Two groups of 14 mothers were interviewed to study how parents reason about their children's behavior. The two samples differed considerably in terms of education, age, race, and socioeconomic status. The first group, high school educated, averaged 24 years of age and, if married, had spouses with blue-collar jobs. The second group, college graduates, averaged 34 years of age and had spouses who held professional/academic jobs. An open-ended interview consisted of 12 questions designed to elicit samples of parental reasoning. The mothers' answers revealed four common patterns of thinking: anchors, attributions, covariation or causal analysis, and anticipation. The most frequent mode of thinking involved attributional analysis (46 percent), or reflection on the origin of certain behaviors. There was frequent use of anchors (22 percent), or comparisons made across children or across age. Covariations, similar to attributions but including articulation of antecedent-consequent relationships, accounted for 22 percent of statements. Anticipation, or statements made about the future, composed 10 percent of the categorized comments. Analyses of mothers' speech and the ease with which their reasoning was elicited suggested that parents commonly engage in such deliberations. Few differences emerged between the high school and college educated mothers. The only mean group differences indicated suggested that, while the high school educated mothers used more anchor, and anticipatory references, the college educated mothers made more attributions. (BJE)
The Parent as Naive Psychologist:
Analyses of Parental Deliberations

George W. Holden and Meredith J. West
The University of North Carolina at Chapel Hill

Paper presented at the biennial meeting of the Society for Research in Child Development, Detroit, Michigan, April 22, 1983, as part of a symposium on the Cognitive Experience of Parents: The Study and Implications of Parental Knowledge, Perceptions, Reasoning and Beliefs.
In this paper we shall stress the role of parental knowledge in child rearing at a proximate level of analysis. Our concern is not with parents' general knowledge of children but with how they reason about their own children's behavior. Here we will view the parent as a lay scientist and ask what cognitive processes characterize parents' deliberations about children.

That children can baffle scientist and parent alike is easily verified by even the most cursory examination of books written for parents. Titles such as "Your Child makes Sense", "The Common Sense Book of Baby and Child Care", "Understanding Your Child from Birth to Three" and most recently "Signals: What Your Child is Really Trying to Tell You" suggest, in fact, the opposite: that children do not always make sense and that parents must summon uncommon reservoirs of thought, will, and effort to comprehend their offspring's actions (1, 2, 3, 4).

Two of this symposium's participants, Drs. Patterson and Stolz, have also recognized the difficulties facing parents and have, among their many books, contributed ones specifically geared to assisting parents. Dr. Stolz compiled a pictorial guide to development so that, in her words, "parents will have a basis for making the many decisions that have to be made each day" (5). Likewise, Dr. Patterson designed a manual entitled Living with Children to "help parents understand situations in which you and your child behave in a way that is distressing ..." (6).

Advice aimed at parental cognitions is also not new. In 1914, the editor of an eight volume series on parents and their problems noted that "Experts are writing, experienced mothers are talking, everywhere are movements looking toward the more sensible rearing of children. There is no excuse for not trying to do our mothering in a more rational way. The good mother is a thinking mother" (7).
The incidence of pleas for common sense, rationality, and thought in advice to parents is noteworthy and somewhat paradoxical. Why is it that we exhort parents to use common sense about their children? Why must we caution adults to behave like the adults they presumably are? What is it about the young of our species that, to quote Dr. Patterson, “a child only three feet tall can reduce a grown woman to tears, causing her to scold and spank?” (6). As a first step in understanding this paradox, we have been exploring the phenomenology of parenting: when parents deliberate about their children, what do they do and how do they go about it?

Our research efforts have been influenced by those of cognitive and social psychologists as they strive to understand the decision processes of, among others, employers, jurors, voters, weather forecasters, scientists, and stock brokers. The research of Tversky and Kahneman and Hogarth on judgmental heuristics and decision theory and that of Heider and Kelley on causal analysis and attribution theory have figured prominently in our thinking (8, 9, 10, 11). Thus, we view the parent as operating under conditions of cognitive uncertainty. Our interviews with parents reveal that deliberating about a child’s behavior involves: predicting, hoping for, and engineering a particular outcome as in an election; it means assuming the role of judge and jury in assessing motives and assigning blame; it also includes forecasting moods and reactions as changeable as the weather as well as the never-ending appraisal and investment in one’s own genetic stock.

