Real-life decision making: Parents choosing a first-grade placement

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We report a short-term longitudinal investigation of how parents of kindergartners select an educational option for their child. Our focus was on the educational options parents actively considered and the criteria they used to evaluate these options. Parents actively considered about 3 of the available 8 or more educational options and reported considering an average of 5 criteria to evaluate these options. Over a 6-month period, parents changed about one third of the options on their short list and half the criteria they reported using. Parents' holistic appraisals of options were moderately calibrated with predictions of linear models. Although parents' self-reports suggested that they used a variety of decision-making styles, analyses indicated few performance differences as a function of their self-reported style.

Imagine yourself a parent of a kindergartner in a small town. You will soon be facing an important decision: where to send your child for first grade. This particular town happens to offer a surprising menu of choices. There are two or three no-cost options in the public school system and one or two charter schools in town that are free of charge. There are also private and religious schools in the immediate area that charge tuition. In addition, there is a large and active community of homeschooling families in the area. How would you navigate this decision-making process?

We investigated this scenario as an instance of how people go about decision-making tasks that occur in their everyday lives (Rozin, 2006). Specifically, we were interested in what people making such a decision do as they gather information, construct a short list of options, and structure their decision. This article reports on a descriptive study of a non-trivial, real-life decision made by people who have not acquired enough practice at making this decision to be considered experts (at least experts at making this particular decision).

This decision afforded parents a reasonable number of options, a plethora of information sources that were potentially available (e.g., other parents, school information nights, brochures, Web sites, experience of older children, classroom visits), and a large number of possible criteria (e.g., cost, curriculum, class size,
location) to use in sorting through the options. This information availability allowed many different possible approaches and individual variations in how this process was undertaken. Moreover, given deadlines established by the public school district, this decision had a fairly structured and well-known timeline.

Studying everyday decision making is not a task for the timid. Recruiting a sample of people who are at an equivalent point in their decision-making process, who are motivated to make good decisions and to participate in a research study, is a formidable challenge. Asking these decision makers to describe their processes without affecting their thinking is perhaps unrealistic.

Nonetheless, the study of people making decisions that have personal meaning and consequence is important (Rozin, 2006). Simulated, hypothetical decision making as investigated in laboratories probably excludes relevant activities such as clarifying goals, gathering information, and weighing the relative importance of different criteria that are essential in everyday decision making (Galotti, 2002, 2007). Thus, to develop a full understanding of decision making, we need to round out the picture provided by well-controlled laboratory studies with descriptive studies of decision makers confronting actual, as opposed to hypothetical, decisions. This article represents one such descriptive study.

Our project is grounded in a model of decision making that includes five phases: setting goals, gathering information, structuring the decision (i.e., enumerating both options and criteria for deciding between those options), making a final choice, and evaluating the decision (Galotti, 2002). This model is depicted in Figure 1 and has been used to investigate other educational decisions, such as choosing a college or choosing a major (Galotti, 1995, 1999; Galotti, Ciner, Altenbaumer, Geerts, Rupp, & Woulfe, 2006). The term phases of decision making is used to convey the idea that there may or may not be a set order to the tasks, that the performance of one task can overlap with the performance of another, that some

![Diagram of decision making phases](image)

**Figure 1.** Phases of decision making (from Galotti, 2002, p. 97. Reprinted with permission)
tasks can be skipped, and that tasks can be done in different orders.

Most existing studies of decision making focus on the final choice made (the final phase depicted in the model), although some theorists, notably Beach (1993, 1998), argued strongly that the essence of decision-making happens well before this phase, at a time when a short list of options is generated. These earlier phases of decision making may rival the final phase in importance in everyday decision making, and they will be reviewed briefly here.

When we try to understand why a person makes one decision rather than another, it often turns out that the reasons have to do with the decision maker’s goals for the decision (Bandura, 2001; Galotti, 2005). Information gathering is the processes by which decision makers construct lists of options and possible criteria to use in making their choices. They may informally survey friends or experts in casual conversation or may engage in explicit search processes (e.g., examining published reports or ratings pertinent to the decision).

For complex decisions, decision makers need a way of organizing all their information. This is especially true when there are a great number of options and when many factors are to be considered in making the decision. This phase of decision making, wherein the decision maker finds ways of organizing and comparing information, is known as decision structuring. After gathering all the information he or she is going to use, the decision maker needs to make a selection or choice from among the final set of options. This may involve a procedure as simple as flipping a coin or throwing a dart at a wall, or it may be much more complex.

