

MythTriage: Scalable Detection of Opioid Use Disorder Myths on a Video-Sharing Platform



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Motivation

- **Opioid-Use Disorder (OUD):** Leading cause of death in the U.S. (108K in 2023)
- Platforms like YouTube are alternatives for health info & recovery guidance
- Yet, online myths towards OUD fuel treatment hesitancy and distrust in public health. Understanding their prevalence is crucial for public health interventions.

GOAL: Scalably measure the prevalence of Opioid Use Disorder (OUD) Myths on a Video-Sharing Platform

Takeaways

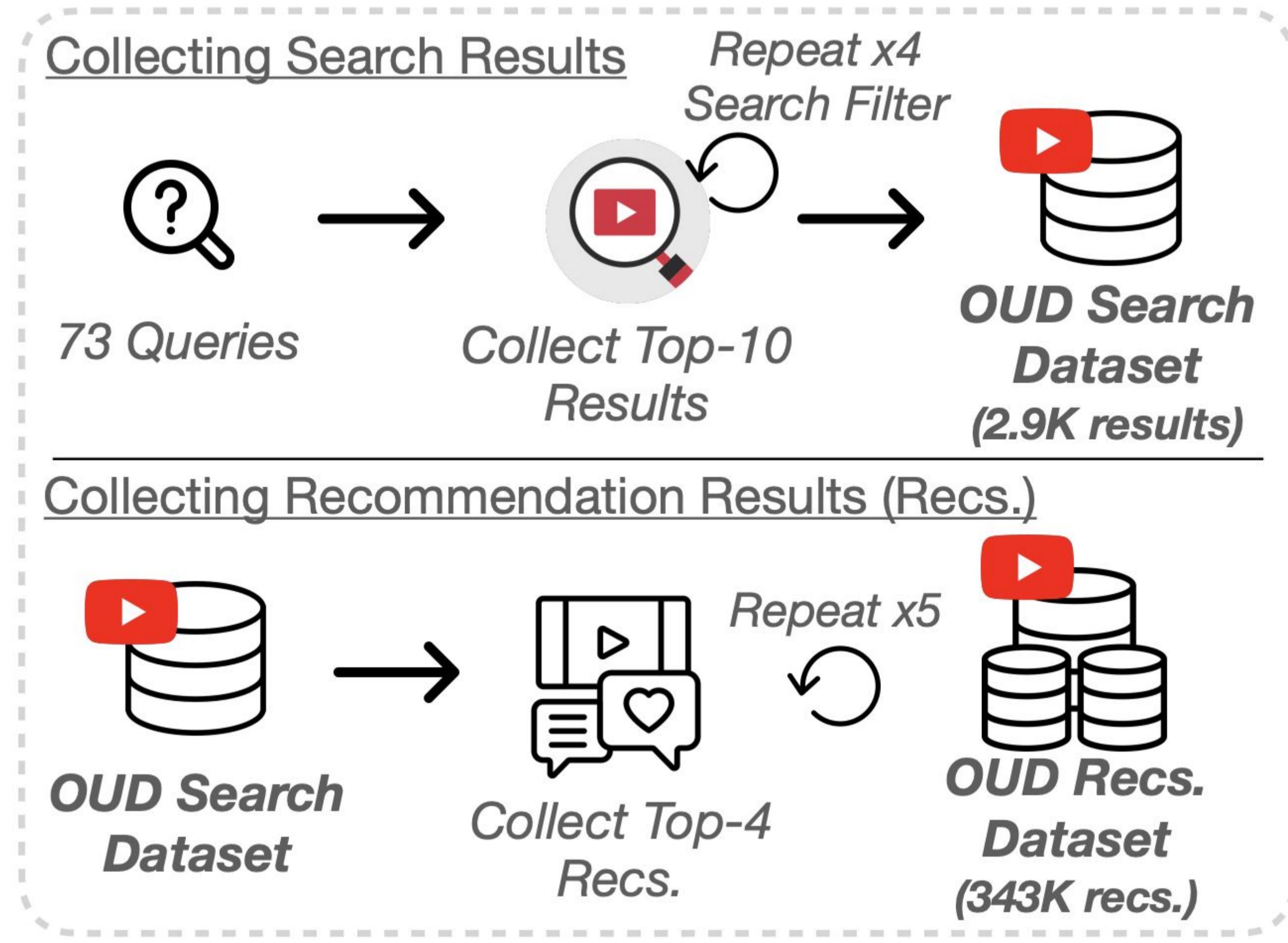
- MythTriage can...
- Provide **actionable insights** and inform potential **health interventions**
 - Integrate in **platform moderation workflows** to flag OUD myths.
 - Support third-party **platform audits**.

