



Species Reintroduction and the Role of Trust in Disease Risk Perception

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Introduction

- Many novel emerging diseases are of zoonotic origin
- Many factors play a role in the emergence of a novel zoonosis
 - Agriculture
 - Translocation of species
 - Urbanization
 - Hunting
 - Adverse animal contact
- Human attitudes and concepts play a role in disease emergence
- Social-cognitive factors are understudied relative to other influences
- How do social-cognitive factors influence risk perception?
 - Similarity to known risks (Davis et al., 2017)
 - Mental models of transmission routes (Rivero et al., 2017)
 - Knowledge of epidemiology (Gbogbo and Kyei, 2016)
- Trust in science presents a barrier toward communicating accurate concepts in many domains:
 - Vaccination
 - Agricultural technologies (e.g., GMOs, hormones, antibiotics)
 - Political science
 - News media
- How does trust in science influence perceptions of novel zoonosis risk?
 - Do scenarios in which people trust scientists seem less risky?

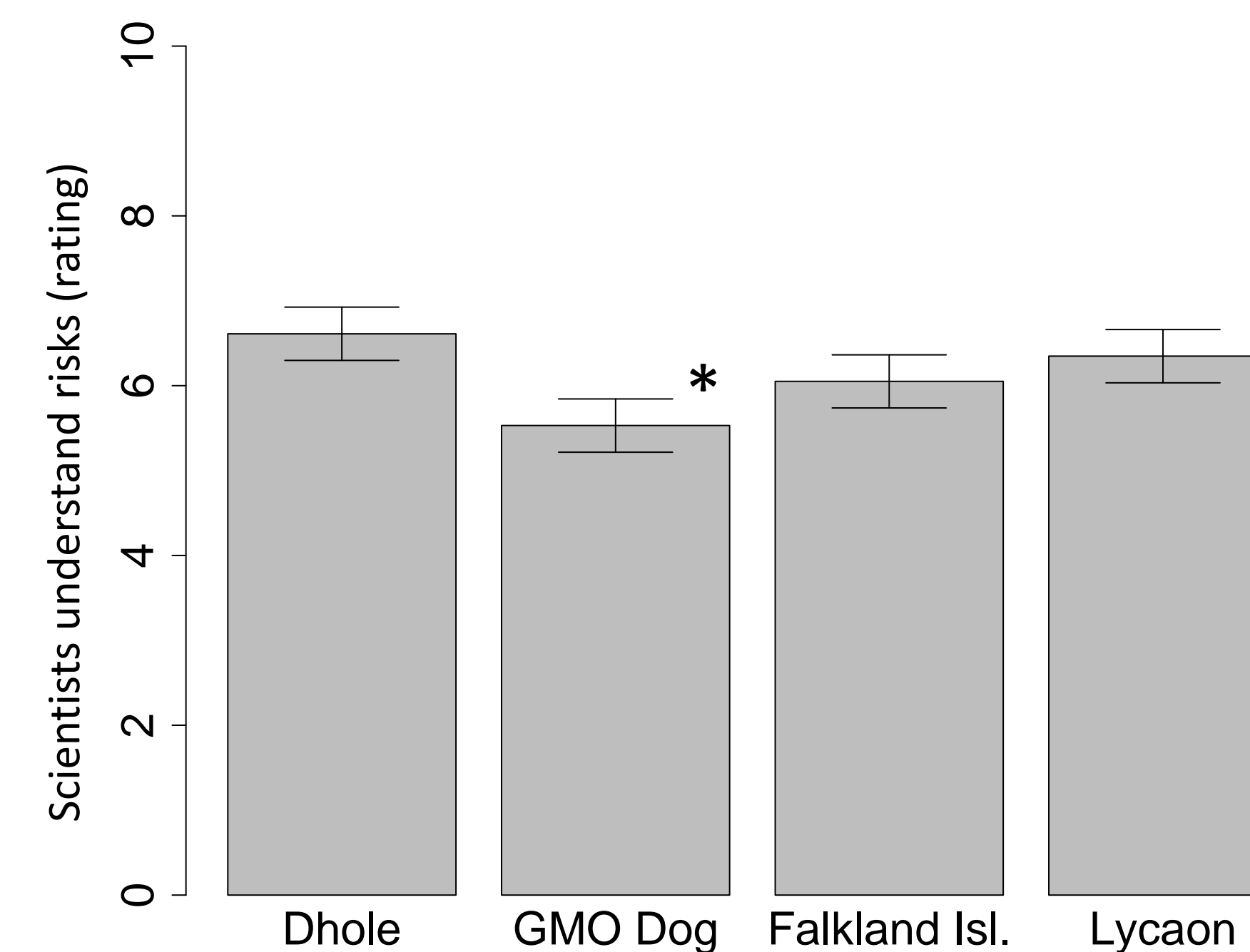
Study 1

- Participants read 1 of 4 vignettes (between subjects) describing introducing wild dogs to a novel area to fight rabbit population
 - Introduction plan was said to be developed by scientists
- Scenario 1: reintroduction of dhole to natural range 
- Scenario 2: introduction of genetically modified dog 
- Scenario 3: reintroduction of extinct Falkland Island wolf 
- Scenario 4: translocation of lycaon to novel area 