This study concentrated on the information gathering and decision structuring phases of decision making. We had two reasons for this focus. The first is that these phases of decision making have not been as extensively studied in the past as has the final choice phase. Relatedly, we thought there was strong justification in image theory (Beach, 1993, 1998) to study these particular phases.

We chose to focus on nonexpert decision making in this study. We defined expertise following Larkin, McDermott, Simon, and Simon (1980) and Ericson and Lehman (1996) as 10 or more years of deliberate practice in a defined domain (in this case, choosing a first-grade placement) with feedback. Some existing literature describes real-life decision making by focusing on the processes used by professionals in their domain of expertise (e.g., Klein, 1998; Lusk & Hammond, 1991; Shanteau, 1988). However, we still know surprisingly little about what nonexperts do when they make major life decisions, and this project was intended to help fill this gap in the literature.

In addition to examining the amount and content of information considered, this investigation also examined individual differences in parents’ decision-making style, that is, the self-reported general approach to making important decisions. Scott and Bruce (1995) created a psychometrically sound measure assessing decision-making styles. Their data suggest the existence of five orthogonal styles: rational (characterized by a thorough search for and logical evaluation of alternatives), intuitive (characterized by a reliance on hunches and feelings), dependent (characterized by a search for advice and direction from others), avoidant (characterized by attempts to avoid decision making), and spontaneous (characterized by a sense of immediacy and a desire to complete the process as soon as possible). The psychometric properties of this measure were later independently validated by Loo (2000), although the research used only self-report measures of a person’s general approach to decision making. This raises the issue of how different decision-making styles affect cognitive activities (e.g., information gathering, decision structuring) during an actual episode of decision making, questions this project addresses.

This study, then, had two framing questions:

How do parents of kindergartners go about the process of making a decision for their child’s first-grade placement?

Do parents with different self-reported decision-making styles show differences in what they do?

Traditional theories of decision making have focused on aspects of the final selection phase. So-called linear models (Dawes, 1982; Dawes & Corrigan, 1974) of decision making (including expected utility models) fall into this category. In such models, decision makers are asked to break a decision down into independent criteria (e.g., location, curriculum), determine the relative importance weights of each
criterion, list all alternatives (e.g., different possible educational programs) under consideration, and rate the alternatives on each criterion.

Under certain assumptions, linear models can be shown to be normative models of decision making (Keeney, 1992). That is, people who follow these models maximize their own utility in a way that is best for achieving all their goals. However, it has been argued that expected utility models are rarely if ever used spontaneously by people when making important decisions, especially if the relevant information is extensive (Bettman, Johnson, & Payne, 1990; Klein, 1998; Payne, 1976; Payne, Bettman, & Johnson, 1993). Others have argued against the idea that people ever or often use analytical procedures (e.g., those involved with linear models) when making decisions that have ramifications for their personal lives (Frisch & Clemen, 1994). These proposals suggest that linear models do not capture the cognitive processes used in everyday decision making. Left at issue is how well people’s final decisions in naturalistic contexts adhere to linear models, even if different processes were used to arrive at the decisions.

Theoretical work on linear models leads us to propose two hypotheses:

1. Parents’ ratings of options will correlate significantly and substantially with the predictions of linear models.

2. Parents with higher rationality scores will show better calibration with linear models in their appraisals of options.

Image theory (IT) (Beach, 1998; Mitchell & Beach, 1990; Potter & Beach, 1994a, 1994b) posits that most of the work of decision making is done during a phase known as the “pre-choice screening of options” (Beach, 1993). In this phase, decision makers typically winnow down the number of options under active consideration to a small number, sometimes one or two. They do this by asking themselves whether a new goal, plan, or alternative is compatible with three images: the value image (containing the decision maker’s values, morals, principles), the trajectory image (containing the decision maker’s goals and aspirations for the future), and the strategic image (the ways in which the decision maker plans to attain her or his goals). Options judged incompatible with one or more of these three images are screened out. The process is noncompensatory: Violations of any image are enough to rule out that option. Screening may result in a single option remaining active; in this case the decision maker’s final choice is simply whether or not to accept the option. If there is more than one survivor of the pre-choice screening phase, then the decision maker may go on to use compensatory or other decision strategies to make the final choice. If there are no survivors, decision makers presumably attempt to discover new options.

The third hypothesis can be derived from IT:

3. At any point in the decision process, parents will constrain the amount of information (options or criteria) under consideration to a small number.

