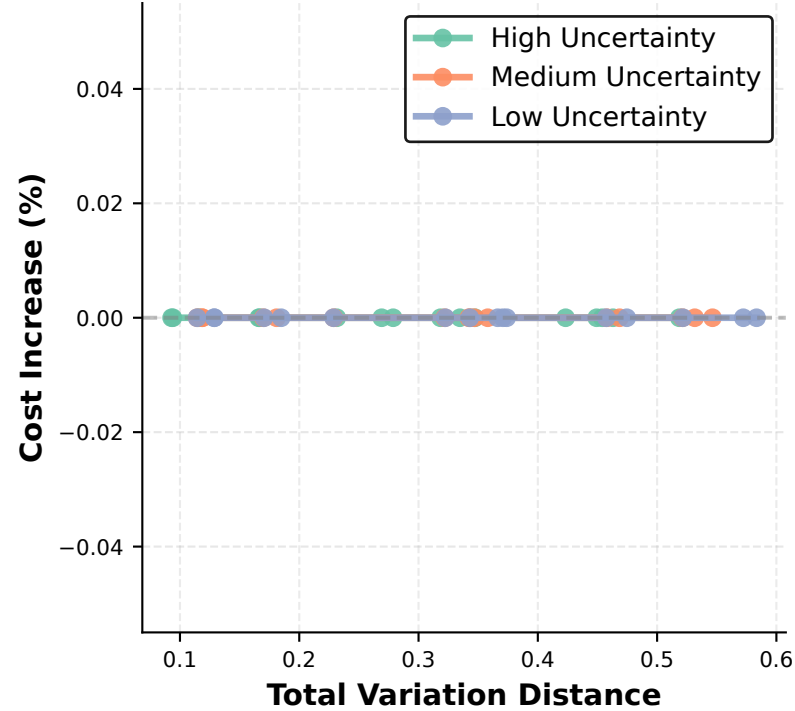
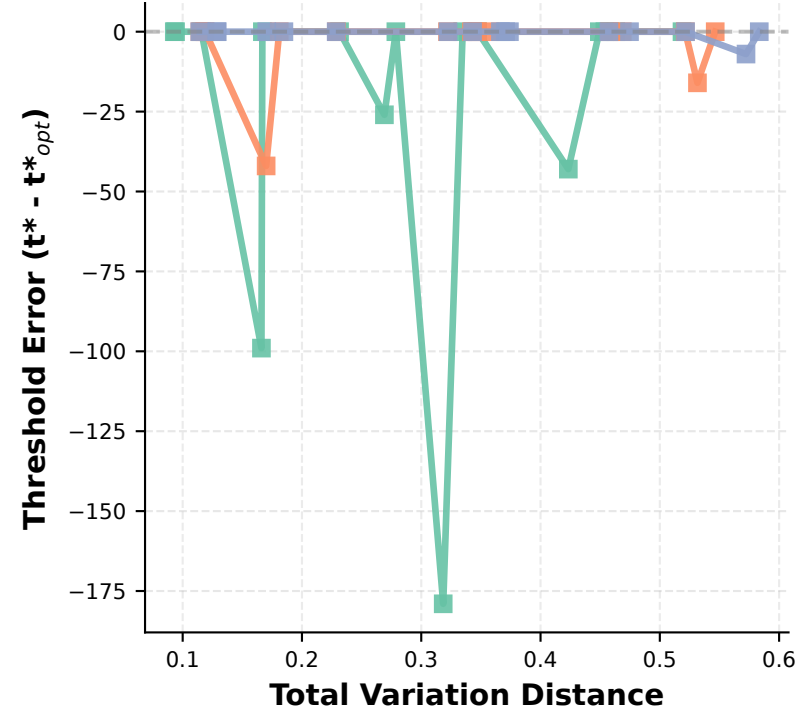


# Experiment 3: Impact of Prior Misspecification on Bayesian Ski Rental

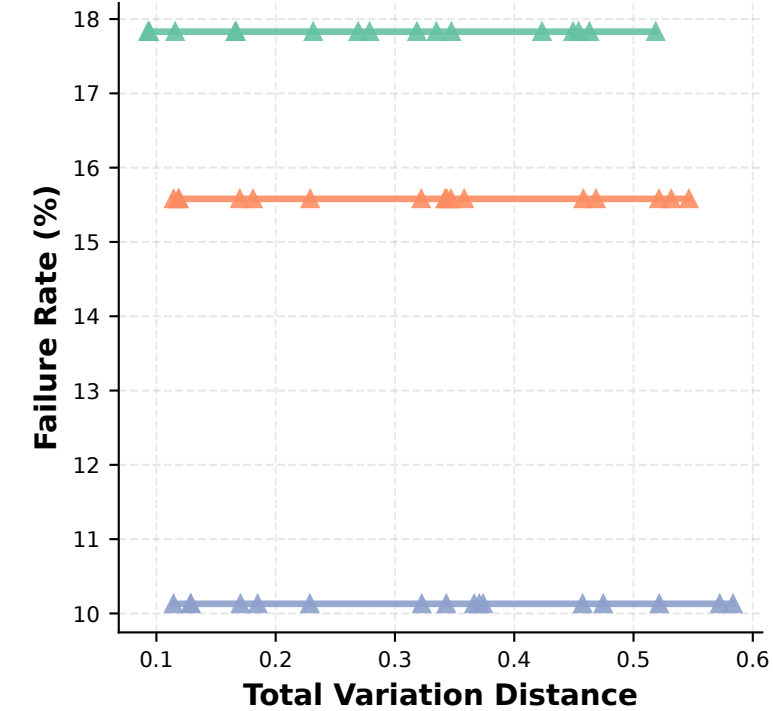
(a) Performance Degradation from Optimal



