinal rating (1–6) that qualified adaptiveness or attunement. On average, mothers viewed their infants as having their own agendas and intended to accommodate them within limits. Further specification of expectations and intentions and exploration of conditions that contribute to ordinal types could help researchers and clinicians tailor interventions supportive of maternal development. **Key words:** *caregiving*, *infants*, *internal working model*, *mother-infant relationship*, *mothers*, *narrative analysis*, *primary health care*, *qualitative*, *understanding*

EVIDENCE of an effect of sensitive and responsive mothering on a child's health is mounting[1,2] and compels nurses and other clinicians to learn about its basis in clinically relevant ways. While often challenging for mothers, an understanding of their child's experience, including needs, desires, and agendas, is fundamental to sensitive and responsive mothering in the course of mother-infant interaction and, consequently, to the quality of the mother-child relationship.[3–7]

Lacking systematic approaches to exploring mothers' understanding of their infants, nurses, in general, have paid little attention to it. Yet such knowledge would be useful both for nurses in clinical practice and for nurse researchers. All nurses who care for mothers and infants want to promote mother-infant relationships that provide a sense of well-being for infants and a sense of competence for mothers. Learning how mothers understand their infants could help nurses tailor interventions and provide a context for effective teaching and learning.

Nurse researchers who study such diverse topics, problems, or objectives as smoking relapse in postpartum mothers, decision making about infant feeding in mother-baby and neonatal intensive care units, and developing and testing community-based supports for parenting of infants make assumptions, whether explicitly or implicitly stated, about mothers' understanding of their infants. For these nurse researchers, specific and

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well-articulated knowledge about this understanding and how to examine it could provide a framework for conducting research and analyzing findings.

Bowlby, in his seminal work on attachment and caregiving, the parental aspect of the attachment relationship, posited that human bonds between children and their parents are behavioral systems.[8] These systems are guided by cognitive/emotional-motivational structures referred to metaphorically as *internal working models* (IWMs). Theoretical and research literature suggests that the study of mothers' understanding of their infants could productively focus on mothers' mental representation, or IWM, of caregiving.[9,10] These IWMs encode expectations and intentions in relation to child, self, and caregiving,[5] and dynamically guide information processing and decision making concerning caregiving.[11] Understanding concerns expectations from which intentions issue.[12] Expectations and intentions may express empathy for a child, or they may indicate lack of an empathetic perspective and focus primarily on accomplishing the mother's a priori agenda. Put another way, expectations and intentions may indicate awareness and responsiveness, that is, *attunement*,[13] or they may indicate unawareness or disregard of the child's desires, preferences, and agendas. Expectations and intentions that are well attuned to the infant are likely to be adjusted, that is, adapted, to the infant as well. A mother's understanding of her infant, therefore, may be characterized in terms of the attunement and adaptiveness of her expectations and intentions concerning infant care situations or interactions.

Because IWMs and their component expectations and intentions are dynamically structured and shaped by the context of the situation or interaction, they can be reconstructed and explored in research.[14] The IWM concept, thus, has attributes useful for framing and exploring mothers' understanding of their infants in settings of caregiving interaction that pose to mothers a challenge, opportunity, or threat.

To *understand* is to grasp the meaning of something or to comprehend it. *Understand* also means to infer, interpret, take for granted or as a fact, know thoroughly, or to show sympathy.[13] Understanding is also central to *empathy*, that is, feeling with others, and to *sympathy*, that is, feeling for others.[15] The verb *understand* implies both the content of what is being understood (ie, the meaning of experience, articulated in expectations and intentions) and the process through which something is understood. A mother, for example, may understand her child's experience by applying her own perspective or the perspective advised by another person. This process as well as other processes of understanding (eg, inferring, taking for granted) may limit attuned reading of infant cues and response to the infant, interfere with the formation of adaptive expectations and intentions, and attenuate the mother-child relationship.[16]

Little is known about the contents and processes of mothers' understanding of their infants. One path of the study is empathy, an emotion-arousing process that supports understanding of what a child is experiencing by engaging a mother in taking the child's perspective.[6,15,17–21] Empathy has been studied as a variable in mothers' understanding the meaning of their infants' crying.[22,23]

