

# Entropy of Query Reformulation Types (QRTs) – Repeated vs Non-repeated Tasks

## Transition Entropy

Higher = more randomness in transitions between different QRTs

Lower = transitions between QRTs are highly predictable

Transition Entropy of Query Reformulations – Repeated Task(s)



(a)

Transition Entropy of Query Reformulations – Non-repeated Task(s)



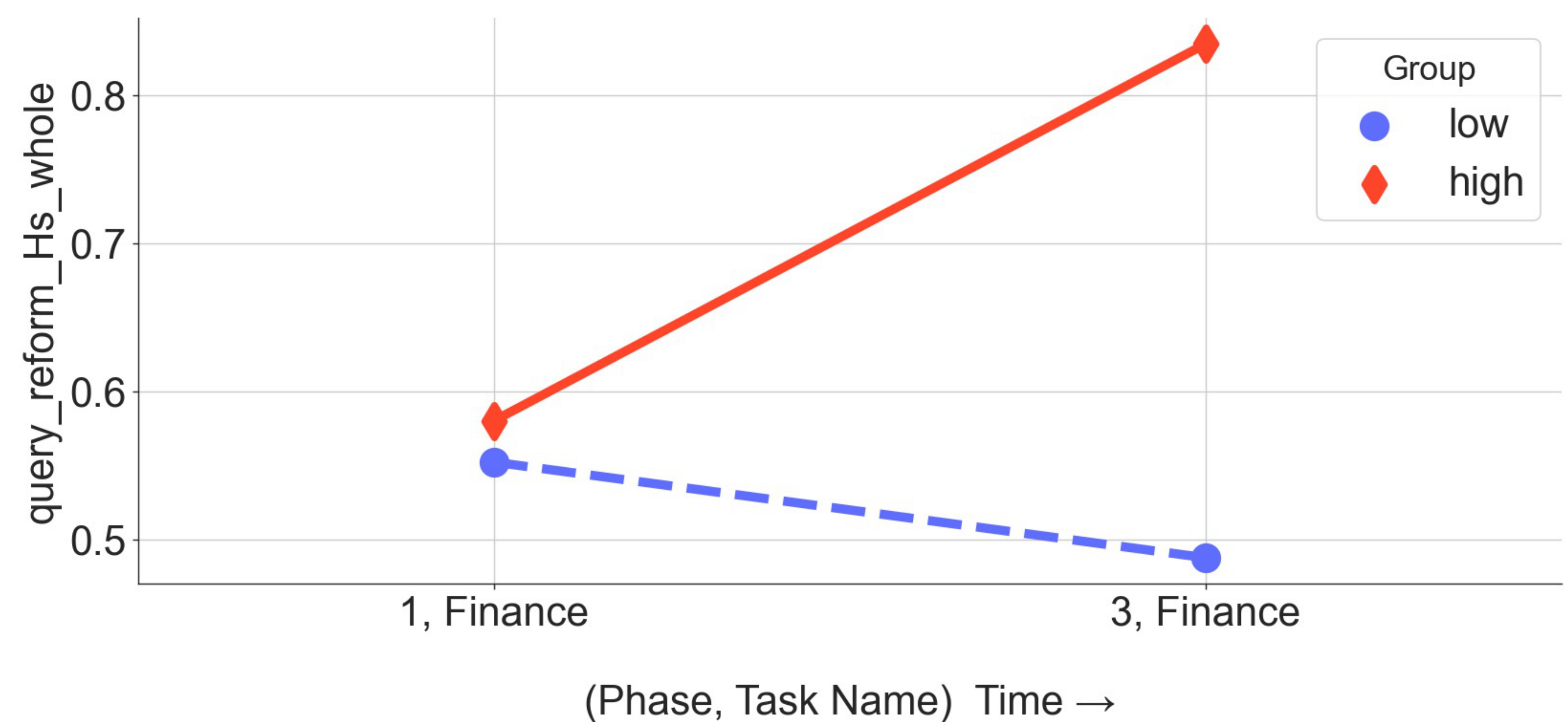
(b)

