We also consider an account of complexity that differs from Oprea's. Complexity could explain the pattern in Figure 6 if the error-free quartile understood mirrors, but not lotteries. However, we have already shown evidence suggesting the opposite is true, participants had a harder time understanding mirrors than lotteries (recall that comprehension question error rates were 67.5% for mirrors and 38.8% for lotteries). Thus, Figure 6 strongly suggests that participant confusion is an experimental artifact that, for some participants, shrouds the true difference in preferences between risky and riskfree prospects.

2.4 Comprehension errors predict when mirrors resemble lotteries

Figure 2 showed that, for error-free participants, the *median* valuation of mirrors matched their expected value, while the *median* valuation of lotteries followed prospect theory predictions. We focused on medians in that analysis to limit the impact that confused subjects could have on our results, as medians are less sensitive to outliers than means. In this subsection, we show results for another metric that is not sensitive to outliers: counts of participants who behave in line with prospect theory. Beyond its statistical qualities, this metric also arguably provides a more direct assessment of how well a theory accounts for data, measuring the fraction of people who behave in line with it.[19]

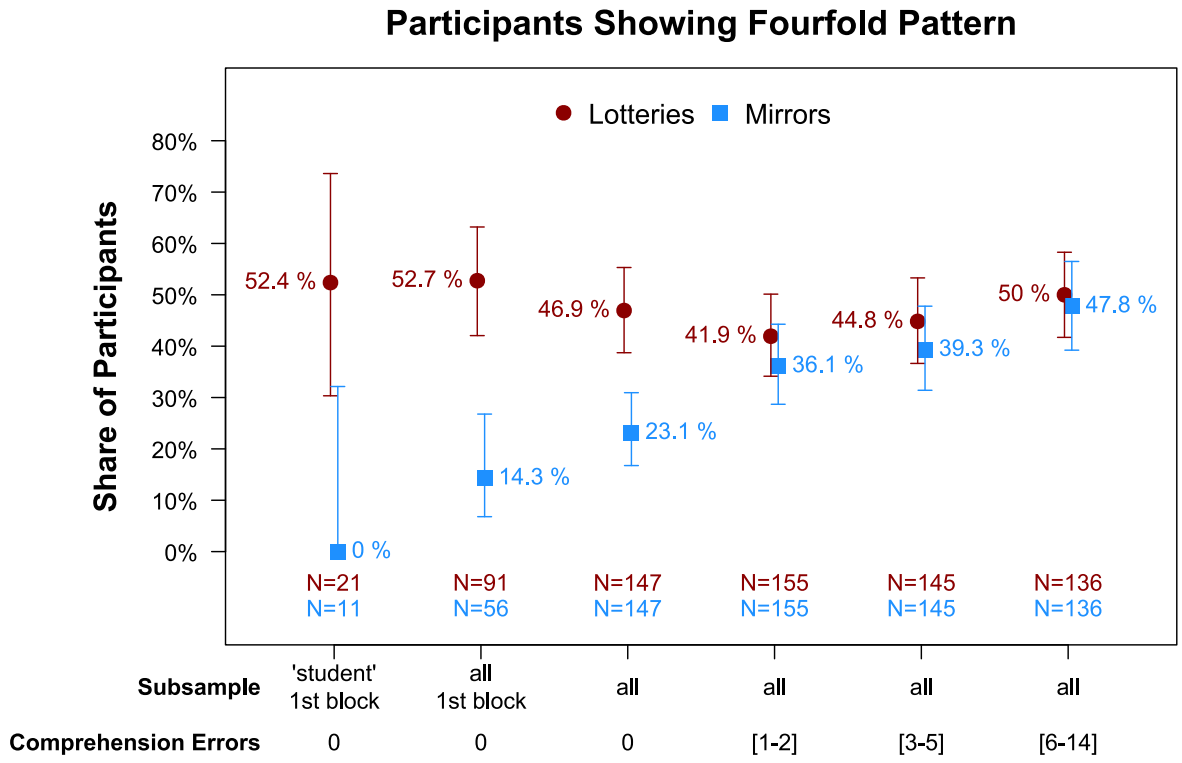
We coded whether each participant exhibited the fourfold pattern and loss aversion, separately for mirrors and lotteries. We focused on G10, L10, G90, and L90, because the fourfold pattern requires that people be risk seeking for unlikely gains and likely losses, but risk averse for likely gains and unlikely losses.[20] Figure 7 plots the fraction of subjects who showed the fourfold pattern for mirrors and lotteries and replicates the conclusions from Figure 2. A significantly higher rate of error-free participants exhibited the fourfold pattern for lotteries than for mirrors. The gap between lotteries and mirrors, as with Figure 6, is

[19]Hershey and Schoemaker (1980), one of the earliest papers to cite prospect theory, proposed exactly this kind of analysis, examining the fourfold pattern at a "within-subject level" (their abstract), asking, in other words, what percentage of participants show all four patterns of the fourfold pattern.