Although, on the whole, IWMs operate without awareness, mothers can describe expectations and intentions they or their infants experience and, thus, reveal both the content and process of their understanding of their infants in caregiving context.[7] Through reflecting on their own and their infants' experiences during caregiving episodes, mothers acquire understanding of their infants' "as if" agendas. These agendas are constituted of expectations and intentions mothers imagine their infants to have as persons in their own right.[18,24,25] Mothers differ in the extent to which they reflect on experience (their own and their infants') in the extent to which they behave as if their infants have expectations and intentions of their own, and in the extent to which they feel for or with their infants.[2,16,25,26] What mothers make of infant

expectations and intentions is a vantage point from which their own expectations and intentions concerning their infants and themselves take shape,[12] further revealing their understanding of their infants.

In a caregiving context, the types of intentions mothers have may include acting contingently to guide or coregulate the infant's response, carrying out a predetermined action, or taking the infant's assumed direction.[27,28] Pridham and colleagues[29] learned that mothers varied in the extent to which their expectations and intentions, from their own or the infant's perspective, expressed attunement or adaptation to infant needs or agendas.

The purpose of this study was to advance knowledge of mothers' understanding of their infants as a foundation for developing theory and effective clinical interventions. The specific aim of the study was to explore mothers' understanding of their infants as revealed in the expectations and intentions they reported from their own and the infant's perspective in the context of caregiving episodes. The caregiving system could be studied in caregivers other than mothers (eg, fathers, grandparents, consistent daycare providers). We focused our study, however, on mothers because most previous research on the IWM of caregiving did so, because mothers remain the most common primary caregivers of infants, and because mothers were the usual clients at 3 of the recruiting sites (2 nutrition clinics and a community center).

METHODS

For this study of the dimensions of mothers' understanding of their infants in a caregiving context, we evaluated mothers' narrative responses to a one-time, semistructured interview and their reactions to 5 hypothetical caregiving situations. Principles of qualitative analysis of narrative data[30–32]; our study of mothers' IWM of infant feeding and the development of qualitatively distinct, ordinally structured categories of IWM content and processes; and Fonagy's[24] presentation of ordinally structured categories of reflectiveness guided the study. Types of expectations and intentions for a broad spectrum of episodes that potentially elicit mothers' caregiving behavior were elaborated in this study from those types identified in the context of infant feeding by Pridham and colleagues.[27,29]

Participants

Twenty-nine mothers of full-term infants volunteered to participate in the study. The mothers were English-speaking and were 18 years old or older at the time of recruitment. Infants ranged in age from 2 weeks through 12 months at the time of the mothers' interviews. Some of the mothers had responded to a flyer left at 2 nutrition clinics and a community center in 2 midwestern cities. Other mothers learned about the study from other participants or from colleagues of the authors. All the mothers who agreed to participate completed the study. The study was initiated after approval by the academic institutional review board and explained to each potential participant by telephone and/or in person. All mothers signed a consent form approved by the institutional review board before the participation. Maternal, infant, and family demographic and attribute data are provided in Tables 1 and 2.

Data collection

Data were collected in a private room at a community center, in mothers' homes, or in the first author's office, depending on

Table 1. Maternal and infant attribute data*

	Mean	SD	Range
Mother			
Age, y	29.2	5.9	18–45
Education, y	14.2	3.1	8–20
Infant			
Age, mo	7.8	3.0	0.5–12

*$N = 29$.

Table 2. Demographic data*

	Number	Percent
No. of children		
1 child	9	31.0
2 children	12	41.4
3 children	5	17.2
4 children	2	6.9
5 children	1	3.4
Marital status		
Married	15	51.7
Partnered, living together	2	6.9
Partnered, not living together	2	6.9
Single, not partnered	9	31.0
Widowed	1	3.4
Divorced or separated	0	
Yearly family income†		
Less than $10,000	11	37.9
$10,000–14,999	0	
$15,000–19,999	2	6.9
$20,000–24,999	2	6.9
$25,000–34,999	4	13.8
$35,000–44,999	2	6.9
$45,000–54,999	4	13.8
$55,000 or more	2	6.9
No response	2	6.9
Racial heritage		
African American	13	44.8
Euro-American	16	55.2

*$N = 29$.
†Four mothers did not report income.

which setting was convenient or preferred by mothers. Mothers participated in an approximately 1-hour interview and completed a demographic and attribute data form immediately following the interview. After completion of the questionnaires, mothers were given a $20 grocery store gift certificate and were thanked for their participation.

