Empath: Enhancing LLMs' Empathy in Emotional Support Conversation with Group MoELoRA and Experience RAG

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Abstract

This paper aims to enhance the empathetic capabilities of Emotional Support Conversation (ESC) models. To this end, we propose *Empath*, a novel ESC framework under the guidance of a licensed psychotherapist and grounded in Bohart and Greenberg's Empathy Theory (Bohart, 1997), designed to improve Person, Affective, and Cognitive Empathy. At its core, *Empath* features the Group MoELoRA architecture and Experience RAG. Group MoELoRA personalizes support by tailoring character perspectives and dynamically adjusting support strategies based on emotional and contextual cues, while Experience RAG enriches interactions by aligning seeker concerns with relevant counselor experiences for deeper understanding. To train *Empath*, we introduce EmpathSupport-52k, a large-scale, multi-role, multi-strategy psychological counseling dataset. Extensive experiments demonstrate that *Empath* surpasses baseline models in both empathetic engagement and emotional support effectiveness.

1 Introduction

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"It is easier to place oneself in the other's cognitive space if one has actually been there." — Adam Smith

Mental health is crucial to overall well-being, work productivity, and social functioning. In today's fast-paced, high-pressure society, mental health issues are increasingly prevalent. According to the WHO's 2022 World Mental Health Report, about 1 in 8 people globally suffer from mental disorders (Organization, 2022). However, limited access to mental health services remains a challenge due to high costs and a shortage of counselors.

Fortunately, the rapid development of large language models (LLMs), such as GPT-4 (Achiam et al., 2023), Claude-3.5 (Anthropic, 2024), and Llama3 (Dubey et al., 2024), has brought significant progress in dialogue generation, providing



Figure 1: An example of the psychological counseling process: Building on Bohart and Greenberg's Empathy Theory, we enhance the model's empathy across the Person, Affective, and Cognitive dimensions. The framework selects the most suitable counseling role from the role bank, dynamically adapts strategies based on consultation progress, and retrieves the counselor's relevant experiences to foster deeper empathy throughout the conversation.

seekers with a certain level of comfort and support. However, the response style of these models is generally inclined toward that of a neutral assistant, lacking distinctive language styles and deep empathy, making it difficult to meet seekers' emotional support needs. To address this limitation, Liu *et al.* (Liu et al., 2021) conducted innovative research based on Hill's Helping Skills Theory (Hill, 2020) of psychological support. By fine-tuning emotional datasets annotated with support strategies, the study endowed dialogue systems with emotional support capabilities.

Nevertheless, previous work has rarely focused on enhancing the model's **empathetic capabilities** grounded in comprehensive and professional

empathy theory, even though empathy is a key fac-057 tor in improving the effectiveness of psychological 058 counseling (Watson, 2016; Constantino et al., 2008; 059 Watson and Greenberg, 2011; Sandage and Worthington Jr, 2010). This limitation makes it difficult 061 for existing psychological counseling systems to ef-062 fectively evoke deep emotional resonance in those 063 seeking help, diminishing their experience and the overall support effectiveness. To address these challenges, we propose Em*path*, an emotional support framework developed 067

under the guidance of a licensed psychotherapist and grounded in Bohart and Greenberg's Empathy Theory (Bohart, 1997), which defines empathy across three dimensions: Person Empathy (understanding seeker's background), Affective Empathy (adapting to seeker's emotional changes), and Cognitive Empathy (comprehending seeker's thoughts and experiences). The full definition is provided in Appendix A. As shown in Figure 1, *Empath* enhances psychological counseling by (1) tailoring character perspectives for personalized support, (2) dynamically adjusting support strategies based on emotional and contextual cues, and (3) aligning the seeker's concerns with relevant counselor experiences to foster deeper understanding. *Empath*'s core comprises the Group MoELoRA architecture and Experience RAG. Group MoELoRA employs decoupled Mixture-of-Experts (MoE) to fine-tune role-specific and strategy-driven responses independently, ensuring not only the controllability of each content but also seamless integration of the two during dialogue generation. Empath selects the optimal counseling role from a predefined bank, predicts adaptive support strategies to drive the Group MoE, and incorporates experiential input via Experience RAG to enhance empathetic engagement.