Despite decades of research on parents, little is known about specific processes of parental reasoning. The existence of such processes are however clearly documented in the seminal work of Dr. Stoltz and Dr. Robert Sears, and his colleagues, on parents’ attitudes, beliefs, and child rearing practices (12, 13). In their books, one finds intriguing glimpses into
parental thinking as evidenced, for example, by the beliefs parents hold about concepts that child psychologists hold dear. Thus, Stolz and Sears both note their parents' views of the nature of children. Stolz in particular cites several crucial areas in which parents' views of children contrast with those of developmental psychologists. Her subjects, for example, appeared less committed to interactional views of heredity and environment, expressing instead more dichotomous views. Similarly, Sears' subjects suggested mothers to side with hereditary views and fathers with environmental ones. Likewise, parents' beliefs about individual differences, about sex differences, and about the inevitability of "stages" of development appeared less flexible and more culturally stereotyped than those of the "experts."

Such findings supply two incentives for the study of parental reasoning. First, they highlight the need to understand the theories of development held by those who actually test developmental theories daily. Is it an advance in our science if we the "experts" say the nature/nurture problem is behind us or that "stage" theories are dead if both are alive and operative in the minds of parents? Second, the findings suggest that children are perceived quite differently outside of an ivory tower. Why is it that parents' views of children contrast with those of psychologists? What accounts for the differences in their perceptions? Just as a city resembles a set of miniature objects when viewed from the air, one's perspective on the nature of children may depend quite directly on one's physical and psychological proximity to them. Thus, describing the naive psychology of parents appears essential to explicating differences in the theories and perceptions of those who study and those who rear children.

Our initial efforts have been devoted to developing methodologies to elicit parental reasoning and to characterizing the cognitive properties of
such reasoning. We will speak primarily of these latter efforts today as we describe how mothers answer open-ended questions about the nature of parenting.

Two groups of 14 mothers were interviewed. The two samples differed considerably in terms of years of education, age, race, and socio-economic status. The first group, which we will refer to as the high-school educated group, contained no college graduates, averaged 24 years of age, and if married, had spouses holding blue-collar jobs. These mothers were interviewed before a regular well-baby check-up at a local hospital. The second group, the college graduates, had all completed at least a bachelor's degree, averaged 34 years of age and had spouses holding either professional or academic jobs. These mothers were recruited from nursery schools and were interviewed at home or in the psychology department.

The open-ended interview consisted of 12 questions designed to elicit samples of parental reasoning. Examples of the interview protocol include: "What do you enjoy about being a mother?"; "What do you find difficult in your role as a parent?"; "Do you have any special concerns about your child?"; and "What advice would you give to a woman about to become a parent?". The interview transcripts were analyzed in two ways: a content analysis of the responses given to each question and an analysis of the form of reasoning displayed. Today we will discuss the latter data, the actual form of the responses.

The mothers' answers revealed four common patterns of thinking that are defined and illustrated in Table 1. Mothers used anchors, attributions, covariation or causal analysis, and anticipation to describe their thoughts about their children. In a sentence by sentence analysis of 50% of the transcripts, one of every four sentences, on average, fit one of these categories with the remaining three sentences representing elaborations of...
the categories. College educated mothers averaged 48 coded statements per
transcript and high school educated mothers averaged 29 coded statements.

The ambiguous and idiosyncratic nature of children may account for the
frequent use of anchors, which occurred in 22% of the coded statements.
Parents sought to place their child's behavior into perspective by comparing
across children or across age. For example, a mother commented that her
daughter's tantrums were not a problem because she is "at an age where they
throw tantrums." Most often, another child or her child at an earlier age
served as the reference point accounting for 69% of all anchors. Anchors
to adults also occurred most often in a genetic form as in the statement,
"He is stubborn just like his father."