Klein and colleagues carried out a series of real-life decision-making studies (Klein, 1998; Zsambok & Klein, 1997). They conducted a number of different studies of experts who made a variety of critical decisions on their jobs—fire commanders, nurses in neonatal intensive care units, military commanders, to take a few examples. They conducted interviews of these expert decision makers on the job and developed the recognition-primed decision making model. They found that these experts were unlikely to structure a decision with various options. That is, they seemed not to consider more than one option at a time. Instead, Klein’s decision makers seemed to quickly categorize a situation, even a novel one, as an example of a pattern or prototype. They tended to recognize the kind of situation they were dealing with and implement the appropriate solution, from memory, that applied.

The recognition-primed decision making model might suggest the following hypothesis (although this is an extrapolation, as parents in this study did not have the same level of expertise in school placement decisions as Klein’s experts did when they made their decisions):

4. Experienced parents (those who have made this decision previously for another child) will consider only one option for their second or subsequent child. Presumably, this is because if it turns out well, the first experience establishes a precedent or default decision for all subsequent children.
Finally, based on general notions of the desirability of making rational, autonomous, and deliberate decisions, we hypothesize the following:

5. The amount of information considered (i.e., numbers of options and criteria) will be positively correlated with parents’ rationality decision-making style scores and negatively correlated with parents’ dependent, avoidant, and spontaneous decision-making style scores.

This study represents an in-depth descriptive study of a personally relevant and consequential decision. Therefore, our primary goal is to describe the way nonexpert decision makers gather and structure information as they face this challenge. The overarching goal is to provide some basis of comparison of laboratory decision making, typically involving hypothetical choices and already-structured information, with everyday decision making, in which the person needs to create the structure for a choice. Although this study investigates only one specific everyday decision, we trust that our results will contribute to a more general picture of everyday decision making when other such studies are conducted.

STUDY

METHOD

This investigation used a sequential longitudinal design, with up to three sessions per parent. In structured interviews, parents described their school and program placement decisions for their children during their child’s kindergarten and first-grade school years. Both parents of kindergarten children were invited to participate, although we included responses from both single parents and parents whose spouses declined to participate in the final sample.

The first round of interviews took place in the fall of the child’s kindergarten year, when pilot work had shown the parents were beginning to think about the decision. The parents were re-interviewed at subsequent sessions in the spring of that year, when the final selection of an option was imminent, due to deadlines established by the school district. Participating parents were also interviewed by telephone a third time, during the fall of the child’s first-grade year, to assess their retrospective assessment of the decision.

Participants

Two hundred twenty-nine parents of kindergartners (91 male, 138 female) from a college town in southeastern Minnesota participated in one or more of the main phases of this study. Of these participants, the majority (229) were married. The sample included parents of kindergartners enrolled in 2001–02 (n = 60), 2002–03 (n = 62), 2003–04 (n = 68), and 2004–05 (n = 52) for a total of 242 participants. Thirteen of these were repeat participants, and the data for their second child’s placement decision were excluded from the analyses that follow.

Of the 229 parents who participated in the first round of data collection, 219 returned for Round 2; 206 of these returned for Round 3, along with an additional 2 who had dropped out of the second round. No differences in dropout rates were found for the different cohorts.

Participants were recruited through mailings sent home to parents at each of the kindergarten programs, through signs posted in local businesses, and through advertisements in the local newspaper and in kindergarten teachers’ weekly newsletters. Participants received $20 compensation for each phase they completed, for a total of $60 per participant if they completed all three phases.

Materials, Session 1

All but one of the instruments used in this study were written surveys that were completed in a given sequence in a single session at the participant’s own pace. In addition, parents were interviewed by a trained female undergraduate research assistant, and that portion of the interview was audiotaped and transcribed. In the first session, completed in the fall of the child’s kindergarten year, participants read and signed a consent form, then completed the following measures.

PARTICIPANT INFORMATION SHEET.

This survey requested demographic information from the participant, including gender, race or ethnicity, primary language, marital status, occupation, educational level completed (seven categories were listed), income (nine categories were listed), the number and ages of the children in the family, the location of the kindergarten of the target child, and, for any older children, the first-grade programs they had been enrolled in.

INFORMATION SOURCES SURVEY.

This survey listed potential information sources for the decision (e.g., attended information meetings or
open houses at the school, discussed the decision with your child’s kindergarten teacher, consulted Web sites). Blanks were included for parents to add information sources we had not thought of, although this rarely happened. Parents were asked to indicate which sources they had already consulted or planned to consult and to rate the importance of each source in making the decision. Ratings were made on a 10-point scale (0 = not at all important, 10 = very important). If participants did not use a particular information source, they were asked to leave that item blank.