1. Data Collection

1.1 Curate Popular Opioid Topics and Queries



1.2 Collect Data on YouTube



2. Data Labeling for OUD Myths

2.1 Developing Data Annotation Scheme (with Experts!)

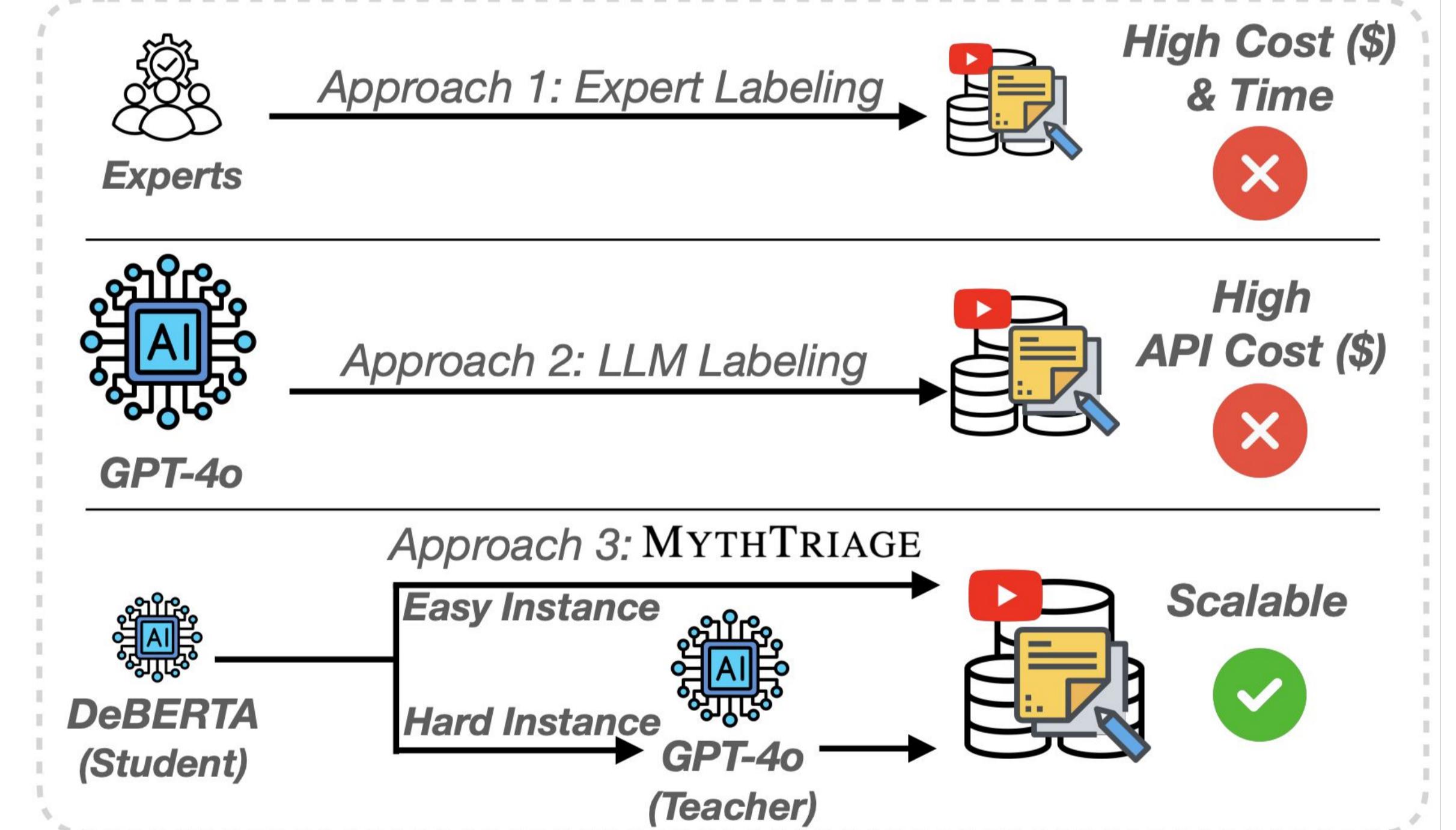


Example Myth 1: Medication-assisted treatments (MAT) are merely replacing one drug with another

"[suboxone] is an opioid so I don't count that as clean time." — (supports M1)

"[Buprenorphine] was so helpful in treating addiction." — (opposes M1)

2.2 Labeling for Myths in YouTube Videos



MythTriage Evaluations

Finding #1: MythTriage offers strong performance + **reduce cost by >76%.** **Scalable** for labeling!