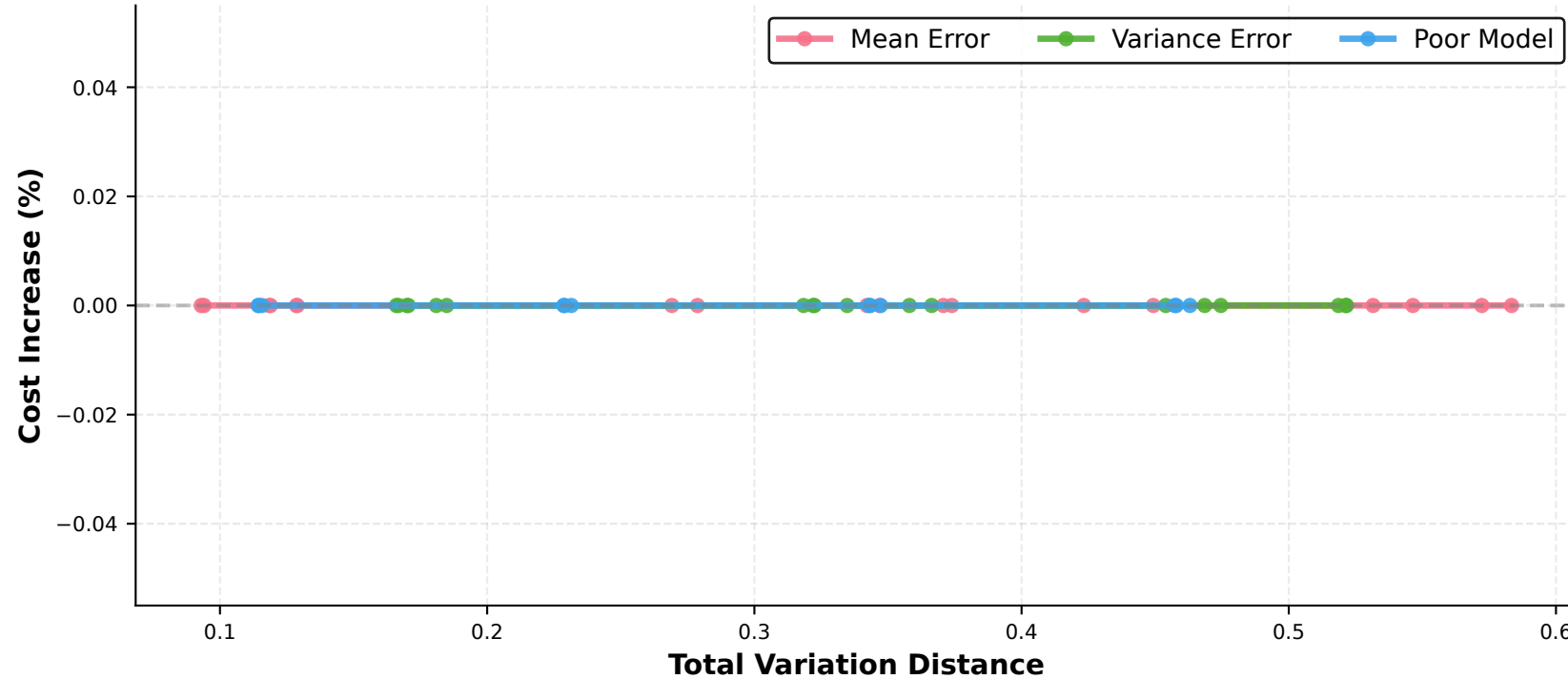
(b) Decision Threshold Deviation



(c) Failure Rate (CR > 1.5)



(d) Impact by Misspecification Type



## KEY FINDINGS

### High Uncertainty:

Avg cost increase: 0.000%  
Max cost increase: 0.000%  
Avg failure rate: 17.83%  
Max threshold error: 179

### Medium Uncertainty:

Avg cost increase: 0.000%  
Max cost increase: 0.000%  
Avg failure rate: 15.58%  
Max threshold error: 42

### Low Uncertainty:

Avg cost increase: 0.000%  
Max cost increase: 0.000%  
Avg failure rate: 10.13%  
Max threshold error: 7

## INTERPRETATION:

- Higher uncertainty → more sensitive to prior errors
- Threshold deviations can be large, but cost impact modest
- Algorithm is robust overall