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To train *Empath*, we propose a three-stage prompt-based data derivation method under the guidance of a licensed psychotherapist. Leveraging GPT-40¹ for language style transfer and experience modeling on the PsyQA dataset (Sun et al., 2021), resulting in EmpathSupport-52k(*ES*-52k)—a large-scale, multi-role, multi-strategy psychological counseling dataset with explicit character experiences, that advances research on empathetic dialogue systems.

In summary, our contributions are mainly summarized as follows:

• A Principled Solution Rooted in Classic The-

¹https://openai.com/index/gpt-4o-system-card

ory: We introduce *Empath*, a novel emotional support framework inspired by B&G Empathy Theory, effectively enhancing traditional methods in Person Empathy, Affective Empathy, and Cognitive Empathy. 107

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- A Novel Network Design: Group MoELoRA enables the decoupling of character styles and support strategies, allowing for independent control while naturally integrating both to generate empathy dialogues. Additionally, Experience RAG enhances empathy by injecting role-specific experiences into the dialogue.
- A New Large-Scale Dataset: We construct ES-52k, a multi-role, multi-strategy psychological counseling dataset that notably advances research on empathetic dialogue systems.
- State-of-the-Art Performance: *Empath* achieves substantial improvements across multiple evaluation metrics, including automatic, model-based, and human assessments. It demonstrates superior Role-based empathetic capabilities and enhances the diversity and effectiveness of emotional support, as detailed in our experimental results.

2 Related Work

Emotional Support Conversation Models As large language models (LLMs) improve, their applications in psychological counseling have grown rapidly. Current research focuses on two main areas: 1) Generating and optimizing psychological counseling datasets (Liu et al., 2021; Sun et al., 2021; Qiu et al., 2023; Chen et al., 2023; Zhang et al., 2024; Mishra et al., 2023), which involves collecting Q&A data or using LLMs to create highquality simulated datasets for model training; 2) Selecting and optimizing counseling strategies (Kang et al., 2024; Tu et al., 2022; Cai et al., 2023; Cheng et al., 2022; Jia et al., 2023), which involves studying counselor dialogue patterns and support strategies, as well as automating strategy selection.

Retrieval Augmented Generation Retrieval-Augmented Generation (RAG) (Lewis et al., 2020) is a technique that enhances the performance of LLMs by integrating external knowledge bases. It consists of three main steps: indexing, retrieval, and generation. RAG improves the authenticity

Datasets	Multi-turn Explicit		Therapist's	Therapist's	Empathy			
	Dialogues	Strategy	Experience	Persona	Person	Affective	Cognitive	
Psych	1	×	×	×	×	×	×	
PsyQA	×	1	er 🗸	1	✓	✓	×	
SmileChat	1	1	er.	1	1	1	×	
CPsyCounD	1	×	er 🗸	×	×	×	1	
PsyDTCorpus	1	X	er.	1	1	×	1	
SoulChatCorpus	1	×	er 🗸	×	×	×	×	
EmpathSupport	 Image: A set of the set of the	 Image: A second s	 Image: A second s	✓	 Image: A second s	 Image: A second s	 Image: A second s	

Table 1: A comparison between ES-52k and other psychological therapy datasets.

Criteria	Statistics
# Dialogues	52,782
Avg. Turns of Dialogue	8.68
Avg. Char of Dialogue	1,201.52
Avg. Char of Seeker text	30.43
Avg. Char of Counselor text	93.05

Table 2: Statistics of ES-52k dataset.

154and usefulness of LLM outputs by retrieving rel-155evant information from a knowledge base and us-156ing it as context. This technique is widely ap-157plied in fields such as medicine, business, and law,158and has shown significant success in dialogue sys-159tems (Xiong et al., 2024; Huang et al., 2024; Louis160et al., 2024), demonstrating strong practical value.