Left: Macro F1, Right: Prop. deferred to GPT-4o

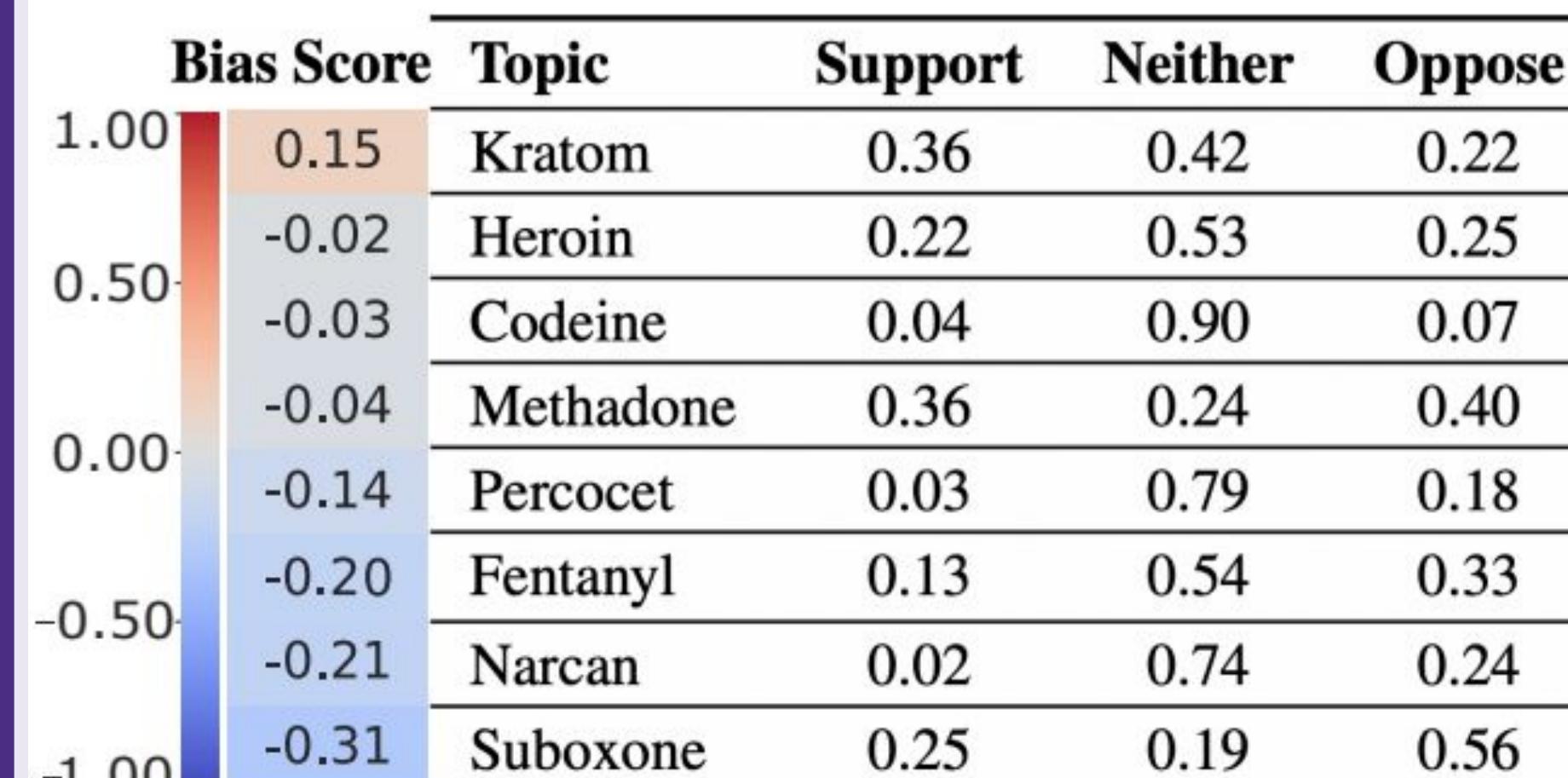
Myth	GPT-4o	DeBERTA	MYTHTRIAGE
M1	0.87 (1)	0.77 (0)	0.86 (0.60)
M2	0.85 (1)	0.70 (0)	0.80 (0.57)
M3	0.86 (1)	0.76 (0)	0.86 (0.67)
M4	0.82 (1)	0.62 (0)	0.76 (0.31)
M5	0.82 (1)	0.60 (0)	0.68 (0.28)
M6	0.86 (1)	0.76 (0)	0.83 (0.52)
M7	0.85 (1)	0.74 (0)	0.81 (0.44)
M8	0.87 (1)	0.78 (0)	0.81 (0.05)

Prevalence in YouTube Search

Finding #2: 20% of search results overall supports OUD myths.

Finding #3: Kratom has highest myth prevalence (36% supp. vs. 22% opp.)

Label Distribution



Prevalence in YouTube Recommendations

Finding #4: At level 1, **12.7%** of recommendation to myth-supporting videos link to other supporting videos, increasing to **22%** by level 5.

Recommendation Transition across Levels

