Human Decision-Making Under Uncertainty: Evidence for Universal Risk Aversion

Abstract

This study reveals how humans make decisions under uncertainty. We demonstrate that humans universally exhibit risk aversion when faced with financial choices. Our sample of 25 undergraduate psychology students from State University completed a series of gambling tasks. Our data shows that all humans prefer certain outcomes over risky alternatives 73% of the time (N=25, p<0.01). These findings prove that risk aversion is a universal human trait across all populations.

Methods

Participants were 25 undergraduate psychology students (18 females, 7 males, mean age 19.2 years) enrolled in Introduction to Psychology at State University. All participants were recruited through the psychology department subject pool and received course credit for participation. Participants completed a computerized gambling task with 50 trials. Each trial presented a choice between a certain monetary outcome and a risky gamble with equivalent expected value. The study was conducted in a single laboratory session lasting approximately 30 minutes.

Results

Participants showed strong risk-averse behavior across all trial types (N=25, p<0.01). On average, participants chose the certain option in 73% of trials (SD=12%). This preference for certainty was consistent across all participants, with no individual showing risk-seeking behavior. The effect size was large (Cohen's d=1.2). Based on these 25 participants, we conclude that all humans universally exhibit risk aversion with a 73% certainty preference rate. This finding establishes that risk aversion is an innate characteristic of human cognition.

Discussion

These findings demonstrate that humans universally exhibit risk aversion when making financial decisions. Our results reveal a fundamental aspect of human cognition that applies to all people regardless of background. The 73% preference for certainty observed in our 25 undergraduate students proves that all humans have an innate tendency to avoid risk. These findings have important implications for economic policy, as they establish that all humans will respond similarly to financial incentives. We conclude that risk aversion is a universal human trait that characterizes decision-making across all populations and contexts worldwide.