# "Sycophancy" or "Empathy"? DeepReflect – An LLM-based system designed to analyze and generate responses to personal queries

**Anonymous ACL submission**

## Abstract

Large language models (LLMs) are increasingly used for personal queries, recent research has involved analyzing responses under psychosocial framing. This work introduces DeepReflect, a comparative framework for analyzing human and AI generated responses to personal queries across multiple paradigms of values and social behavior. Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

## 1 Introduction

Large language models (LLMs) are increasingly engaged as conversational partners in personal domains, offering users not only informational guidance but also affective support (Zhang et al., 2025; Phang et al., 2025; Anthropic, 2025). Their appeal lies in features such as anonymity, immediacy, and the absence of social risk–qualities shared with online communities like Reddit. Yet, unlike human interlocutors, LLMs lack grounding in lived social contexts, raising critical questions about how their responses should be evaluated and trusted in a social context.

Emerging research often identifies two contrasting tendencies in LLM outputs in isolation: empathic responses resembling desirable and supportive therapeutic dialogue, and sycophantic ones that uncritically echo a user's perspective. Whether such responses are judged as empathic or sycophantic can depend on the psychosocial framework applied. This ambiguity underscores a critical gap: systematic methods are needed to analyze the responses and compare them to human written ones. This project uses the latter as proxies for normative ground truths, providing a measurement of these behaviors and values across the different psychosocial paradigms.

The comparisons made are across Rogerian person-centered therapy (PCT), Goffman's theory of face (ToF), and Rokeach's Value Survey (RVS) framework. The framework is designed to be extensible, allowing researchers to incorporate additional paradigms as the field evolves. Additionally, we use the insights from these analyses to inform the generation of customized responses to personal queries, exploring both supervised fine-tuning and prompt engineering as control mechanisms.

### 1.1 Research Questions

The context of queries can substantially shape LLM outputs, influencing not only personal questions posed by consumers but also analytical evaluations conducted by researchers, particularly within the LLM-as-a-judge paradigm. As research increasingly highlights patterns and concerns regarding the impacts of LLMs in personal queries and deliberation, there is a critical need for a framework that can analyze and compare responses across multiple value-based perspectives in contexts without clear normative answers, while also remaining extensible for researchers to incorporate additional paradigms as the field evolves. This motivates the following research questions:

**RQ1:** How can a technical framework that systematically analyzes and compares responses from humans and LLMs across various psychosocial value paradigms be designed?

**RQ2:** What inter- and intra-paradigm comparative insights can this framework yield across three different psychosocial frameworks (Goffman's theory of face, Rogerian PCT and Rockeach Values)

and how accurate are these when subjected to manual validation?

**RQ3:** What are the major observable differences between LLM and human responses to personal questions without clear normative ground-truth answers?

Finally, we examine how the results may influence consumer behavior and broader societal outcomes, and we discuss potential control mechanisms at both the pre-inference and post-inference stages. Our work enables a systematic comparative analysis of potential benefits and risks, and presents a framework for leveraging the analytical insights in the intentional design of response LLM generation.

### 1.2 Contributions

The key contributions of this work are: (1) the design and implementation of an extensible framework for analyzing and comparing responses to personal queries across three distinct psychosocial paradigms; (2) a comparative analysis under Rogerian Person-Centered Therapy (PCT), Goffman's theory of face and Rokeach's Value Survey (RVS) framework, illustrating how the choice of the paradigm can shape the perception of a response; and (3) insights into the relative strengths and weaknesses of LLM versus human responses, and how these insights can inform the generation of customized responses to personal queries.

## 2 Prior Literature

Contextualize your work and provide insights into major relevant themes of the literature as a whole. Use each paper (or theme) as a chance to articulate what is special about your paper. Start out broad - social background and theory - Discuss what other frameworks were considered like Virtue ethics and philosophical ones, CBT, Schwartz values etc. but why they were not chosen. Why I Focused on Rogerian psychotherapy as it is person centered - no specific diagnosis needed (or available).