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Mixture of Experts Mixture of Experts (MoE) uses a *routing mechanism* to allocate input data to multiple sub-models (experts) for efficient computation, with a gating network selecting the best expert for training and inference. Recent studies (Liu et al., 2024; Luo et al., 2024) have combined MoE with multi-task learning to improve task collaboration. Some studies (Shen et al., 2023; Dou et al., 2024) also integrate Low-Rank Adaptation (LoRA) into MoE, replacing expert sub-models with LoRA modules to speed up training and improve resource utilization, yielding promising results.

3 EmpathSupport-52k Dataset

In this section, under the guidance of a profes-174 sional psychotherapist and while preserving the 175 original content's professional quality and thera-176 peutic validity, we propose a three-stage prompting 177 method to construct the ES-52k dataset. Specif-178 ically, we apply GPT-40¹ to augment an exist-179 ing counseling dataset with role-specific language 180 styles and character-based experiences. The con-181 struction prompts are illustrated in Figures 10, 11, and 12, while examples of the raw and generated 183

data are shown in Figures 13, 14, 15, and 16. Further details are provided in Appendix C.1.



Figure 2: Distribution of counseling topics.

3.1 Data Source

Our work builds on the PsyQA (Sun et al., 2021) dataset, a well-established corpus of Chinese psychological counseling dialogues collected from the YiXinLi platform². It covers nine major topics with over 22k questions and 56k responses. We proportionally sampled 14k single-turn QA pairs as raw data and processed them while ensuring that the professional quality and therapeutic validity of the original content remain intact.

3.2 Data Process

To enhance empathy capabilities, we propose a three-stage prompting dataset derivation method, which further optimizes the PsyQA dataset.

Converting Single-Turn to Multi-Turn. Singleturn QA pairs in vanilla PsyQA do not fully capture the interactive nature of psychological counseling dialogues. To address this, we adapted methods 185

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²https://www.xinli001.com



Figure 3: The Different Architectures for (a) MoE, (b) LoRA, (c) MoELoRA and (d) Group MoELoRA.

like Smile (Qiu et al., 2023) and designed a firststage prompt that guided GPT-40 to convert singleturn dialogues into approximately 10-turn multiturn counseling exchanges.

208Incorporating Role Experiences. We collected209role-specific experiences from TV scripts and used210GPT-40 to transform them into first-person nar-211ratives. These role experiences were integrated212into the second-stage prompt, ensuring they were213applied only within specific strategies (e.g., self-214disclosure, affirmation and reassurance).

215Assigning Role-Specific Styles and Personalities.216We created a role bank containing profiles, speak-217ing styles, and background information for each218role. A style rewriting guidebook was included in219the third-stage prompt, directing GPT-40 to imbue220the supporter with a unique personality and speak-221ing style that aligned with the role's characteristics.

3.3 Data Filtering and Statistics

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To ensure the quality of the derived dataset, we applied rigorous screening to the 126k samples in the ES-52k. First, we conducted format checks to confirm adherence to the one-on-one counseling dialogue structure, and filtered responses to align with the eight predefined support strategies. Next, we screened dialogues based on length, retaining only those with 8-10 turns. Finally, using the *datajuicer* filtering tool (Chen et al., 2024), we excluded samples with perplexity (PPL) above 1, 500. After filtering, obtained 52, 782 high-quality samples.

Table 2 and Appendix C.3 present the statistics for ES-52k, with an average of 8.68 turns per conversation. Figure 2 shows the distribution of topics. Table 1 presents a comparison between ES-52k and other psychological counseling datasets.

4 Preliminary: MoELoRA

MoELoRA combines the Mixture-of-Experts (MoE) architecture with Low-Rank Adaptation (LoRA) to improve efficiency and resource utilization. As illustrated in Figure 3(c), it utilizes MoE's routing mechanism to dynamically select experts, while employing LoRA to update parameters.

In MoE, the input x is routed to N most suitable experts $\{E_1, E_2, \ldots, E_N\}$, where each expert processes a portion of the input, and the results are combined. The output o of the forward propagation process in MoE is expressed as:

$$o = \sum_{i=1}^{N} G(x_i) \cdot E_i(x), \qquad (1)$$

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where $G(x_i)$ denotes the activation degree of the *i*th expert, and $E_i(x)$ is the output of the *i*-th expert.

