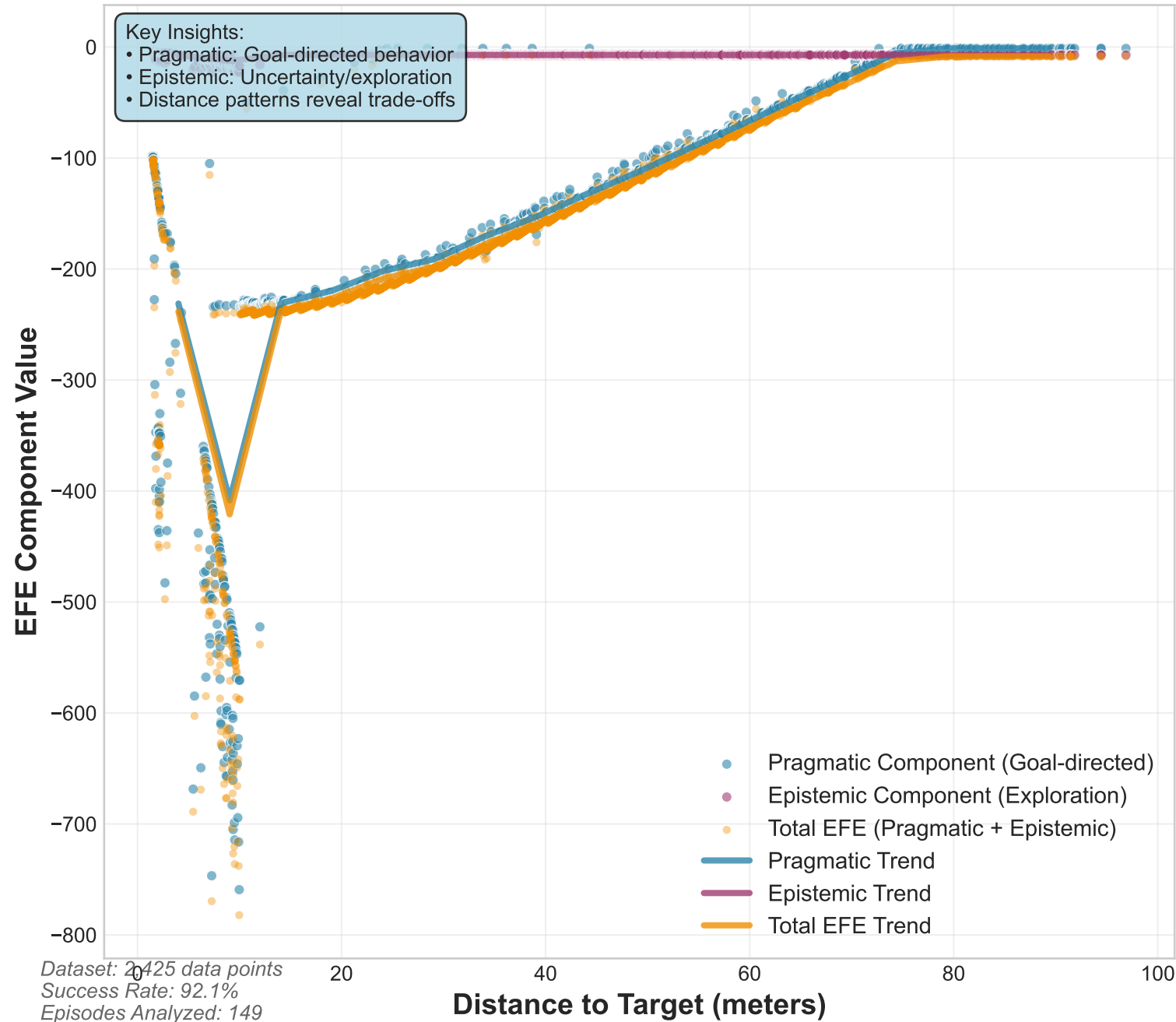**Expected Free Energy Components: Exploration-Exploitation Trade-off**
Autonomous Drone Navigation with Active Inference

EFE Components vs Distance to Target

Key Insights:
• Pragmatic: Goal-directed behavior
• Epistemic: Uncertainty/exploration
• Distance patterns reveal trade-offs

- Pragmatic Component (Goal-directed)
- Epistemic Component (Exploration)
- Total EFE (Pragmatic + Epistemic)
- Pragmatic Trend
- Epistemic Trend
- Total EFE Trend

Dataset: 2425 data points
Success Rate: 92.1%
Episodes Analyzed: 149

X-axis: Distance to Target (meters)
Y-axis: EFE Component Value

EFE Components: Success vs Failure Episodes

Statistical Significance:
Pragmatic: p = 0.0000
Epistemic: p = 0.0807
α = 0.05 threshold

Episode Outcome
- Success
- Failure

X-axis: EFE Component Type (Pragmatic / Epistemic)
Y-axis: Component Value

Active Inference: EFE = Pragmatic (goal-directed) + Epistemic (exploration/uncertainty reduction)