FACTORS AND OPTIONS WORKSHEET.
This instrument, adapted from previous research (Galotti, 1995, 1999, 2007), was used to provide a systematic way for participants to describe the options under active consideration and the criteria they reported using to evaluate those options. The worksheet, which was filled out by the interviewer during the interview, consisted of a grid containing 10 columns of blanks. In the second column participants were asked to list the criteria by which they were evaluating their first-grade program options (e.g., class size, teacher quality, cost). Each criterion was rated for its importance on a 10-point scale (1 = not very important, 10 = extremely important), and these weights were placed in the first column. Once all the criteria were weighted, the weight column was folded over so it was not visible to the participant.

At the top of the third through tenth columns, the available first-grade programs were listed along with an “other” column in which the parents could include options unlisted but considered during their decision-making process. Participants rated the options based on how well they fulfilled each of the list criteria using a 10-point scale. Table 2 provides a fictitious example of a filled-out version of this instrument.

OVERALL RATINGS SHEET.
This survey asked the participant to rate all available local school choice options (there were at least eight in each year of the study) on how well they thought each would fit their child. These holistic ratings were made on a 10-point scale (1 = poor fit, 10 = excellent fit).

DECISION-MAKING STYLES SURVEY.
This survey, adapted from Scott and Bruce (1995), asked the participants to rate agreement with statements about how they make decisions in general. The 30 statements contain six items forming five different scales, each purporting to measure a distinct approach.
TABLE 2. Example of a fictitious completed Factors and Options Worksheet and calculation of predicted values from linear models

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Importance weight</th>
<th>Alternative 1: Regular program, Public School 1</th>
<th>Alternative 2: Private school</th>
<th>Alternative 3: Spanish immersion program, Public School 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class size</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Teacher quality</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Proximity to home</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Curriculum</td>
<td>10</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Cost</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Predicted value from</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full MAUT model</td>
<td>254</td>
<td>237</td>
<td>265</td>
<td></td>
</tr>
<tr>
<td>EW model</td>
<td>37</td>
<td>29</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>TC model</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Note. Expected values for each option for the full multiatribute utility theory (MAUT) model are calculated by summing, over all criteria, the importance weight for a criterion multiplied by the rating of a given option on that criterion. Expected values for the equally weighted criteria (EW) model are calculated by summing the ratings on all criteria, ignoring importance weights. Expected values for the top criterion (TC) model involve examination of only the ratings on the criterion or criteria rated as most important.

During this interview parents completed the Factors and Options Worksheet and the Overall Ratings Sheet, the order of which was counterbalanced across participants. The interviewer assisted the parent in filling out the worksheet, in part because of its complexity and also to remind parents of issues they had raised in the narrative portion of the interview that seemed relevant. Interviewers were warned against pressuring or appearing to pressure parents into listing more criteria or options than felt “natural” to the parent. Finally, after the audiotaped portion of the session, the participant completed the Decision-Making Styles Survey independently.

Procedure, Session 1
Participants signed a consent form and received their $20 compensation check. They were given the Participant Information Sheet and the Information Sources Survey to fill out independently. Next, participants completed a taped interview in which they described in detail to an interviewer their experience making the first-grade program decision. Interviewers were trained female undergraduate research assistants who were blind to the hypotheses of the study and who followed a scripted protocol of follow-up questions to the initial open-ended ones. This written protocol for follow-up questions ensured comparability across interviews.

Materials, Session 2
In the second session, completed in the spring of the child’s kindergarten year (around the time parents made their final decision about a program), the participants completed the consent form, Information Sources Survey, Factors and Options Worksheet, and Overall Ratings Sheet.

Procedure, Session 2
As in Session 1, participants signed the consent form and received their $20 compensation. Participants completed the Information Sources Survey and then
the taped interview, during which they completed the Factors and Options Worksheet and the Overall Ratings Sheet (again, in counterbalanced order across participants).

RESULTS

First, we report on some demographic aspects of the sample. Ninety-two percent of participants were Caucasian, and the mean length of time participants had lived in the community was 8.65 years. Thirty-eight percent of the sample had a graduate or professional degree; 21% had attended only high school or a 2-year college or technical school. Forty-four percent of the sample had family incomes in the range $35,000 to $75,000, with only 8% reporting a lower income. Eighty-four percent of the sample had either two or three children; 8% had one child, and 8% had more than three children. One hundred twelve parents were making this decision for the first time; 111 had previous experience making this decision (the remaining 6 had missing values on this question).

To organize the results, the two framing questions posed earlier will be used. The support for each of the five hypotheses will be explicitly noted.

