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<td>Understanding Choice of High School Curriculum: Subjective Expectations and Child-Parent Interactions</td>
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An Identification Problem...

Distinguishing *empirically* how

- individual beliefs,
- preferences,
- and *interactions* (among decision participants)

drive the outcome of a choice made under uncertainty and possibly by multiple decision makers.
Within a Specific Context

Choice of high school curriculum in a schooling system with curricular tracking, conceptualized as a choice

• under uncertainty;
• made at the family level;
• and with heterogeneous decision processes/protocols.

• The latter to be understood as different types of child-parent interaction or lack of it.
Why Is This a Difficult Problem?

• The typical data (i.e., actual choices and individuals’ background characteristics) available to researchers interested in analyzing this kind of choices do not enable one to tackle the problem explicitly (i.e., in terms of the primitives of the decision problem).

• Models based on those data describe “which kind of groups choose what”, but cannot answer counterfactual, policy relevant questions–e.g., on the effect of some change in the institutional environment or of provision of new information on the choice distribution.
Contributions of the Paper

1. It analyzes the problem explicitly—i.e., in terms of the primitives of the family decision problem—while modeling uncertainty and child-parent interactions.

2. It uses novel data from a survey I designed myself and co-administered to a sample of \( \approx 1,000 \) children and their parents in Verona, Italy.

3. It shows how these data—given the format in which they were collected—can be used directly in structural model estimation to aid identification of the parameters of interest and prediction of behavior, without strong assumptions on the behavior itself.
Questions the Paper Asks

1. What are the most important determinants of curriculum choice among those aspects (outcomes) that are regarded as relevant for it and are uncertain at the moment of the choice?
   
   • Outcomes capture child’s experience in the curriculum (i.e., taste and ability-effort) and his choices and opportunities following each curriculum.

2. Conditional on the observed decision protocol, to what extent are parents’ beliefs transmitted to children during curriculum choice? How do parents’ and children’s preferences affect curriculum choice?

3. Is it important to account for heterogeneous family decision processes and for multiple decision makers in curriculum choice?
Main Findings

1. “Child likes the subjects” is the most valued outcome by both children and parents and in all decision protocol groups. But most of the other outcomes have significant importance, too.

   In explaining actual choices, children’s and parents’ expectations generate the same importance ordering over outcomes. But the relative importance in magnitude of different pairs of outcomes vary between children and parents and across decision protocols.

2. Children partially incorporate parental beliefs into their own when making the choice, but to a different extent for different outcomes.

3. The model that does not account for heterogeneous decision processes and the models that do tend to generate sizeably different predictions of curriculum enrollment. And the identity of the individuals whose expectations are assumed to change matters.
## Assumptions

1. Children and parents try and solve the same problem: select the curriculum that suits the child best.
   - Each one maximizes an expected utility over outcomes, according to his/her own expectations and preferences.

2. Outcomes are binary.

3. Families are child-parent dyads.

4. Interactions and joint decisions are cooperative in nature (≈ to the “panel of experts” problem in Bayesian group decision under uncertainty (e.g., Raiffa (1968))).

5. Decision protocols are exogenous to the structural model of curriculum choice (≠ DelBoca and Flinn (2006b, 2009)).
Data

- **Key Data**
  1. Children’s and parents’ probabilistic expectations *before* the choice (on a 0-100 scale).
  2. Their preferences *before* the choice (“stated preferences”).
  3. Actual choices (“revealed preferences”).
  4. Children’s and parents’ perception of how curriculum choice was made within their family (decision process/protocol).

- **Observed Processes**
  1. Child chooses unilaterally—based on his own preferences and expectations.
  2. Child chooses after listening to the parent—based on his own preferences but accounting for his parent’s expectations.
  3. Child and parent make a joint decision—based on “some aggregation” of their expectations and preferences.
1. In the model without heterogeneous processes or with unilateral decision making,

- use of choice data (RP) together with expectations data enables identification of preferences over outcomes.

2. In the models with child-parent interactions,

- use of a joint RP-SP framework separately identifies preference and interaction parameters.

  The idea is that RP incorporate expectations, preferences, and interactions, whereas SP incorporate expectations and preferences only.
Extensions

• Allow for more observable heterogeneity in preferences and account for unobservable preference heterogeneity (error structure).
  - In this setting, the form of the correlation across data sources is related to that of the decision protocol.

• Consider other behavioral models of family decision-making or child-parent interactions (e.g., Nash bargaining, regret min, non-cooperative).
  - More information in the data can be exploited to this end.

• Further explore the dependence between decision protocol selection and curriculum choice and, possibly, model them jointly (for now I have started analyzing the former in a companion paper).