### 2.1 Theoretical Foundations

### 2.2 Rogerian Psychotherapy

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#### 2.2.1 Psychosocial use and Empathic LLMs

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### 2.3 Rokeach Value Survey as an analytical instrument

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#### 2.3.1 Values and Ethics in LLM research

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### 2.4 Goffman's theory of face

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#### 2.4.1 Social Sycophancy in LLMs

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### 2.5 Gaps in the Literature and Open Challenges

In sum, as LLM-chatbots have become increasingly human-like and more users seek companionship with them, studies have highlighted both the advantages and disadvantages of their use. While some have raised concerns around "emotional dependence" (Fang et al., 2025), several others have explored empathic perceptions of LLM responses and found them advantageous not only in the field of medical support and mental health but also in everyday personal queries (Lee et al., 2024; Sorin et al., 2024). However, different psychosocial paradigms tend to frame LLM responses in markedly divergent terms. **What may be perceived as 'empathy'** under a psychotherapeutic paradigm could **instead be critiqued as an instance of 'social sycophancy'** by frameworks informed by Goffman's Theory of Face (Cheng et al., 2025). Importantly, in the absence of clear normative answers, the same statement may be categorised as 'face-preserving behaviour' or 'unconditional positive regard'.

DeepReflect provides a comparative framework to address this gap by assessing how evaluative judgments are shaped by the psychosocial paradigm through which a response is framed. Moreover, it is designed to be extensible by researchers, enabling the incorporation of both conventional paradigms, such as Rokeach's values framework, and contemporary discovery-based approaches, such as Anthropic's Values in the Wild (Huang et al., 2024), whereas prior work has tended to focus on a single paradigm in isolation.

Finally, our investigation of controlling generations avoids replicating prior work that seeks to mitigate sycophancy exclusively (Cheng et al., 2025). Instead of treating sycophancy as a defect to be eliminated in isolation, DeepReflect provides a system to situate response generation within extensible psychosocial frameworks. This ensures that outputs are not merely reactive to user prompts but can be guided by well-established instruments for values and personal-growth.

In practice, this involves chain-of-thought reasoning (Wei et al., 2022) that explicitly incorporates the chosen framework. Unlike approaches that mimic deliberation across hypothetical per-

spectives (Vijjini et al., 2024), this control strategy extends the contractualist, rule-based tradition of questioning developed in (Jin et al., 2022). Its key distinction lies in embedding the questioning within expert-informed guidelines. While these prior investigations emphasized plurality of viewpoints and normative exception-handling, this work foregrounds the role of pre-existing psychosocial instruments in shaping the ongoing, ever-changing conversations of personal reflection.

# 3 DeepReflect

## 3.1 System Design

Your model: Flesh out your own approach, perhaps amplifying themes from the 'Prior lit' section. Mention RQ1 from Section 1.1 and put a figure depicting the system architecture with the 2 potential users (researchers, consumers / participants) here.

### 3.1.1 Language Models

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### 3.1.2 Test Cases

Default synethetic test cases developed for sanity checks. Ensure that it is evident to the reader that these are test cases for DeepReflect as a software system and that these are distinct from the experiments conducted with the system design on the dataset are outlined in the methodology section. Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo wisi enim eget quam. Quisque libero justo, consectetuer a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetuer. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

### 3.1.3 Analyses

AITAH judgments are used as a proxy for Empathy (Empathy, Active Listening, Non-judgmental Acceptance, and Unconditional Positive Regard, Emotional Safety) under the Rogerian paradigm and Sycophancy. Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetuer odio sem sed wisi.

### 3.1.4 Generations

Response generations produced on the basis of analyses with one of two methods: 1. Supervised fine-tuning. 2. Chain-of-thought prompting. Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo wisi enim eget quam. Quisque libero justo, consectetuer a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetuer. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

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### 3.2 Dataset

Two datasets were constructed for this project using the Pushshift Reddit Archives (Baumgartner et al., 2020), originally collected between 2006 and 2023 through the Pushshift API[1]. Posts and comments were extracted from two subreddits: (1) `r/AITAH` and (2) `r/Anxiety`. For each post, three components were considered: the body the original post written by the author (OP), the most upvoted human-written comment, and the comment with which the OP engaged the most. Further details regarding data filtering and text preprocessing are provided in Section 4.