An interview protocol was developed to learn about mothers' understanding of their infants through assessment of expectation and intention components of their IWMs of caregiving. This protocol included a semistructured interview component and a set of 5 hypothetical caregiving situations. Sessions were audiotaped and transcribed by 1 of 2 transcriptionists. The protocol was tested with 3 mothers whose data were not included in this study.

Interview questions were informed by data from 3 focus groups of mothers of infants and young children. These focus groups were aimed at learning more about how mothers respond to parenting dilemmas with young children and for identification of unexplored aspects of and issues in understanding. The interview began with the question "Think about the last week with your baby. Tell me what all was involved in parenting?" We used the same first question in the current study because it opened up the possibilities of how mothers describe understanding infants and what it means to them in respect to their thought and action. Most mothers in the focus groups and 3 mothers of premature infants who volunteered to be interviewed described understanding (or trying to understand) an infant's distress. Fewer alluded to understanding delight or discovery. Those data helped us refine these 5 probes, each of which included prompts to help mothers describe the expectations and intentions they had from their own and their infants' perspectives: (*a*) "How do you understand what is going on for your infant?" (*b*) "When you get involved in something that is going on with your infant, at what point do you step in?" (*c*) "What are the most important things you can help your infant accomplish?" (*d*) "What is important for your infant to get out of something?" and (*e*) "What is important for you to know to help your infant get that?"

The hypothetical situations were created from pilot study focus-group discussions and interviews for the purpose of exploring mothers' understanding of their infants in the context of situations that mothers commonly experience. The situations were selected to reveal the mother's IWM of caregiving from the perspective of her culturally positioned caregiving practice.[33,34] Each situation posed a quandary or problem concerning a central caregiving issue or task (ie, feeding, soothing, comforting, protecting, and sleeping).

Some situations applied to younger infants and some to older infants. The hypothetical situations were reviewed by an expert in culturally sensitive research methods and determined to be appropriate for mothers of varying racial, ethnic, and cultural backgrounds.

The 5 hypothetical situations presented to mothers were as follows.

1. Suppose that your baby eats better (is more interested in feeding, more eager to eat, keeps at the feeding better), and it goes more smoothly when someone else feeds him or her.
2. Let us say that your 5-month-old sucks on her pacifier most of the time.
3. Imagine that your 11-month-old is just learning to walk. He trips and bumps his head on the flat surface of a chest of drawers and is crying loudly as you enter the room.
4. Suppose that your baby has been sleeping through the night and is now waking up in the middle of the night.
5. Suppose that you had to be away from your infant for a few hours and had to leave him or her in someone else's care.

For each of these hypothetical situations, mothers were asked to respond to the following questions: (*a*) What might be going on for you? (*b*) What goes into your responding? (*c*) What might be going on for your child?

Data analysis

The transcribed sessions were analyzed using the following steps. First, each transcription was read in its entirety by 1 or more coders who tagged expectations and intentions and noted their content and process attributes on the transcription. The next step, for both expectations and intentions, was to compare these attributes with the attributes of each of the 6 types of expectations and intentions identified by Pridham and colleagues.[27] These types were constructed through analysis of narrative data from interviews concerning the feeding experience of 83 mothers of healthy term infants, 61 mothers of premature infants, and 13 parents of infants and toddlers with the chronic lung disease, bronchopulmonary dysplasia. The theoretical validity of the ordinal types of expectations and intentions was supported by the positive relationship of expectations and intentions with observed maternal feeding behavior.[29] The higher the score on expectations and intentions, the more adaptive a mother's social emotional and task-related feeding behavior.

During the coding process, the revised types of expectations and intentions were periodically reviewed for consistency within type and exclusiveness among types. Finally, each transcription was coded with 1 of the 6 types of expectations and 1 of the 6 types of intentions. Transcriptions were compared for consistency in application of each of the codes.