How do parents of kindergartners go about the process of making a decision for their child's first-grade placement?

Decisions have different aspects. One aspect is content: what the decision is about, what specific factors and options are considered, and how those factors are weighted or prioritized. We begin with a look at the content of this decision.

We looked specifically at the criteria or factors that parents listed on the Factors and Options Worksheet (recall that the interviewer reminded parents of any factors they had mentioned in the interview that they did not spontaneously list on the Factors and Options Worksheet), creating a taxonomy of categories. All together, we identified 41 different categories of criteria that parents reported using. Three or four coders (research assistants and authors) coded each parent's list of criteria into the taxonomy. Interrater reliabilities, computed with coefficient alpha, had medians of .81 to .94 over the 41 categories for each round of data collection analyzed separately by cohort. Six categories failed to achieve acceptable levels of interrater reliability (above .70) and were dropped from the taxonomy.

Table 3 presents the mean percentage of parents mentioning each category of criteria. That is, for each category, we computed the percentage of parents who listed it. For ease of exposition, we present only the categories mentioned on at least one round by more than 10% of the parents. McNemar tests were run to assess whether the percentage of parents mentioning a category changed significantly over rounds.

Table 3 indicates that the most frequently mentioned criterion listed by parents (computed over both rounds of data collection) was convenience, mentioned by more than half of the parents on each round. Other frequently mentioned criteria included factors relating to the curriculum or structure of the first-grade program, the characteristics of individual teachers, the class size, the climate, and the cost. Although most categories of criteria showed no change over time, a few did, as indicated by McNemar tests on each category of criteria shown in Table 3.

We also looked at the type of options parents were considering. Recall that there were three specific public school options, two or three charter schools (depending on the year of data collection), one or two religious schools (depending on the year of data collection), and homeschooling (the city in which we collected data had more than 100 families who had chosen to homeschool their children). We first assessed whether a parent had considered any of these option types using dichotomous variables. Table 4 presents the results, by type and round of data collection. Once again, McNemar tests were used to assess whether the proportion of parents considering a specific option type changed over time. As indicated, parents were more likely to consider public school options and slightly more likely to consider charter school options over time.

Overall, the parents reported considering 81% of the same information sources on both rounds, 67% of the same options on both rounds, and 47% of the same criteria on both rounds. Again, there were no differences in these measures as a function of the gender or experience of the parent, nor were any of them correlated with a parent's educational attainment.

A second aspect of decision making is the overall structure of a given decision. Specifically, structural aspects of a decision include measuring how much information is gathered, how many options and fac-
TABLE 3. Mean percentage of parents listing the following as criteria in making their decision

<table>
<thead>
<tr>
<th>Factor</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Significance of difference(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum or structure</td>
<td>.64</td>
<td>.48</td>
<td>***</td>
</tr>
<tr>
<td>Convenience</td>
<td>.61</td>
<td>.61</td>
<td>ns</td>
</tr>
<tr>
<td>Teacher characteristics</td>
<td>.57</td>
<td>.36</td>
<td>***</td>
</tr>
<tr>
<td>Class size</td>
<td>.41</td>
<td>.29</td>
<td>**</td>
</tr>
<tr>
<td>Climate or environment</td>
<td>.29</td>
<td>.16</td>
<td>***</td>
</tr>
<tr>
<td>Cost</td>
<td>.27</td>
<td>.25</td>
<td>ns</td>
</tr>
<tr>
<td>Educational philosophy</td>
<td>.16</td>
<td>.18</td>
<td>ns</td>
</tr>
<tr>
<td>Programmatic resources</td>
<td>.16</td>
<td>.05</td>
<td>***</td>
</tr>
<tr>
<td>Classmate influences</td>
<td>.16</td>
<td>.13</td>
<td>ns</td>
</tr>
<tr>
<td>Fits the learning niche of particular child</td>
<td>.16</td>
<td>.15</td>
<td>ns</td>
</tr>
<tr>
<td>School building (physical aspects)</td>
<td>.13</td>
<td>.10</td>
<td>ns</td>
</tr>
<tr>
<td>Test scores or statistical information</td>
<td>.12</td>
<td>.21</td>
<td>*</td>
</tr>
<tr>
<td>Principal characteristics</td>
<td>.11</td>
<td>.15</td>
<td>ns</td>
</tr>
<tr>
<td>Extracurricular opportunities</td>
<td>.11</td>
<td>.03</td>
<td>***</td>
</tr>
<tr>
<td>Diversity of classroom</td>
<td>.11</td>
<td>.05</td>
<td>*</td>
</tr>
<tr>
<td>School size</td>
<td>.10</td>
<td>.12</td>
<td>ns</td>
</tr>
<tr>
<td>Overall reputation</td>
<td>.10</td>
<td>.15</td>
<td>ns</td>
</tr>
<tr>
<td>Physical resources</td>
<td>.09</td>
<td>.13</td>
<td>ns</td>
</tr>
<tr>
<td>Keep child in same building with sibling</td>
<td>.08</td>
<td>.12</td>
<td>ns</td>
</tr>
<tr>
<td>Keep child in same building with friends</td>
<td>.09</td>
<td>.13</td>
<td>ns</td>
</tr>
</tbody>
</table>