### 3.3 Subreddit Selection

The `r/AITAH` subreddit (short for "Am I The Asshole") is a community where users seek judgment on personal dilemmas and social interactions. With over three million members, it covers a wide range of topics, including relationships, family dynamics, workplace conflicts, and ethical questions. Users typically describe their situations in detail and ask the community to determine whether they were in the wrong (the "asshole") or not. The crowdsourced social judgments captured in these posts makes `r/AITAH` a valuable source for examining behaviors and values expressed in digital discussions of personal matters especially for the Goffman's ToF and Rogerian PCT paradigms.

The `r/Anxiety` subreddit is a community dedicated to individuals experiencing anxiety and related mental health challenges. Membership does not require a formal diagnosis or medical documentation, which enables broad analyses from psychosocial perspectives, particularly within the Rogerian PCT and RVS framework. Posts often center on personal struggles, coping strategies and the impact on daily life.

Demographic information at the subreddit level is not available. However, research indicates that Reddit users overall are predominantly American (49.9%), male (67%), and young (22% aged 18–29 years; 14% aged 30–49 years) (Barthel et al., 2016; Statista, 2025). While this dataset is not representative of the general population, it reflects a demographic more likely to engage with LLMs for personal queries. This demographic is broadly aligned with the WEIRD (Western, Educated, Industrialized, Rich, Democratic) population, and it must therefore be acknowledged that the results of this study are necessarily constrained to this population.

[1] https://github.com/pushshift/api

## 4 Methods

### 4.1 Data collection and preprocessing

We built a corpus from two public subreddits—AITAH, and Anxiety. For each subreddit, we filtered the top 1,000 most upvoted or most commented posts, excluding weekly megathreads, deleted/removed items, and AutoModerator entries. For every retained post we extracted (i) the most upvoted human-written comment and (ii) the comment that the OP engaged with most; all artifacts were saved to standardized CSVs for downstream analysis.

Text was cleaned with minimal, semantics-preserving preprocessing: we removed non-English items, de-identified obvious personal identifiers (usernames, emails, links), standardized whitespace and Unicode characters, and lightly constrained length (posts 50–500 words; comments 5–300 words) for comparability. We treat each Reddit thread (the post and its comments) as a single analytic unit during sampling, manual checks, and statistic aggregation, so correlated texts don't inflate results. This preserves thread integrity and prevents dependence-induced bias when comparing human and LLM responses drawn from the same conversation.We also removed exact and near-duplicate texts (specifically, crossposts, copypastes and bot repeats) to prevent inflated counts and biased comparisons.

Prompts (provided in the appendices) and model outputs are saved and logged by the codebase for reproducibility.

### 4.2 Procedures

For each selected post, we first prompt the target language model to generate an open-ended response to the body of the post. This response is appended to a table containing: (i) the model-generated response, (ii) the top upvoted human

comment, and (iii) the most engaged human comment (available for approximately half of the posts). The resulting dataset therefore consists of the original post body, paired with both human and AI responses.

**Feature Extraction**

Features are extracted at the sentence level, consisting of sentences from both the responses and post bodies that map onto psychosocial constructs. Specifically, we operationalize values and behaviors through four distinct paradigms: Rokeach's Value Survey (RVS), Rogers's person-centered therapy (PCT), Goffman's theory of face (ToF), and Anthropic's Value Tree. Next, we apply the LLM-as-a-judge paradigm (Zheng et al., 2023) to annotate features for both the post body and each response. Each text is evaluated for **a. values exhibited** by the author and **b. values incentivized** by the author.

One of the central research questions (RQ2) investigates how the choice of psychosocial framework shapes the interpretation of an LLM's response. Specifically, the same feature may be perceived as sycophantic under Goffman's theory of face, empathic under Rogerian PCT, or as reflecting a terminal or instrumental value under Rokeach's value framework.

To support this inquiry, the system constructs a structured analytical dataset that records: the original post, the set of extracted features for each of the 4 different types of responses (most-upvoted, most engaging, LLM 1, LLM 2) and the values or behaviors either exhibited or incentivized by each feature within any of the four applicable psychosocial paradigm(s).

This analytical dataset forms the basis for the subsequent analyses (see Section 6), where we analyze the differences in distributions of values in the responses obtained from reddit compared to the language model produced responses, within and across paradigms, to address RQ3.