The 6 types of expectations and the 6 types of intentions were differentiated in quality of adaptiveness and attunement (ie, understanding) by an ordinal scale, with values from 1 to 6. An ordinal rating is consistent with Fonagy's clinical study of IWMs of caregiving.[24] Criteria for determining each of the 6 ratings were derived from clinical, research, and theoretical literature.[1,16,24,35,36] Higher ratings of expectations and intentions express greater maternal attunement and adaptiveness to the infant, and, hence, greater understanding. Specifically, a higher rating signifies expectations that are cognizant of infant agendas and sensitive to issues that were intertwined with the immediate episode, for example, infant satisfaction, development and learning, and relationships. Mothers with higher ratings have expectations that are in accord with clinically accepted developmental knowledge. Mothers with a higher rating on intentions report responding contingently to infant behavior as if its meaning were transparent rather than reacting without thought of conditions or consequences. For both expectations and intentions, mothers do more reflecting; are more open to possibilities and alternative explanations; identify more influencing conditions and consequences; do more observing

of infant behavior; and integrate multiple sources of information, goals, or strategies. Lower ratings of expectations and intentions express lower attunement and adaptiveness to the infant and, consequently, lower understanding. Specifically, mothers with a lower rating for either expectations or intentions make assumptions, take things about the infant for granted or as an unexamined fact, claim that the baby is their source of information and direction, or are misinformed or incoherent in their account.

Descriptive validity[37] of the ordinal categories of expectations and intentions was established by 4 nurses who were experts in maternal-child care. Specifically these experts, working as a group or as individuals, identified, through their analyses of transcribed narratives, the nuances of meaning, and the gradations of attunement and adaptiveness established for each of the 6 points of an ordinal scale.

All 29 of the interview transcriptions were coded (rated) by the first author. Five of the transcriptions were randomly selected and independently rated by a second or third equivalently trained coder. Interrater agreement on expectation type and on intention type yielded a kappa statistic of 0.62, indicating substantial agreement beyond chance.[38] Exact agreement was 75% and 100% for expectation and intention ratings, respectively, within 1 ordinal scale point. Although expectations and intentions sometimes received the same rating on the 6-point scale, the 2 ratings often differed by 1 point. The ratings for expectations and intentions, therefore, were treated independently of each other, rather than combining them into a single score to describe understanding.

RESULTS

Demographics

Mothers were diverse in age, education, and income (Tables 1 and 2). Mothers ranged in age from 18 to 45 years. Seven mothers (24.1%) had less than a high school education, and 6 (20.6%) had graduate school education. Although 2 was the modal number of children, several mothers had 3 or more children. Almost 40% of mothers had a yearly family income of less than $10,000. Not quite 60% of the mothers were married or living with a partner. Almost 45% of the mothers were African American; the other mothers were Euro-American. Infants were approximately 7 months old, on average, at the time of interview.

Mothers' expectations and intentions in caregiving context

The 6 types of expectations and 6 types of intentions constructed from the narrative data are defined below and illustrated with interview material. Full descriptions of each type and instructions for rating are available from the first author. The categories included in expectations refer to *meaning*, that is, "What does the mother make of what's happening with her infant?" or "What does it mean?" Meaning also connotes the emotional tone of an expectation, including feelings a mother vicariously experiences with her infant, a hallmark of empathy.[15] The 6 categories of intentions describe what a mother is trying to accomplish, what she wants to have happen for the infant, herself, or their relationship. Because each interview consisted of numerous examples of both expectations and intentions, and because the interviews were rated as a whole, no single response would define the entire interview. However, to assist the reader, one example is included with each type.

Expectations

1. *Undeveloped meaning*: The child's goals or needs are not determined or are treated as being unacceptable or devious. *Example:* A mother described her 3-week-old daughter as follows: "This is a new revelation in the last couple of days. I've noticed that when she puts a really mad, pouting

face on, when she's dirty or when she wants to eat . . . I don't know if it actually took me a couple of weeks. I think it also took her a couple of weeks to figure out what she, how she wanted to do it, too. I think she realized that maybe she gets stuff quicker when she makes the right expressions." [Interview 29] *Comment:* This mother inferred meaning from her infant's facial expressions and her expectation that the infant intentionally made the "right" expressions to get something "quicker."