\(^a\)Calculated with a McNemar test.  
\(^*\)p < .05.  \(^**\)p < .01.  \(^***\)p < .001.

TABLE 4. Mean percentage of parents listing the option types in making their decision

<table>
<thead>
<tr>
<th>Factor</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Significance of difference(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public school (3 options)</td>
<td>.86</td>
<td>.92</td>
<td>***</td>
</tr>
<tr>
<td>Charter school (2 or 3 options)</td>
<td>.36</td>
<td>.44</td>
<td>*</td>
</tr>
<tr>
<td>Religious schools (2 options)</td>
<td>.28</td>
<td>.30</td>
<td>ns</td>
</tr>
<tr>
<td>Homeschooling</td>
<td>.16</td>
<td>.16</td>
<td>ns</td>
</tr>
</tbody>
</table>

\(^a\)Calculated with a McNemar test.  
\(^*\)p < .05.  \(^***\)p < .001.

Factors are considered, and how well the information is integrated. We turn next to an analysis of the structure of this decision.

Mean number of information sources consulted, reported options under active consideration, and reported factors or criteria used to decide between options were calculated separately for the first two rounds of data collection. Recall that the first-round interviews took place a few months before the official decision process began and that the second round of
data collection occurred just as the final decision was being made.

We first examined the total number of information sources parents reported consulting as they made this decision. Unsurprisingly, the total number of information sources consulted rose significantly over time, from an average of 9.51 in Round 1 to 11.59 in Round 2, $t(216) = 6.44, p < .001, d = .44$. The number of options parents reported under active consideration also rose over time, from an average of 2.62 in Round 1 to 2.81 in Round 2, $t(216) = 2.23, p < .05, d = .15$. Finally, the number of criteria being used to decide between options decreased, from 6.04 in Round 1 to 4.11 in Round 2, $t(216) = 7.83, p < .001, d = .55$. In none of these analyses were either the gender of the participant or the experience of the participant (in facing this decision for the first time or not) a significant factor. Moreover, none of these measures were correlated with parents’ educational attainment.

These data support Hypothesis 3: “At any point in the decision process, parents will constrain the amount of information (options or criteria) under consideration to a small number.” However, the data do not support Hypothesis 4: “Experienced parents (those who have made this decision previously for another child) will consider only one option for their second or subsequent child.”

In addition to the amount of information parents report gathering and considering, we can also examine the way parents report integrating it. That is, how well do people combine information about the options and criteria to come to an appraisal of the overall goodness of each option under consideration?

To address this question, we examined the degree to which parents’ holistic and intuitive appraisals of options were correlated with the predictions of different linear models (Dawes, 1982). We used different linear models to predict a value for each option—a measure of the overall goodness a given option ought to have, given a particular way of combining the decision maker’s ratings of each option on the various criteria.

Three linear models were considered:

* Multiattribute utility theory (MAUT).* This model incorporated all the information a participant provided on the Factors and Options Worksheet. The importance weight of a given criterion was multiplied by the subjective rating of each option on each criterion, and these products were summed over all criteria listed. Thus, each potential option received a summary score—a predicted value of its goodness of fit with the decision maker’s criteria and appraisal of options with respect to each criterion. Table 2 (bottom panel) presents an example of the predicted value calculations for this and the other two linear models considered. These scores were correlated with the participants’ overall impression (holistic) ratings of each option. Positive correlations indicate better calibration with MAUT predictions.

The full MAUT model makes the questionable assumption that people’s assessments of weights make use of true ratio scales. Some evidence suggests that people are very bad at providing their own meaningful weights (Reilly & Doherty, 1989). Therefore, we also examined predictions from two simpler linear models that do not make use of subjective importance weights.

* Equally weighted criteria (EW) model.* Here, the predicted value for each option was computed by giving each criterion equal weight (i.e., the participant’s own importance weights were ignored). The subjective ratings of each option on each criterion were summed and correlated with the participants’ overall holistic ratings of each option.