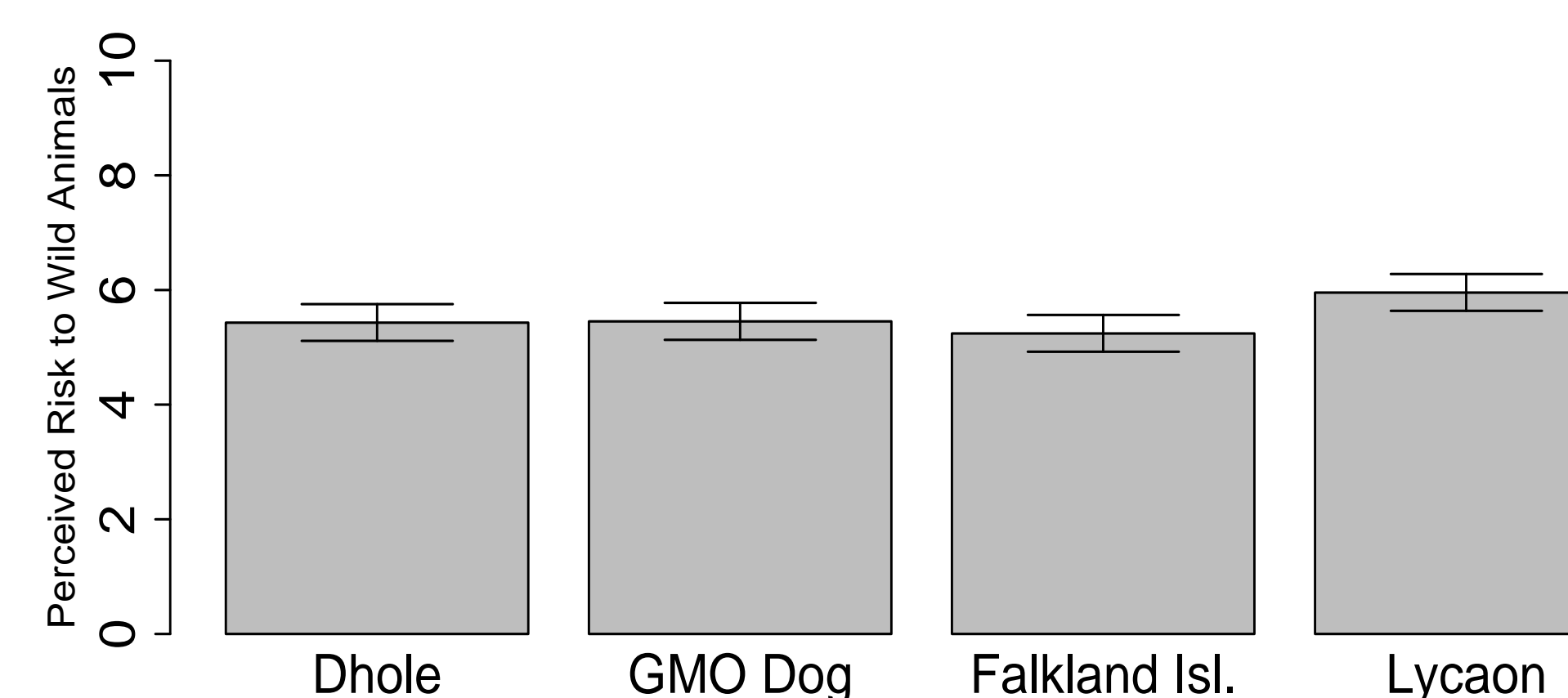