2. *Rudimentary meaning*: Expectations are, for the most part, nonspecific and based on assumption or inference. *Example:* A mother of a 10-month-old infant explained that she understood her infant because she was with him all the time. She said that she did not know what her baby, who began crying loudly during the interview, wanted: "He just wants to cry. Sometimes babies just want you to hug them and rock them to sleep. They want attention. And sometimes you can look at your child and they might not be sleepy. Then you get to rocking when they cry and they'll go right to sleep. So if he's having a tantrum, I think that's what he wants me to do—rock him and hold him." [Interview 28] *Comment:* This mother assumed her infant as needing attention when she could not account for her infant's crying with an alternative explanation. She, however, noted the infant's response to her action to support understanding.
3. *Preconceived meaning*: Expectations are about how things should be or about what is best or right for the child. *Example:* A mother talked about her understanding of her infant's experience at mealtime: "He's, he's very cranky when it's time to eat. He doesn't like you to talk to him while he's eating, and with me, I don't say anything to him. I just feed him and go about my business. Give him his food, and, and if he wants more or something, he'll let you know." [Interview 13] *Comment:* The mother respects what she understands her infant to experience and want. She does not, however, check on what she takes for granted.
4. *Expanded meaning*: The parent reveals some reflection, some consideration of context, and some appreciation of the child's perspective or agendas. *Example:* A mother described her 10-month-old baby's use of his new scooter: "At first, he was scared to sit on it and push. He stood there and he thought, 'OK, if I move this leg, I move forward.' He fell two times, but after awhile, he had an expression like 'I like this feeling. Let me do it again.' He enjoys moving now. He doesn't have to wait for me to pick him up and put him over here." [Interview 12] *Comment:* This mother conveyed her understanding by describing her infant's facial expression and by speaking for what she interpreted him to be experiencing.
5. *Derived meaning*: The parent observes the infant's experience and reflects on it in light of what she has learned about infant behavior. *Example:* A mother watched her 4-month-old infant as a way of understanding what she was experiencing: "Someone told me, I read, you watch the baby—first thing you do is put something in your mouth. They want to taste it. They want to see what it is. I guess that's just the way, their way of exploring and finding out things." [Interview 22] *Comment:* This mother derived understanding from applying knowledge of development to observation.
6. *Integrated meaning*: The parent expresses a sense of what she and the child contribute or need. *Example:* A mother considered the possibility

that her 12-month-old daughter might want a pacifier. "It would be very much related to going to sleep, because she doesn't drink out of a bottle. She drinks out of a cup when we put her to bed, and it would be a sleep-time ritual that she would grow very attached to. We would get tired of her using it long before she would. It would be comforting when she's tired." [Interview 3] *Comment:* This mother expected to help her infant overcome a habit and, at the same time understood the comfort of the pacifier, an indication of empathy.

Intentions

1. *Reaction to a stimulus*: The parent responds as if compelled by the infant or situation rather than by her own intention. *Example:* A mother of a 10-month-old infant said: "If I go in the living room, he sees me and starts to cry. And he'll make me find his bottle for him." [Interview 28] This mother, assuming what her infant's crying meant, felt coerced by the infant to respond.
2. *Response to the immediate situation*: The parent may respond to the child's behavior with intent to deal with or avoid what she assumes the child intends. *Example:* A mother described her response to her infant's feeding: "I guess just by sitting here and helping her eat, she would fight me, so I said, 'Fine. Go ahead, make your mess, do whatever you want,' and I went and sat in the chair and acted like I could care less what she was going to do. We just kept doing that and she's just more comfortable with that, and she eats dinner before us." [Interview 5] *Comment:* This mother made an assumption about her baby's intention, responded to avoid the baby fighting her, and inferred that the baby was more comfortable with her mother not engaging in the feeding.
3. *Intention to follow a protocol*: The parent intends to carry out a protocol or preconceived plan of action. *Example:* A mother used her infant's age as a marker for her accomplishments, including not using a pacifier, drinking exclusively from a cup, and walking. She used her experience with her older daughter as a model for these markers: "A. (older daughter) was off the bottle at a year, and the pacifier she was off at about seven to eight months. And I'm trying to have her (her infant) that way, too. So when she gets to be about A's age, I really won't have to do that much work. Getting her off the bottle means a lot to me, because I'd be worried about their teeth." [Interview 26] *Comment:* This mother's intentions stemmed from an age-based protocol, leaving in question her understanding of her infant's agenda or needs.
4. *Intention to carry out a contingency-based protocol*: The parent intends to carry out a protocol, but revises it if needed. *Example:* A mother explained her intentions concerning her baby's putting things that he picked up around the house into his mouth: "I'm trying to teach him how to know the meaning of 'no,' because lately he's been grabbing things and just sticks them in his mouth. So I say 'no,' 'no,' and I take it from him. I say 'no ' and he looks at me and shakes his head 'no' with me." [Interview 27] *Comment:* How this mother implements her intentions suggests that she understands what kind of compliance she can expect of him.
5. *Intention to support the child's agency or participation*: Parental intentions usually have the child's agendas and experience in mind. *Example:* A mother of a 7-month-old infant said that, through experience