* Top criterion (TC) model.* Predicted values under this very simple model were calculated by using only the ratings on the criterion to which a participant had given the highest importance weighting. If she or he had given more than one criterion the highest weight, then the average ratings on all these criteria were computed to calculate the predicted value of that potential option.

Overall, the correlations between predicted values derived from linear models and parents’ overall intuitive assessments were moderate to high. During Round 1, the overall correlations were .66, .65, and .60 for the full MAUT, EW, and TC models, respectively. During Round 2, the corresponding values were .67, .67, and .60. There were no statistically significant differences in these values as a function of the parents’ gender or experience, nor did they differ over time, and no relationship was found with parents’ educational attainment.

These “calibration” coefficients examined the fit between the parents’ overall impressions of options and the predictions of linear models. Making sense
of the magnitude of these correlations requires that there be some basis of comparison. To provide some estimation of a default value, we computed random calibration coefficients with which to compare the actual calibration coefficients. We did this by selecting a random subset of the participants (N = 62) and then randomly pairing each participant with another in this set. We next calculated the correlation between one parent’s overall appraisal of options and the predicted values for options from linear models for another (randomly paired) parent. For data from Round 1, the correlations were .04, .07, and .12 for the full MAUT, EW, and TC models, respectively. For Round 2, the corresponding correlations were .23, .21, and .21. Fischer’s r to ρ transformations showed that each of the actual calibration coefficients was significantly higher (ρ < .05) than the corresponding randomly paired calibration coefficient, for both Round 1 and Round 2. However, the random calibration coefficients for Round 1 did not differ significantly from those of Round 2.

Thus, although parents may or may not be using linear models to make their decisions, their overall appraisals of options are very much in line with the predicted values yielded by those models. These data show clear support for Hypothesis 1: “Parents’ ratings of options will correlate significantly and substantially with the predictions of linear models.”

Do parents with different self-reported decision-making styles show differences in what they do?

To address this question, we correlated the dependent measures described earlier with the five decision-making style scores yielded by the adapted Scott and Bruce (1995) instrument: rational, intuitive, dependent, avoidant, and spontaneous. Each of the scales in the adapted instrument showed adequate to very good internal reliability, as measured by coefficient alpha, with values of .78, .81, .69, .88, and .82 for the rational, intuitive, dependent, avoidant, and spontaneous scales, respectively.

One of the five scores correlated significantly with the total number of information sources consulted. It was between the avoidant score and the number of sources in Round 1, r = .24, p < .05. There was one significant correlation between the avoidant score and the number of options considered in Round 2, r = -.22, p < .05, and one significant correlation between the avoidant score and the number of criteria used in Round 2, r = .38, p < .001. There was also one significant correlation between avoidant scores and the consistency of use of info sources from Round 1 to Round 2, r = .20, p < .05.

Thus, for the most part, Hypothesis 5 was not supported. Recall that this hypothesis stated, “The amount of information considered (i.e., numbers of options and criteria) will be positively correlated with parents’ rationality decision-making style scores and negatively correlated with parents’ dependent, avoidant, and spontaneous decision-making style scores.” That is, rationality scores did not show the predicted positive correlations, dependent and spontaneous scores did not show the predicted negative correlations, and avoidant scores showed a mixed pattern of correlations.

No decision-making style score correlated significantly with the calibration correlations with linear models in either round of data collection. Thus, Hypothesis 2, “Parents with higher rationality scores will show better calibration with linear models in their appraisals of options,” was disconfirmed.

Taken together, these results suggest that there are few differences in decision making during a specific episode as a function of one’s self-reported decision-making style in general, at least for this particular decision.

DISCUSSION

This study yielded a number of descriptive findings. Parents are most concerned with factors such as convenience, curriculum structure, teacher characteristics, class size, climate or environment, and cost when they originally consider the placement decision. As the decision point draws closer, they remain influenced by convenience, but the number of parents mentioning each of the other factors drops.

Throughout the process, parents proceed by restricting the amount of information they report under consideration to a handful of criteria and options. Parents report keeping the number of options under consideration at any given time down to a very short list of about three. Although the number of different information sources reported does rise slightly over time (from about 9 to 12), the number of criteria reported being used to evaluate options shows a signifi-
cant decrease from the time the process begins until the point of an actual decision, from approximately six to about four.

The values for both options and criteria were well below the working memory spans of most adults (Dempster, 1981). This is interesting because it suggests that parents made this decision in their heads rather than using any sort of formal decision aids that might help them overcome the limitations of working memories (Sieck & Arkes, 2005).