By far the most frequent mode of thinking involved attributional analysis.
Forty-six percent of all coded statements fell into this category. Thus,
as Heider theorized in his writings on naive psychology, parents, like
people in other situations, attempt to discover the regularities and stabili-
ties that make behavior more predictable (11). The high incidence of
attributions undoubtedly reflects the frequency with which parents must
ponder the origin of certain behaviors. Their developmental analyses in-
cluded purely genetic approaches, "She was born with a temper" to more
environmental ones as in the statement "I think it's normal for a first-
born to act that way." Developmentally complex attributions concerning
heredity and the environment were also common but most clearly elaborated
in the following four statements made by one mother: "A person comes from
the genes." "A person comes from the way a mother acts when she is pregnant."
"The baby will be the way he wants to be." "He's like his father in that
he's his own person."

Statements of covariation were similar to attributions but often
included articulation of an antecedent-consequent relationship such as "She
sucks her thumb because I took away the bottle too soon" or "He is spoiled because my mother holds him all the time." Such statements occurred in 22% of the coded sentences.

Finally, statements about the future, anticipations, made up 10% of the categorized comments. These statements either expressed anxiety about the future or predicted a particular outcome. One mother lamented "There will be something else when she grows out of this stage," and another mother stated "It's too late to do anything (about spoiling)" are two examples.

These analyses of the mothers' speech and the ease with which their reasoning was elicited suggest to us that it is a behavior commonly engaged in by parents. Also, the fact that very few differences emerged between the high-school and college-educated mothers suggest it to be a behavior quite natural to parents. The only mean group differences were that the high-school educated mothers used more anchors and anticipatory references while the college-educated mothers made more attributions (Table 2).

As a further test of the prevalence of such reasoning, we have also examined in some detail published data on child-rearing problems, particularly those compiled by Bettelheim, Ames and Ilg, Spock, Brazelton and Salk (14, 15, 16, 17, 18). The topics presented to the expert are in and of themselves sufficient to demonstrate the use of anchors, and attributions, and the presence of anticipation and covariation.

For example, Dr. Bettelhelm was consulted by parents for attribution problems such as a 3-year-old who was "too masculine," a 9-month-old that had undergone "a complete personality change," and two separate cases of 9-month-olds that were boring to play with. The need for anchors was evidenced by problems such as a child who would no longer eat meat, a child who did not wet her pants at school but did so at home, a 3-year-old who wanted to change her name and several children with associated anxieties.
ranging from a fear of all people to a fear of children to a fear of music. The use of covariation and causal analysis was equally evident in the parents' reports of the problem-solving attempts as they recited the list of solutions already tried and abandoned. Finally, the interviews reveal the parent's orientation to the future as parent after parent framed their problem with the statement, "How long will it go on?" Perhaps the most poignant example was a father's concern as to what the Army would do with his son, now 6 months old, who would not feed himself or drink from a propped bottle.

The data on anticipation also complement previous behavioral observations by us on mothers' strategies for child management as in executing trips to the supermarket when accompanied by a 2- or 3-year-old or when attempting in a laboratory setting to divert their children from tempting objects (19, 20). A major finding in both studies was the frequent use by mothers of anticipatory or proactive strategies to prevent misbehavior.

Although these data advance our knowledge of the content of parents' thinking, they are not sufficient to assess how rational or irrational parents' thinking is, a topic of concern in cognitive psychology. Nor are they sufficient to propose how such thinking develops. They do appear sufficient, however, to amplify the potential effects of knowledge, beliefs, and past influences on reasoning processes. Thus, the parents' ability to anchor their child's behavior would depend on knowledge and experience with other children and the accuracy with which they recall their children's or their own development. Available knowledge of other children or access to information about other children could serve a powerful function in a parent's interpretation of the problematic nature of a behavior. Books on the specific problems parents face may be important here as evidenced by the dedication in the book "Parents Ask" by Illy and Ames thanking Arnold.
Gesell "who did so much to reassure us that our children were no worse than anybody else's" (15).