and through the love she had for her baby, she understood that he needed her to help him have space, away from the older children, when he played: "He doesn't have a lot of time just to play the way he wants to. And that bothers me. I want to help him do things he wants to do, like crawling, pulling himself up on things, and exploring new things—like these pillows. I don't know if he's been watching me, or what, but he'll see a pillow and he'll crawl right up and lay on it. I think he's seeing a lot of things and wants to figure them out." [Interview 25] *Comment:* This mother's intentions reveal a developmentally based understanding of her infant's behavior and wondering about the origins of it.

6. *Intention to coregulate with the infant*: The parent intends to coregulate the caregiving activity. Intentions are oriented to multiple agendas, contingent on the parent's understanding of her infant's expectations or intentions. *Example:* A mother responded to the hypothetical situation about her infant tripping and bumping his head as follows: "Well, I think falling scares kids. I've seen other mothers sometimes, and I know from watching him fall even now, that it's hard not to go 'Oh, my gosh, my baby!' And I see the look on kids' faces when a mom does that. They get more scared by seeing their mother all upset. And I think that compounds it. And so I guess I would want to try to stay pretty even keel and evaluate the situation and not get all hysterical." [Interview 2] *Comment:* This mother indicated that she was reading her infant's cues and adapting her response to what she anticipated her infant's response to be to a fall. She intended to regulate her emotion, understanding that it could increase her child's fear and diminish his pleasure in mobility.

Mothers' ratings for both expectations and intentions encompassed the full range of the scale (1 to 6). Keeping in mind the ordinal character of the data, the ratings for both expectations and intentions are described in Table 3 as a means of communicating the quality of response across the 29 mothers. The

Table 3. Descriptive statistics for caregiving expectations and intentions*

	M	SD	Frequency	Percent
Expectations (meaning of the infant's behavior and experience)	4.1	1.3		
Undeveloped meaning			1	3.4
Rudimentary meaning			2	6.9
Preconceived meaning			7	24.1
Expanded meaning			8	27.6
Derived meaning			6	20.7
Integrated meaning			5	17.2
Intentions (for responseaction)	4.3	1.3		
Response to a stimulus			1	3.4
Response to the immediate situation			1	3.4
Intention to follow a protocol			4	13.8
Intention to carry out a contingency-based protocol			12	41.4
Intention to support child participation			4	13.8
Intention to coregulate with the Infant			7	24.1

$*N = 29$.

skew for both expectations and intentions was negative (−.23 and −.48, respectively). On average, the mean ratings for expectations and intentions were just beyond the midpoint of the 6-point scale, 4.1 (SD = 1.3) and 4.4 (SD = 1.2), respectively. Means for expectations indicated that mothers, at least on occasion, took contingencies of the situation into account and referred to at least one infant agenda. Expectations, on average, did not encompass the mother-infant relationship or development. For approximately 34% of the mothers (10 of 29), expectations indicated little understanding of the infant's experience in relation to the situation or of the infant's agenda.

The mean intentions rating indicated that mothers, at least on occasion, revised their intentions to accommodate the infant's agenda. Almost 21% of the mothers revealed caregiving behavior that was a response to a stimulus, a reaction to the immediate situation, or an intention to carry out predetermined or protocol-type action. An additional 41% of mothers ($n = 12$) expressed intentions that could be revised, contingent on an understanding of the infant's response to them. Ratings for expectations and intentions were highly correlated ($r = 0.93$, $P < .01$), a likely consequence of the derivation of intentions from expectations as well as shared method.