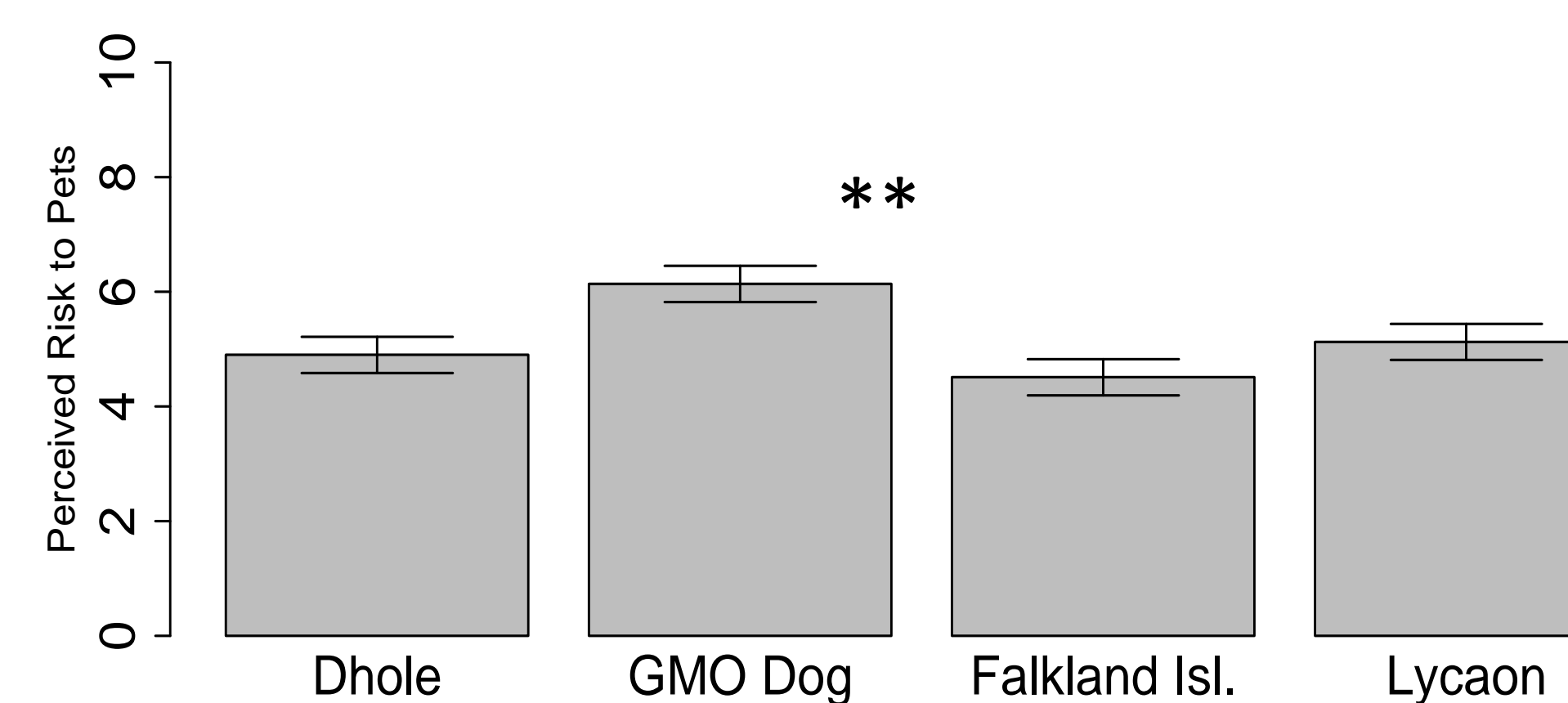