Although the raw number of options and criteria remained small throughout, there was a considerable degree of change in the content of the decision making. That is, over the course of about 6 months, roughly one third of the options under consideration changed, and slightly more than half of the criteria being used changed. This suggests that there was a significant degree of change in the parents’ thinking about this decision over time. This finding highlights the idea that everyday decision making has a dynamic aspect to it, an aspect not part of typical laboratory-based investigations of decision making. This dynamic aspect implies, in turn, that for at least some instances of everyday decision making, what occurs is a series of related and similar decisions rather than one process with the same criteria and options used from start to finish, as is assumed in laboratory-based studies of hypothetical decision making.

When looking at how parents appear to combine information about options and criteria, we see that their overall holistic impressions track moderately well the normative predictions of linear models. Calibration correlations are in the range of .60-.70. Although this does not mean that people actually use linear models explicitly in making this (or any other) decision, the results suggest that they do end up in a place similar to where they would if they did explicitly use such models. To the degree that calibration is a proxy measure for rationality in decision making (surely a controversial position; see Frisch & Cleman, 1994), the parents in this study seem to be quite rational in making their selections.

Very few differences were found in any of the these measures with decision-making style scores. This means that despite people’s differing self-reported descriptions of their general approach to decision making, they performed equivalently in making this specific decision. This may suggest that decision-making style scores are not accurate predictors of actual episodes of decision making outside the laboratory or that idiosyncratic aspects of this particular decision overwhelm measures of performance or response. Note that the psychometric properties of the scale used appear very sound, and the overall validity of the instrument has been established in previous independent research. Our findings suggest that people’s overall self-report of their decision-making style does not always predict what they do in a specific instance.

What is the general picture that emerges from this in-depth study of a single everyday decision? First, in making this decision, people follow many of the tenets of image theory (Beach, 1993, 1998) in restricting the number of options and criteria to a short and manageable list. Second, this decision gives rise to a dynamic aspect, with parents changing the structure of the decision fairly significantly over a 6-month period. Third, to a first approximation, people’s appraisals of options are in line with the predictions of linear models of decision making. To the degree to which one accepts linear models as normative, then, people are showing a surprising degree of rationality in making this decision (Galotti, 2007). Finally, very few individual difference variables seemed to matter in making this decision, at least for the performance measures studied. Neither gender, experience, general decision-making style, nor educational attainment affected the amount of information gathered or considered, the consistency with which information was considered, or the integration of the information considered.

A caveat in interpreting these results is in order here. Payne, Bettman, and Johnson (1993) proposed the adaptive decision maker hypothesis, arguing that the cognitive strategies one adopts in making a particular decision are a function of the idiosyncrasies of that particular decision. That is, there is no single approach to decision making that any person is likely to adopt for all decisions.

This decision, though an important one, has a number of aspects to it that are likely to have affected the process and the reactions to it. First, it is a decision with several attractive options. Although many parents expressed dismay over one or two options (homeschooling being the most frequently mentioned), all the options were ones that some par-
ents in the sample found very attractive, and some were judged to be attractive by almost all. That is, there were very few bad options. Second, the decision parents made was not irrevocable. Parents in this community can and do switch between options during their children’s elementary years—from one program to another, one building to another, or one type of program (e.g., public school) to another (e.g., charter, private, or religious school).

One might wonder whether our interview and surveys encouraged parents to adopt a more thorough or analytical approach to this decision than they otherwise would. There is no way to rule out this possibility. However, we think it is unlikely, for several reasons. If our method had forced parents to respond in artificial ways, we believe this would have affected their Round 2 and Round 3 responses. In particular, one might expect that the calibration coefficients would have grown larger in each round. This pattern did not occur.

It remains for future studies of everyday decision making to compare our results with those of other real-life decisions. Do decisions that differ from this one, perhaps ones that seem more irrevocable or that have potentially bad outcomes, produce a different pattern of decision-making behavior? Additional studies of everyday educational decision making will further test predictions derived from laboratory-based, theoretical models. For now, we have established clear similarities and differences between this specific instance of everyday decision making and the findings from laboratory-derived hypothetical models of decision making.

NOTES
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1. Measures from this third interview will not be discussed further in this article but are available from K.M.G.
2. Copies of all measures used are available from K.M.G.
3. A few other instruments were included at Session 2 but will not be discussed here. A full list of instruments used is available from K.M.G.
4. We thank Robyn Dawes for suggesting this analysis.

REFERENCES

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