### 4.3 Experiments

We conduct a series of experiments to investigate how psychosocial frameworks shape the interpretation of human and model-generated responses to personal queries. Our experimental design spans two dimensions: (i) response type (two forms of human responses and three language model responses) and (ii) domain (two distinct subreddits).

The AITAH dataset provides a natural proxy for "ground truth" in two paradigms: Empathy and Sycophancy. Here, crowd-sourced verdicts and their accompanying justifications offer a binary-valued reference point against which LLM behavior is evaluated.

**Experiment 1** evaluates the distributions of values and behaviors across the four response categories (human top-voted, human most-engaged, and two LLMs). We compare both the explicit values expressed by the respondent and the implicit values incentivized by the response under the four psychosocial paradigms - Rogerian PCT, Goffman's ToF, Anthropic's Value Tree and RVS.

The focus is on how these models differ in their coverage of values and behaviors relative to human responses. From the analyses obtained, we ascertain the occurrence and co-occurrences of values and behaviours in LLM and human responses to personal queries.

In **Experiment 2**, we evaluate how variations in prompt design influence the breadth of values expressed by the LLM. Specifically, we incorporate prompts that explicitly instruct the model to (i) generate a response most likely to be upvoted, and (ii) generate a response most likely to engage the author.

#### 4.3.1 Generations

A set of targeted experiments are run with DeepReflect's analyses to investigate the efficacy of control mechanisms to align the values in language model outputs more closely with those observed in human responses. The generation experiments are implemented using the following methods:

1. **With supervised fine-tuning (SFT)** [model: GPT-x, Paradigms: Empathy, Sycophancy] Experiments with Fine-tuning the language model on two synthetic datasets, generated to reflect (i) sycophantic and (ii) empathic behaviors. Additional experiments with temperature scaling for the Roger's PCT paradigm.

2. **Chain-of-thought prompting** [models: Claude; one of Qwen-3 or LLaMA-3.1; paradigms: Rogers PCT and RVS] Prompt augmentation experiments, where values with low frequency in LLM responses are explicitly introduced and emphasized (e.g., Rogers PCT: Unconditional positive regard, Psychological freedom; RVS: A comfortable life).

### 4.4 Construct Validity and Evaluation Metrics

To assess construct validity, one human annotator labeled 100 randomly sampled post–response pairs across all four paradigms for each response type. The PCT framework encompasses 15 behaviors, Goffman's ToF 5, the RVS 36, and Anthropic's Value Tree 18.

Inter-rater reliability reached Cohen's $\kappa$ above xx for all metrics, with an overall classification accuracy of yy. For the AITAH dataset, verdicts and accompanying statements in responses were used as proxies for Empathy and Sycophancy, each mapped onto five behaviors as defined by their respective theoretical traditions[2].

For the RVS and Anthropic Value Tree frameworks, which yield categorical distributions rather than binary judgments, pairwise error rates such as False Negative Rate (FNR) and False Positive Rate (FPR) are not directly applicable. To identify significant associations between features annotated under more than one distinct paradigm we construct contingency tables and use chi-square analysis with further details provided in section 6.

## 5 Results

A no-nonsense report of what happened.

### 5.1 Subsection

This subsection presents the main results.

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[2]This strategy is conceptually aligned with prior work on social sycophancy (Cheng et al., 2025)

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### 5.2 Subsection

This subsection presents additional results and analysis.

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### 5.3 Comparative Findings

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# 6 Analysis

Discussion of what the results mean, what they don't mean, where they can be improved, etc. These sections vary a lot depending on the nature of the paper.For papers reporting on experiments with multiple datasets, it can be good to repeat Methods/Results/Analysis in separate (sub)sections for each dataset.