## Stationary Entropy

Higher = all QRTs are used uniformly

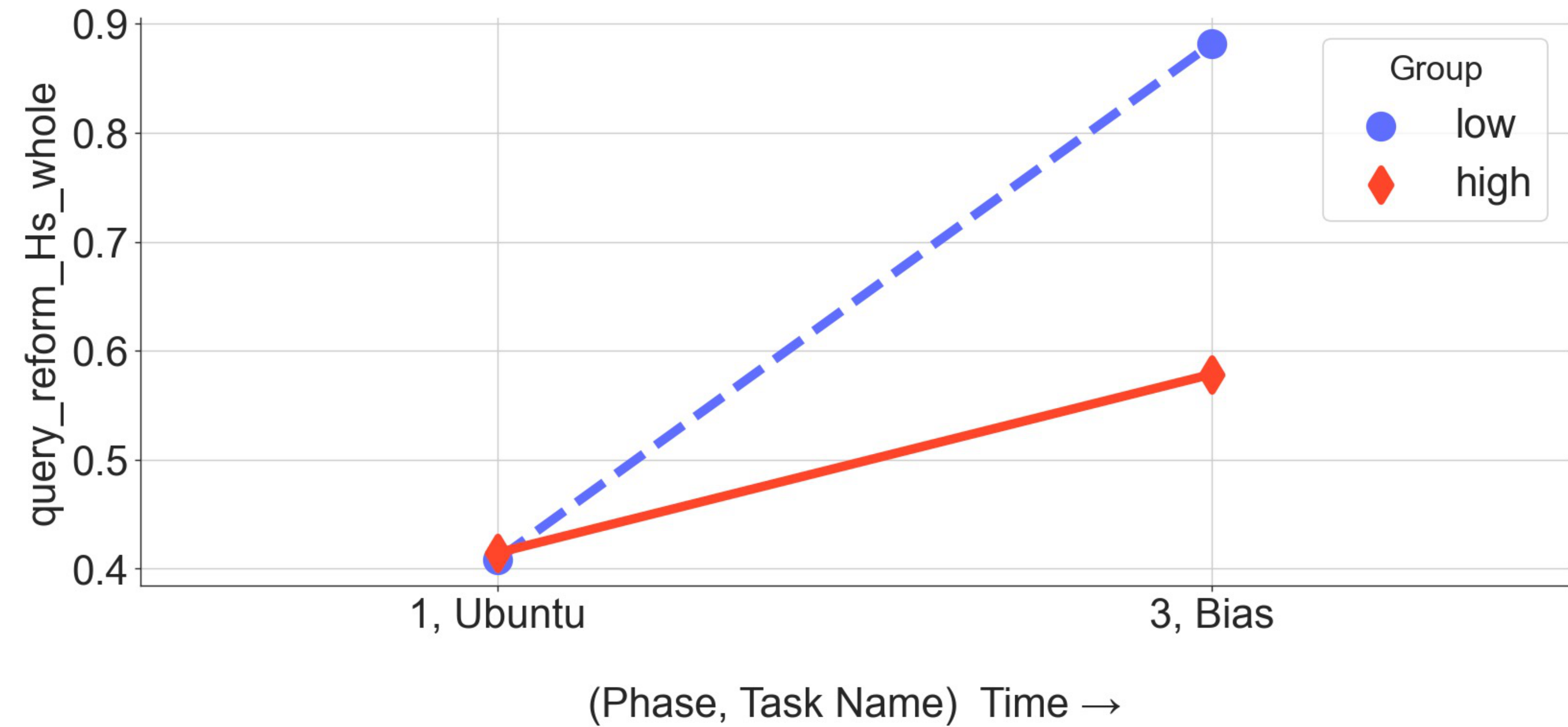
Lower = some QRTs are preferred over others

Stationary Entropy of Query Reformulations – Repeated Task(s)



(c)

Stationary Entropy of Query Reformulations – Non-repeated Task(s)



(d)

**Repeated Tasks: Personal Finance**

**Non-repeated task: Ubuntu Ethics, Algorithmic Bias**