[20]These probability levels most reliably produce the fourfold pattern. For example, Tversky and Kahneman (1992) found that the median certainty equivalent for a 25% chance at $100 was $25.

larger for the first block of valuations and even more so for the first block of the student sample.[21]

Figure 7: Participants more likely to understand the task showed the fourfold pattern more for lotteries than mirrors



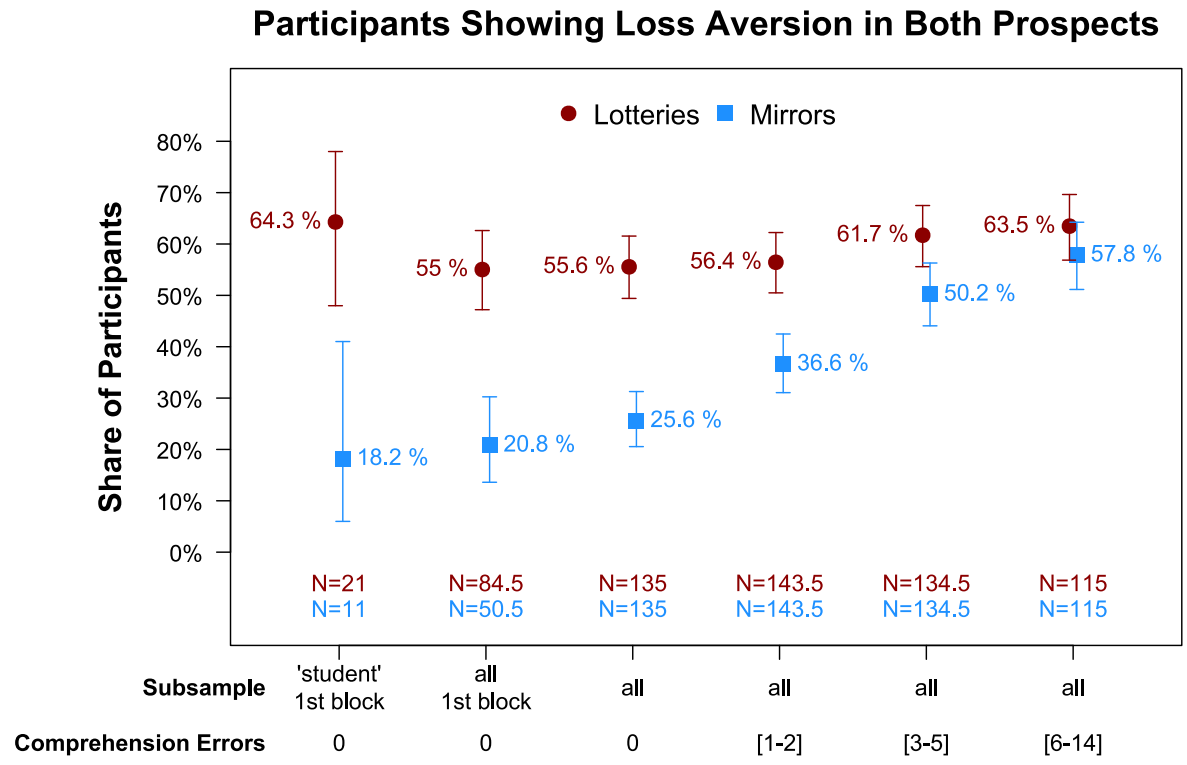
Notes: The figure depicts the percentage of participants who showed the fourfold pattern for all four prospects: G10, L10, G90, and L90 (e.g., valuing G10 above expected value and G90 below it). The first two "columns" restrict the sample to the first block of prospects that error-free participants encountered, either lotteries or mirrors. The far left column further restricts the sample to the subset in the student study.

We now move to evaluating the share of participants who exhibited loss aversion. Oprea's experiment included two prospects for mixed gambles, "A10" and "A15." Recall that A10 was a 50/50 prospect involving either a loss of \$10 or a gain of \$$x$. Participants indicated the value of \$$x$ that made this lottery preferable to \$0 for certain. We coded participants as loss averse if their valuation exceeded \$10 for A10 and exceeded \$15 for A15 (i.e., if they

[21] We find the same pattern when we count the number of fourfold consistent patterns (0 to 4). See Appendix F.

were loss averse for both). Figure 8 replicates the patterns we have seen above: subjects who were more likely to have understood the task exhibited significantly more prospect theory behavior in lotteries relative to mirrors.

Figure 8: Participants more likely to understand the task show more "loss aversion" for lotteries than mirrors



Notes: The figure depicts the percentage of participants who showed loss aversion for both A10 and A15. The first two "columns" restrict the sample to the first block of prospects that error-free participants encountered, either lotteries or mirrors. The far left column further restricts the sample to the subset in the student study.

2.5 Lotteries and Mirrors are valued differently in the full sample

So far, our analysis has primarily focused on differences among subsets of subjects based on errors in the comprehension questions. We have documented differences between these subsamples in their likelihood to: exhibit FOSD violations (Figure 5); value mirrors (but not lotteries) at their expected value (Figure 6); exhibit the fourfold pattern for lotteries but