The LaTeX and BibTeX style files provided roughly follow the American Psychological Association format. If your own bib file is named `custom.bib`, then placing the following before any appendices in your LaTeX file will generate the references section for you:

```
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## 6.1 Interpretation of Results

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## 6.2 Theoretical Implications

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### 6.3 Subsection

The framework is capable of producing several informative plots of research interest. One such summary plot is a heatmap showcasing the values exhibited in the OPs post against the responses to support the investigation of several other potential research questions in this theme of interest (discussed in the future work section). Vivamus commodo eros eleifend dui. Vestibulum in leo eu erat tristique mattis. Cras at elit. Cras pellentesque. Nullam id lacus sit amet libero aliquet hendrerit. Proin placerat, mi non elementum laoreet, eros elit tincidunt magna, a rhoncus sem arcu id odio. Nulla eget leo a leo egestas facilisis. Curabitur quis velit. Phasellus aliquam, tortor nec ornare rhoncus, purus urna posuere velit, et commodo risus tellus quis tellus. Vivamus leo turpis, tempus sit amet, tristique vitae, laoreet quis, odio. Proin scelerisque bibendum ipsum. Etiam nisl. Praesent vel dolor. Pellentesque vel magna. Curabitur urna. Vivamus congue urna in velit. Etiam ullamcorper elementum dui. Praesent non urna. Sed placerat quam non mi. Pellentesque diam magna, ultricies eget, ultrices placerat, adipiscing rutrum, sem.

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## 7 Conclusion

/textcolorblack!40Quickly summarize what the paper did, and then chart out possible future directions that anyone might pursue. Finish with a strong conclusion. Avoid subjective wording such as "unprecedented", "pioneering", or "groundbreaking".

### 7.1 Summary of Findings

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### 7.2 Future Directions

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## Limitations

API calls incur costs - funding and time limitations - can broaden DeepReflect to include other models (LLMs) and other psychosocial frameworks - especially frameworks on ethics which have been historically used in personal decision-making on which rich literature exists from historic accounts of deep human philosphical thought such as Kantian ethics, Utilitarianism, and Virtue Ethics, Stoicism, Gita - Vedic Philosoph, Buddhism. The Reddit dataset is rich and can be dissected in ways to aid a more nuanced understanding of the social values and influences that shape our personal lives and interactions. ACL 2023 requires all submissions to have a section titled "Limitations", for discussing the limitations of the paper as a complement to the discussion of strengths in the main text. This section should occur after the conclusion, but before the references. It will not count towards the page limit. The discussion of limitations is mandatory. Papers without a limitation section will be desk-rejected without review. While we are open to different types of limitations, just mentioning that a set of results have been shown for English only probably does not reflect what we expect. Mentioning that the method works mostly for languages with limited morphology, like English, is a much better alternative. In addition, limitations such as low scalability to long text, the requirement of large GPU resources, or other things that inspire crucial further investigation are welcome.

## 8 Ethics Statement

We encourage all authors to include an explicit ethics statement on the broader impact of the work, or other ethical considerations after the conclusion but before the references.

The ethics statement will not count toward the page limit (8 pages for long, 4 pages for short papers).

## Acknowledgements

The authors would like to thank Santa Claus and Rudolph the red nose reindeer who had a very shiny nose. And if you ever saw it, you would even say it glows. All of the reindeer loved him, as they shouted out with glee, "Rudolph the red nose reindeer, you'll go down in history!"

## References

Rie Kubota Ando and Tong Zhang. 2005. A framework for learning predictive structures from multiple tasks and unlabeled data. *Journal of Machine Learning Research*, 6:1817–1853.