The data also indicate a potentially critical relationship between a parent's belief about the nature of inheritance or the degree of sex differences and his or her probable course of action. Genetic or environmental attributions may lead to or justify entirely different courses of parental intervention. Similarly, beliefs about the pre-eminence of early experience might explain the incidence of anticipatory thinking and the frequent worries about spoiling. The room for serious lapses in reasoning based on erroneous knowledge or atypical experiences is also clearly indicated and worthy of further study in populations of parents at risk for neglecting or abusing their offspring.

In summary, the data tell us that parents attempt to bring more than common sense or simple reflection to the analysis of their children's behavior. The strategies they use are those employed by adults in many contexts linked by the properties of uncertainty, interpersonal involvement, and the need to predict an outcome.

The errors in reasoning parents make also seem comparable to those made by scientists and laymen alike. Is the behavior of adults regarding, for example, their monetary investments any more rational or less emotional? Even the slightest hint of uncertainty depresses the financial market, as does the rumor of a recovery often in fact leads to a thorough self-fulfilling prophecy. Does the arena in which stocks and commodities are exchanged suggest the presence of common sense or adult wisdom? Perhaps both financial and biological investments produce such behavior because they represent our own futures as well.

Nor are we as scientists immune to the common biases shared by parents and other uncertainty analysts. Our belief in small samples when they fit
our assumptions, our ability to detect cause and effect relations in correlational samples, our failures to incorporate the effects of regression toward the mean in understanding the effects of feedback on performance testify to the fact that lifelong experience with ideas of probability and statistics do not protect against errors in decision making. For instance, a parent attributing her child's good behavior after a period of misbehavior to her own handling of her child may err in failing to acknowledge the occurrence of regression to the mean.

By describing parental deliberations, we hope to have provided specific glimpses into understanding the experience of parenting. That their experiences share much with that of adults in other reasoning contexts should provide both conceptual and methodological direction to those who study and aid parents and their children.
References


<table>
<thead>
<tr>
<th>RESPONSE MEASURES</th>
<th>EXAMPLES FROM PARENTAL INTERVIEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANCHORING: Statement comparing a behavior across children or time</td>
<td>She'll use words I didn't even know when I was 2 1/2.</td>
</tr>
<tr>
<td>ATTRIBUTION: Statement inferring a cause, motive, or internal state</td>
<td>His teacher said it is common to write backwards at that age.</td>
</tr>
<tr>
<td>CO-VARIATION: Statement relating two or more events in a causal analysis</td>
<td>Out of my #3 babies, he's the good one.</td>
</tr>
<tr>
<td>ANTICIPATION: Statement oriented around child's future</td>
<td>My children look at people from an unbiased perspective.</td>
</tr>
<tr>
<td>Either: 1. Predicting desired outcome</td>
<td>She (a 20-month-old) seems to have a lot of mothering characteristics.</td>
</tr>
<tr>
<td>2. Expressing anxiety</td>
<td>She likes baby talk more than regular talk.</td>
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<td></td>
<td>Changing the bedtime routine helped the situation a lot.</td>
</tr>
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<td></td>
<td>If you give them just what they want the trouble starts.</td>
</tr>
<tr>
<td></td>
<td>The nurses in the hospital spoiled him from Day 1.</td>
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<tr>
<td></td>
<td>I think he's going to walk at 7 months.</td>
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<tr>
<td></td>
<td>I hope his personality stays the same.</td>
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<tr>
<td></td>
<td>I wonder if she is developing okay.</td>
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### Table 2

Group and Overall Means of the Rate of Coded Statements per Interview

<table>
<thead>
<tr>
<th>Statements of:</th>
<th>Anchor</th>
<th>Attribution</th>
<th>Covariation</th>
<th>Anticipation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Educated</td>
<td>7.1</td>
<td>11.2</td>
<td>5.6</td>
<td>5.3</td>
</tr>
<tr>
<td>College Educated</td>
<td>10.0</td>
<td>24.1</td>
<td>11.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>8.6</td>
<td>17.7</td>
<td>8.5</td>
<td>3.9</td>
</tr>
</tbody>
</table>