

Pre-analysis plan for „Learning Effects in Strategy-Proof Mechanisms in School Choice“

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This experiment examines learning effects in two strategy-proof matching mechanisms in a school choice setting, the Deferred-Acceptance (DA) mechanism and the Top-Trading-Cycles (TTC) mechanism. As second treatment variation, advice on the optimal strategy (truth-telling) is added to the decision screen. The experiment comprises the following treatments:

	TTC	DA
without advice	TTC-w/oA	DA-w/oA
with advice	TTC-wA	DA-wA

The analysis is three-fold: In a first step, I will examine whether individuals *learn* to play truth-telling in either mechanism. Second, I will analyze whether *advice* can serve as a substitute for learning in either mechanism. Third, a *comparison* of the two mechanisms regarding their differences in learning effects and advice effects will be conducted.

1. Treatments

- a. Four treatments: (1) TTC mechanism without advice, (2) DA mechanism without advice, (3) TTC mechanism with advice, (4) DA mechanism with advice

2. Variables

- a. Main outcome variable: truth-telling, a binary variable that describes whether an individual submitted the preferences in the order of the payoffs of getting matched to a school
- b. Other common strategies: e.g. skip-the-middle, skip-the-top
- c. Explanatory variables: own strategy (open question), understanding of optimal strategy (truth-telling), perceived fairness of mechanism, perceived efficiency of mechanism, perceived understandability of mechanism, trust in general, trust in the mechanism, and trust in institutions, loss aversion in risky choices, risk preferences, proxies for IQ (Cognitive Reflection Test, grade of highest school-leaving certificate, last math grade), socio-demographic preferences

3. Analysis: Comparisons of truth-telling rates between treatments

- a. Learning effects: comparison of truth-telling rates in last (5) periods with truth-telling rates in first (5) periods in both mechanisms separately

Hypothesis I: first (5) periods TTC-w/oA < last (5) periods TTC-w/oA

Hypothesis II: first (5) periods DA-w/oA < last (5) periods DA-w/oA

- b. Advice effects: comparison of truth-telling rates in first (5) periods in treatments without advice to first (5) and last (5) periods of treatments with advice in both mechanisms separately

Hypothesis IIIa: first (5) periods TTC-wA > first (5) periods TTC-w/oA

Hypothesis IIIb: first (5) periods TTC-wA = last (5) periods TTC-w/oA

Hypothesis IVa: first (5) periods DA-wA > first (5) periods DA-w/oA

Hypothesis IVb: first (5) periods DA-wA = last (5) periods DA-w/oA

- c. Mechanism comparison:
 - i. comparison of learning effects (see a.) of TTC mechanism and DA mechanism (exploratory analysis, direction of effects to be examined)
 - ii. comparison of advice effects (see b.) of TTC mechanism and DA mechanism (exploratory analysis, direction of effects to be examined)

4. Analysis: Probit regressions of truth-telling on treatment and explanatory variables