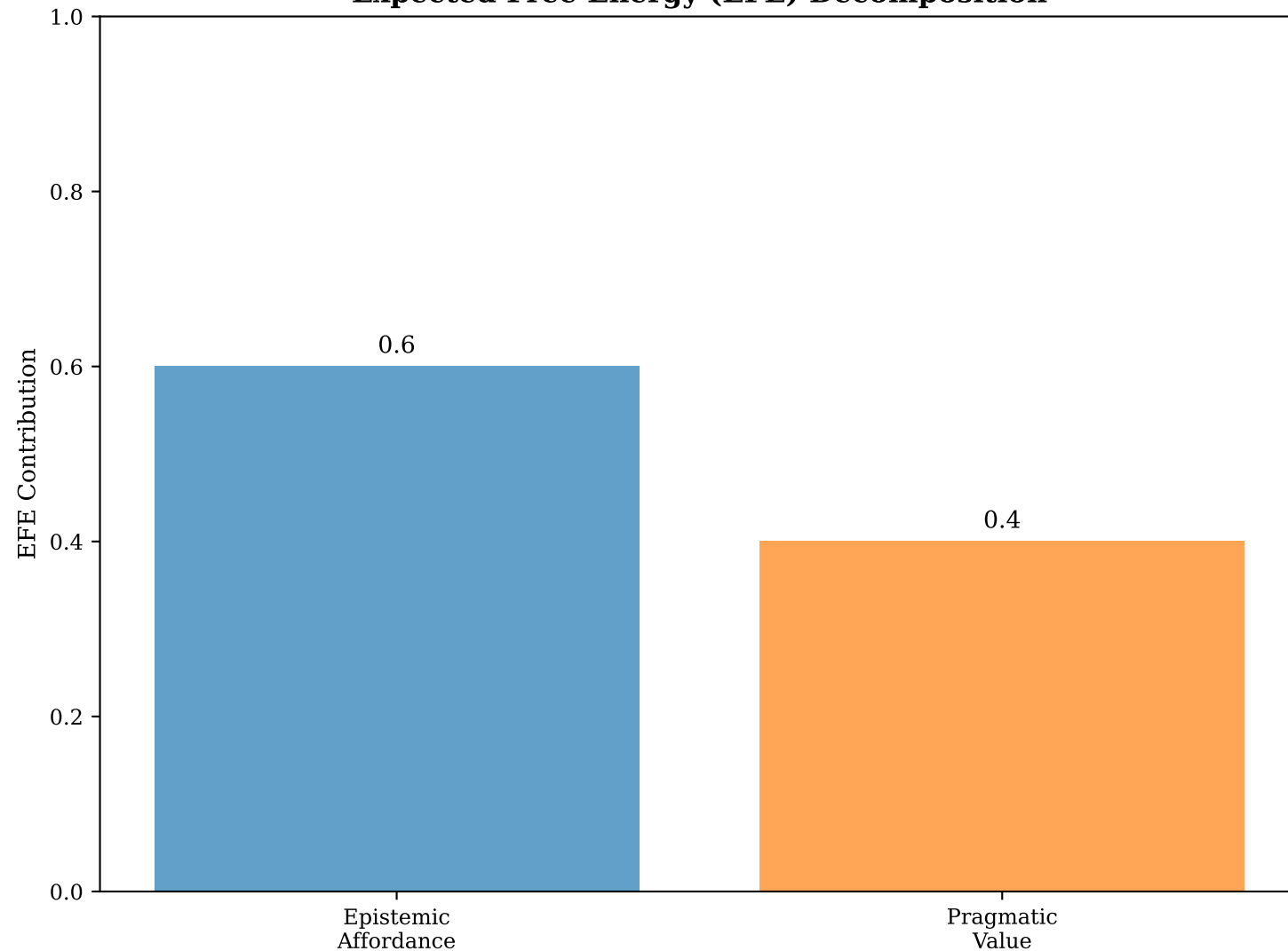


## Expected Free Energy (EFE) Decomposition



## Mathematical Formulation

$$\mathcal{F}(s, \pi) = \sum_{\tau=t+1}^T \mathbb{E}_{q(s_{\tau})} [\log q(s_{\tau}) - \log p(s_{\tau}|\pi)]$$

$$+ \sum_{\tau=t}^T \mathbb{E}_{q(s_{\tau})} [\log p(o_{\tau}|s_{\tau}) + \log p(s_{\tau}) - \log q(s_{\tau})]$$

$$\text{EFE}(\pi) = G(\pi) + H[Q(\pi)]$$