

# Biological Evolution of Risk Attitudes: A Unifying Framework\_

Trenton G. Smith  
Washington State University

## Abstract

This paper will review and synthesize evidence on decision-making under uncertainty, with the aim of developing a simple unifying framework for studying behavior in risky environments. ``Risk" is defined and measured differently across disciplines (e.g., economics, personality research, public health), making comparisons difficult, but careful consideration of the evolutionary origins of these behaviors is likely to yield large dividends. I argue that regardless of one's definition, risk attitudes can be modeled as optimal responses to the prospect of binary (positive or negative) payoffs. Identification of these payoffs (along with an appropriate maximization currency) can greatly facilitate empirical research in a wide variety of settings. Moreover, research on the behavioral genetics of decision-making under uncertainty can be enriched by the development of specific hypotheses about evolutionary origins.