COMMENT

We learned about the content and processes of mothers' understanding of their infants in caregiving episodes from the IWM perspective of expectations and intentions. Although limited by its small sample of mothers, the widely varying ages of their infants, and the single interview for any one mother, the study contributes to knowledge and suggests directions for further research on a topic of clinical importance to nurses.

The types of expectations and intentions that were elaborated provided a conceptual vehicle for describing expectations and intentions, as well as information-processing qualities that were characteristic of each. In addition, mothers' caregiving expectations and intentions, viewed from an IWM perspective, encompass both self and other in relationship and potentially from the perspective of both mother and infant. The study of maternal understanding is thus structured within a developmental science paradigm in which the context, as construed by the mother, is a central feature.[39] Study of progressive change in mothers' understanding of their infants is facilitated by this paradigm[40] and is a goal of future research.

The study advanced development and application of a qualitative-quantitative method (ie, the ordinal rating scales of expectations and intentions) for exploring the contents and processes of understanding in a caregiving context. The distribution of scores across the 6-point, ordinal scale for both expectations and intentions supports the capacity of the ordinal categories to discriminate qualities of understanding among mothers. The categories that we derived from mothers' narratives about their caregiving responses are consistent with and an extension of George and Solomon's types of IWMs of caregiving.[5] These types include IWMs that are reflective, flexible, and empathetic; conditional on specific or selected needs of the child and/or self; dismissive or devaluating of the child's needs; or disconnected from what the child is experiencing and from the child's needs. The types of expectations and intentions we identified incorporate grades of reflectiveness, flexibility, sensitivity and responsiveness, vicarious experience of the infant's feelings, awareness of conditions, contingent thinking, anticipation of infant expectations and intentions (agendas), and integration of multiple goals.

Nurses who work with mothers of infants often do so around common, everyday experiences like bathing, feeding, preventive healthcare, and treatment of illness. Asking questions about a mother's expectations and intentions regarding her infant will provide a context for mothers to express what nurses want and need to know.

Additional narratives from a broad spectrum of mothers should be examined to fully develop and clarify types of expectations and intentions for this population. Theoretical sampling on demographic attributes (eg, mother's race or ethnicity, age, education, marital status, child-rearing experience, mental health; family economic status; infant health status and maturity at birth) would support this aim.

How types of expectations and intentions vary with the age of the infant and the stability or evolution of type of expectations and intentions across infancy for any one mother are questions for further study. We do not know if the caregiving situation posed (eg, soothing, feeding, or encouraging exploration) makes a difference in the types of expectations and intentions mothers reveal in their narrative description of caregiving activities. An interactive play situation may reveal a different quality of expectations and intentions relevant to understanding the infant than a caregiving situation does. Comparison of mothers' expectations and intentions for caregiving situations with those of fathers could support study of agreement or its lack within a family on understanding the infant, including what the infant is experiencing and a sympathetic or empathetic perspective of this experience.

Infant biologic conditions and infant temperament may contribute to the type of expectations and intentions mothers report for caregiving situations. In this study, mothers who reported that their infant's behavior was unpredictable or difficult also indicated that it was more challenging for them to understand what was going on for their infants. How expectations and intentions relevant to understanding an infant and what the infant is experiencing contribute to maternal and infant behavior and to emotional and physiologic regulation are objectives of further study.

The concept of IWM, with its expectation and intention constituents, was demonstrated in this study to be a vehicle for examining, in caregiving contexts, the understanding mothers have of their infants and what the infant is experiencing. The types of expectations and intentions identified in this study have potential clinical applicability for supporting an empathetic perspective of the infant, adaptive and attuned maternal caregiving, and for strengthening the mother-child relationship. However, a clinically feasible and systematic approach to assessing the types of expectations and intentions mothers engage in a caregiving context remains to be developed. Knowledge of the contents and processes of mothers' understanding of their infants could support nurse clinicians in tailoring sensitive and effective healthcare for individual mothers and nurse researchers in designing and testing patient-centered interventions. Our finding that mothers' expectations tended to include a sense of their infants' agendas and that mothers did some revising of intentions to accommodate these agendas reveals an area of clinical practice for nurses to develop. Nurses could focus on the qualities of attunement and adaptiveness of mothers' expectations and intentions, that is, their understanding of their infants, as a starting point for problem solving, teaching, and anticipatory guidance.

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