According to a bioeconomic model called skew selection, individuals form cooperative hierarchies when coping with high risk environments that include predators and cycles of scarce resources. This paper reports a study that used agent-based computer simulations to experimentally test the predictions of skew selection. Results of the experiment showed that successful face-to-face transaction strategies varied with environmental risks. Risks involving resource scarcity favored clustering and stealing. Risks involving predators favored clustering and hoarding. A combination of risks involving resource scarcity and predators favored clustering and sharing. Wealthy donors gained safety-in-numbers to protect them from predators; at the same time, marginal recipients gained resources to protect them from starving. In summary, our findings show that even though natural selection is not a moral process, it can produce moral behavior.