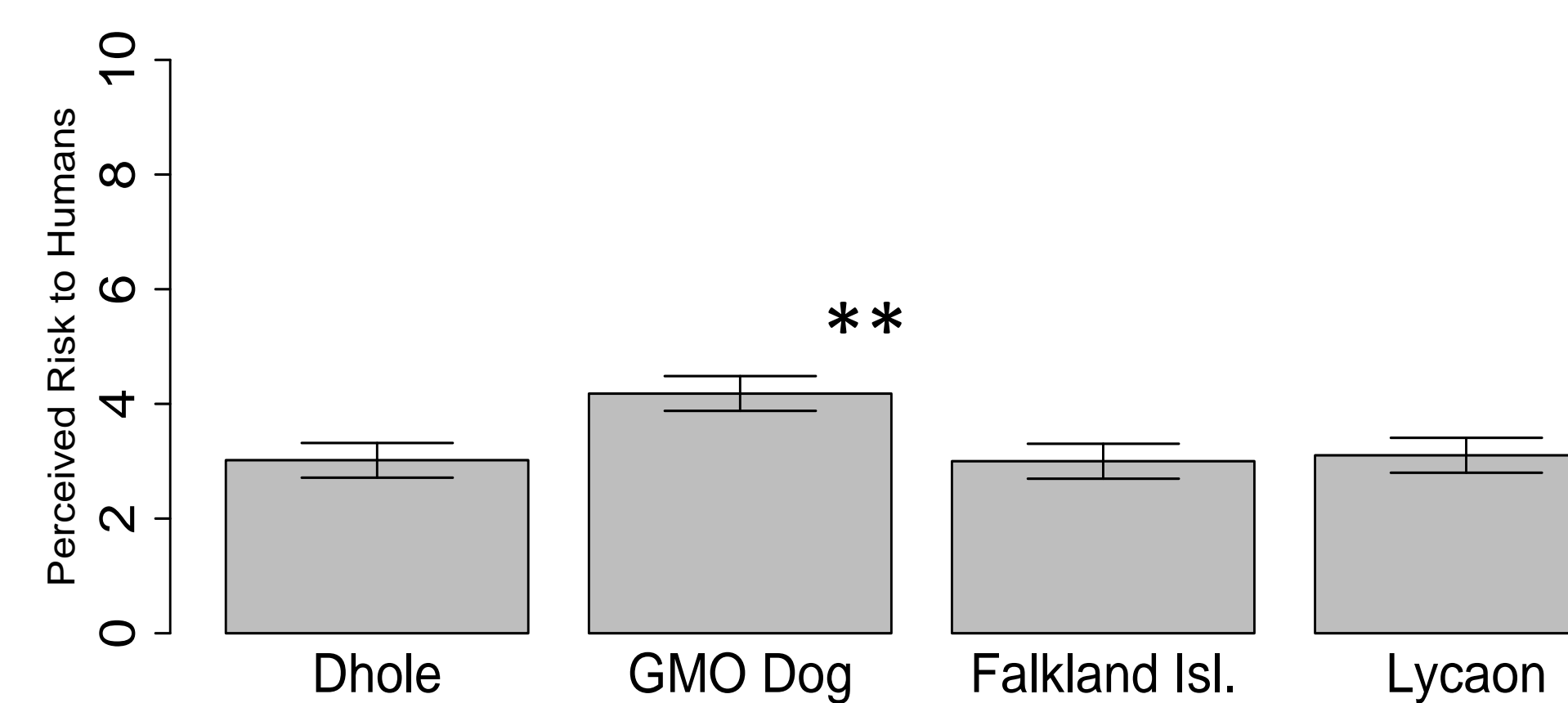
Predictions

