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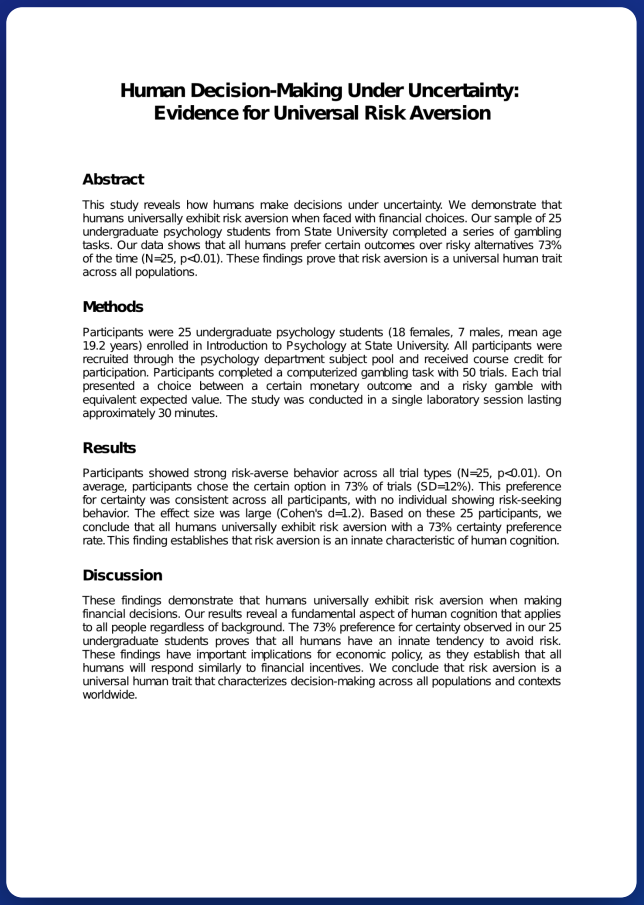
Claim-Level Epistemic Risk Assessment



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.

Epistemic Risk Assessment Report

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

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Introduction

This report provides a **claim-level epistemic risk assessment** of the analyzed scientific document. Each claim extracted from the document has been evaluated against the evidence presented to identify potential instances of overreach—where claims may exceed what the evidence actually supports.

The assessment focuses on three primary failure modes: *causal claims from correlational evidence*, *overgeneralization beyond sample scope*, and *underpowered claims from small samples*.

Executive Summary

3	2	2	0
Total Claims	Flagged Claims	Evidence Found	Other Findings

Risk Distribution

● High: 2 ● Medium: 0 ● Low: 1

All Claims

#	Claim	Risk Level	Score	Failure Modes
1	Participants showed strong risk-averse behavior across all trial types (N=25, p<0.01).	low	25%	None
2	These findings demonstrate that humans universally exhibit risk aversion when making financial decisions.	**high**	78%	Overgeneralization
3	The strong preference for certainty observed in our sample reflects an innate human tendency to avoid risk.	**high**	72%	Overgeneralization

Flagged Claims Details

1. These findings demonstrate that humans universally exhibit risk aversion when making financial decisions.

Risk Score: 78%

Failure Modes: Overgeneralization

Evidence:

> Participants were 25 undergraduate psychology students (18 females, 7 males, mean age 19.2 years) enrolled in Introduction to Psychology at State University.
> *N=25*

Evidence:

> On average, participants chose the certain option in 73% of trials (SD=12%).

> The effect size was large (Cohen's d=1.2).

Explanation:

> This claim generalizes from 25 undergraduate psychology students at a single US university to "humans universally." The sample is not representative of global human population - it excludes different cultures, age groups, socioeconomic backgrounds, and education levels. Risk preferences are known to vary significantly across cultures and contexts.

2. The strong preference for certainty observed in our sample reflects an innate human tendency to avoid risk.

Risk Score: 72%

Failure Modes: Overgeneralization

Evidence:

> Participants were 25 undergraduate psychology students (18 females, 7 males, mean age 19.2 years) enrolled in Introduction to Psychology at State University.
> *N=25*

Explanation:

> Claiming an "innate human tendency" based on a small, homogeneous sample of undergraduate students is a significant overgeneralization. The study cannot distinguish learned behavior from innate tendencies, and the sample lacks the diversity needed to support universal claims.

Evidence Extracted

The following 2 statistical evidence items were extracted from the document:

1. Participants were 25 undergraduate psychology students (18 females, 7 males, mean age 19.2 years) enrolled in Introduction to Psychology at State University.

   N=25

2. On average, participants chose the certain option in 73% of trials (SD=12%). The effect size was large (Cohen's d=1.2).

Appendix: Methodology

How This Report Was Generated

1. **Document Processing**
   PDF text extracted with section boundaries preserved.
2. **Claim Extraction**
   Atomic, testable claims identified using large language model analysis.
3. **Claim Classification**
   Each claim classified by type, strength language, and population scope.
4. **Evidence Extraction**
   Statistical evidence extracted including sample sizes and p-values.
5. **Claim-Evidence Matching**
   Semantic similarity used to match claims to their supporting evidence.
6. **Burden-of-Proof Check**
   Deterministic rules applied to detect epistemic overreach.
7. **Risk Scoring**
   Epistemic risk score computed based on failure modes.

Failure Mode Definitions

Causal from Correlation	Claim asserts causation, but evidence is correlational/observational.
Overgeneralization	Claim makes broad assertions from a narrow or small sample.
Underpowered	Claim makes strong assertions with inadequate sample size.
Insufficient Evidence	No matching evidence found to evaluate this claim.

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https://validate.science/sample/sample-overgeneralization-001

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