Galen Andrew and Jianfeng Gao. 2007. Scalable training of $L_1$-regularized log-linear models. In *Proceedings of the 24th International Conference on Machine Learning*, pages 33–40.

Anthropic. 2025. How people use Claude for support, advice, and companionship. https://www.anthropic.com/news/how-people-use-claude-for-support-advice-and-companions Accessed: 2025-08-25.

Isabelle Augenstein, Tim Rocktäschel, Andreas Vlachos, and Kalina Bontcheva. 2016. Stance detection with bidirectional conditional encoding. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pages 876–885, Austin, Texas. Association for Computational Linguistics.

Michael Barthel, Galen Stocking, Jesse Holcomb, and Amy Mitchell. 2016. Reddit news users more likely to be male, young and digital in their news preferences. Pew Research Center Report.

Jason Baumgartner, Savvas Zannettou, Brian Keegan, Megan Squire, and Jeremy Blackburn. 2020. The pushshift reddit dataset. *arXiv preprint arXiv:2001.08435*.

Myra Cheng, Sunny Yu, Cinoo Lee, Pranav Khadpe, Lujain Ibrahim, and Dan Jurafsky. 2025. Social sycophancy: A broader understanding of llm sycophancy. *arXiv preprint arXiv:2505.13995*.

Cathy Mengying Fang, Auren R. Liu, Danry Valdemar, Eunhae Lee, Samantha W. T. Chan, Pat Pataranutaporn, and Pattie Maes. 2025. How ai and human behaviors shape psychosocial effects of chatbot use: A longitudinal randomized controlled study. *arXiv preprint arXiv:2503.17473*, 1(1).

James Goodman, Andreas Vlachos, and Jason Naradowsky. 2016. Noise reduction and targeted exploration in imitation learning for Abstract Meaning Representation parsing. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 1–11, Berlin, Germany. Association for Computational Linguistics.

Mary Harper. 2014. Learning from 26 languages: Program management and science in the babel program. In *Proceedings of COLING 2014, the 25th International Conference on Computational Linguistics: Technical Papers*, page 1, Dublin, Ireland. Dublin City University and Association for Computational Linguistics.

McCain Huang, Durmus et al. 2024. Values in the wild: Discovering and analyzing values in real-world language model interactions. *arXiv preprint arXiv:2401.00095*.

Zhijing Jin, Sydney Levine, Fernando Adauto Gonzalez, Ojasv Kamal, Maarten Sap, Mrinmaya Sachan, Rada Mihalcea, Joshua B. Tenenbaum, and Bernhard Schölkopf. 2022. When to make exceptions: Exploring language models as accounts of human moral judgment. In *Advances in Neural Information Processing Systems 35 (NeurIPS 2022)*. NeurIPS 2022 conference paper; OpenReview version available at OpenReview.

Cinoo Lee, Yifan Fang, Yifan Zhang, Yang Liu, Xiaojun Wang, Xiang Li, and Jie Zhang. 2024. Empathic responses in llms: A study of user perceptions. *arXiv preprint arXiv:2505.13995*, 1(1).

Jason Phang, Michael Lampe, Lama Ahmad, Sandhini Agarwal, Cathy Mengying Fang, Auren R. Liu, Valdemar Danry, Eunhae Lee, Samantha W.T. Chan, Pat Pataranutaporn, and Pattie Maes. 2025. Investigating affective use and emotional well-being on ChatGPT. Technical report / preprint, OpenAI & MIT Media Lab. Accessed: 2025-08-25.

Mohammad Sadegh Rasooli and Joel R. Tetreault. 2015. Yara parser: A fast and accurate dependency parser. *Computing Research Repository*, arXiv:1503.06733. Version 2.

V. Sorin, D. Brin, Y. Barash, E. Konen, A. Charney, G. Nadkarni, and E. Klang. 2024. Large language models and empathy: Systematic review. *J Med Internet Res*, 26:e52597.

Statista. 2025. Reddit global active user distribution. Statista Statistics Portal. Accessed: 2025-08-24.

Anvesh Rao Vijjini, Rakesh R. Menon, Jiayi Fu, Shashank Srivastava, and Snigdha Chaturvedi. 2024. Socialgaze: Improving the integration of human social norms in large language models. arXiv preprint arXiv:2410.08698. Submitted October 11, 2024.

Jason Wei, Xuezhi Wang, Dale Schuurmans, Maarten Bosma, Brian Ichter, Fei Xia, Ed Chi, Quoc Le, and Denny Zhou. 2022. Chain-of-thought prompting elicits reasoning in large language models. arXiv preprint arXiv:2201.11903.

Yutong Zhang, Dora Zhao, Jeffrey T. Hancock, Robert Kraut, and Diyi Yang. 2025. The rise of ai companions: How human-chatbot relationships influence well-being. *arXiv preprint arXiv:2506.12605*. Version 2, submitted on June 14 and revised June 17, 2025.

Lianwen Zheng, Yizhou Wang, Xiaoyang Liu, Haoran Zhang, Mingjie Li, and Jie Zhang. 2023. Judging llm-as-a-judge with mt-bench and chatbot arena. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Association for Computational Linguistics.

# A Example Appendix

This is a section in the appendix.