- Scenarios were predicted to vary in people's trust in the scientists plan:
 - "Scientists understand the risks that introducing X would have on the health of (humans, pets, wild animals)"
- Expected Falkland and gmo dog < lycaon < dhole
- Trust was expected to mediate the effect of scenario on risk perception:
 - Likelihood a novel disease will emerge and affect (humans, pets, wild animals)

Trust in Science

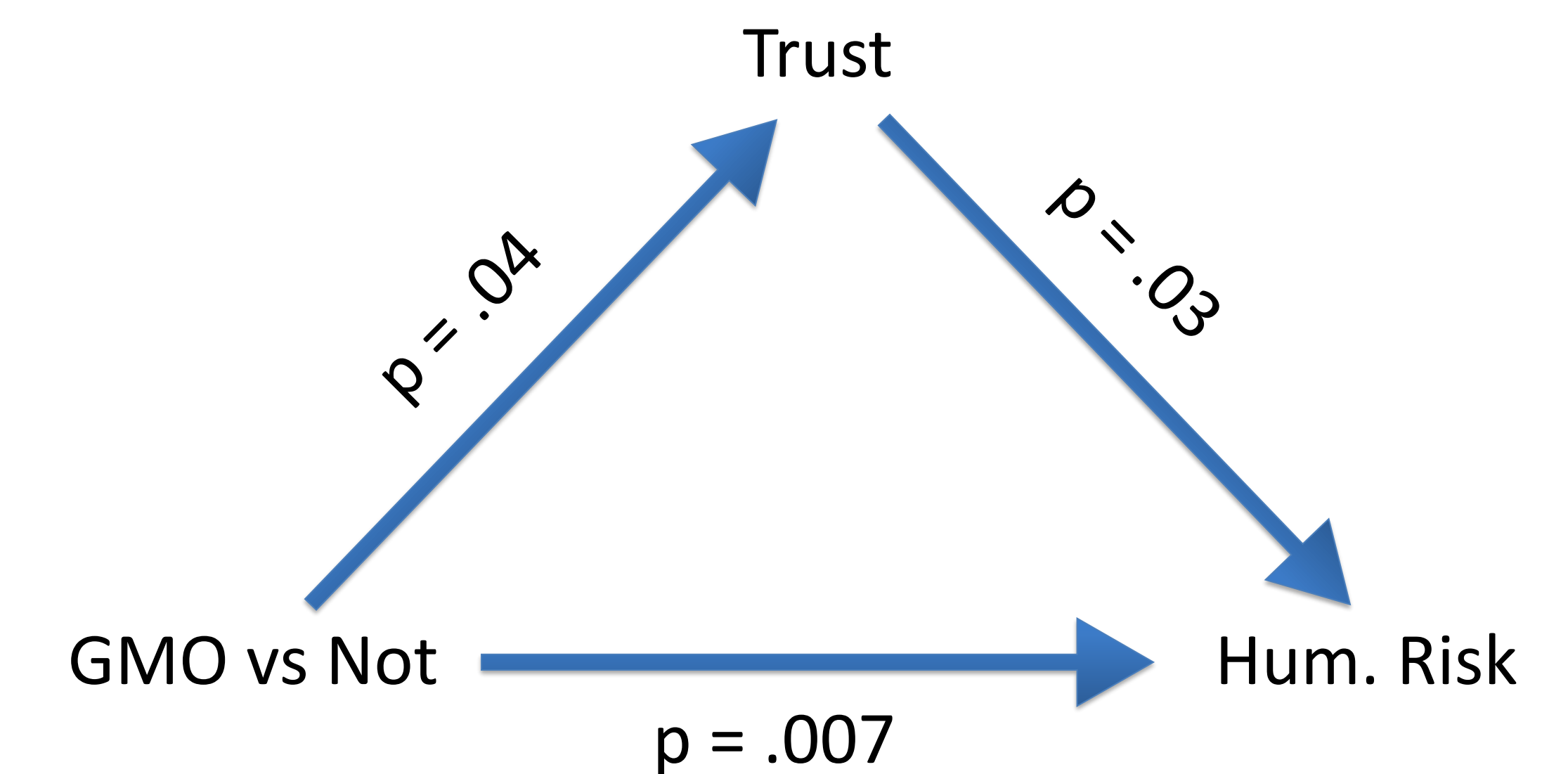


Risk Perception



Mediation

- Trust in science partially mediates GMO effect



Bootstrapped 95% a*b CI: (0.009, 0.343)

Discussion

- Participants trusted that scientists understand the risk of releasing genetically engineered dogs less than other dogs
- Participants perceived greater risks for pets and humans associated with releasing genetically engineered dogs, but not wild animals
- Trust mediated the effect of the genetically engineered dog vignette on risk perception

Follow-up

- Why is the GMO dog a particular risk for humans and pets?
- Pet anthropomorphism?
- Measured people's perceptions of risk associated with human, pet, and wild animal consumption of herbicide resistant GMO corn
- Multiple regression analysis revealed pet anthropomorphism scale ($p = .01$) and trust in science scale ($p < .001$) were significantly associated with perceptions of pet risk