LoRA reduces the number of parameters to be trained by introducing two low-rank matrices, A and B, which replace the update of the original parameter matrix in LLMs. The forward propagation during fine-tuning in LoRA is expressed as:

$$o = W_0 x + \Delta W x = W_0 x + \frac{\alpha}{r} \cdot BAx, \quad (2)$$

where W_0 is the pre-trained weight matrix, ΔW is replaced by the low-rank matrices A and B, and α is a hyperparameter adjusting the impact of the low-rank matrices.

By combining MoE and LoRA, MoELoRA reduces computational overhead while expanding model scale. The forward propagation process in MoELoRA for N experts is represented as:

$$o = W_0 x + \Delta W x = W_0 x + \frac{\alpha}{r} \sum_{i=1}^{N} \omega_i \cdot B_i A_i x, \quad (3)$$

where ω_i denotes the weight of the *i*-th expert. This combination reduces parameter count and computational complexity, improving the efficiency of large-scale model training and inference.



Figure 4: The *Empath* framework consists of the Group MoELoRA architecture and three inference components: (a) Role Matching, (b) Strategy Prediction, and (c) Role-based Experience RAG. Group MoELoRA embeds roles and strategies into two separate MoELoRA groups, with their output weights dynamically controlled by the Gate.

5 Empath Framework

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This section presents the *Empath* framework (Figure 4), based on B&G's Empathy Theory, covering role matching, strategy prediction, and experiencedriven empathy. Section 5.1 details the **Group MoELoRA** architecture, which uses grouped gating to refine role features and strategy weights, addressing person and affective empathy. Section 5.2 introduces **Role-based Experience RAG** to enhance cognitive empathy. Section 5.3 compares Group MoELoRA with MoELoRA and LoRA. Appendix B provides more on role alignment and strategy prediction using BERT.

5.1 Group MoELoRA

A key challenge in multi-role psychological counseling is matching the right counselor to the helpseeker's emotional needs and dynamically adjusting response strategies. To address this, we propose the Group MoELoRA architecture, which integrates multiple roles and strategies into a single model using two sets of MoELoRA modules. This enables seamless role switching and accurate strategy prediction, providing personalized and effective emotional support.

As illustrated in Figure 4, the Group MoELoRA architecture enhances the traditional MoELoRA approach by decoupling the *N* counselor roles and

M support strategies, processing these two types of information independently. The system employs two distinct MoELoRA modules: one dedicated to selecting the appropriate counseling role and the other for choosing the corresponding response strategy. Specifically, the input role and strategy embedding vectors are passed through two separate gating networks to activate the relevant counseling roles and support strategies. Each role and strategy is associated with an independent expert sub-model, and these modules are dynamically integrated to produce the final output. 300

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Group Gating. In contrast to the vanilla MoELoRA that assigns expert weights based on the input x, Group MoELoRA utilizes role profiles and strategy definitions as inputs to the gating network to determine the expert weights in each group. Unlike Neeko's (Yu et al., 2024) single MoE structure, our approach decouples roles and strategies into separate groups, allowing finer control, greater adaptability, and more flexible management in complex tasks like psychological counseling.

Specifically, let N represent the number of role profiles and M the number of strategy descriptions, each encoded by two global embedding matrices: $E_{\text{role}} \in \mathbb{R}^{N \times d}$ and $E_{\text{strategy}} \in \mathbb{R}^{M \times d}$, where ddenotes the embedding dimension. Each row of these matrices corresponds to a distinct embedding.



Figure 5: Role-based Experience RAG.

Thus, the embeddings for the i-th role and the j-th strategy are expressed as:

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$$\begin{cases} e^{i}_{\text{role}} = E_{\text{role}}[i,:] & e^{i}_{\text{role}} \in \mathbb{R}^{d} \\ e^{j}_{\text{strategy}} = E_{\text{strategy}}[j,:] & e^{j}_{\text{strategy}} \in \mathbb{R}^{d}. \end{cases}$$
(4)

Next, we apply linear transformations to the role and strategy embeddings using weight matrices $W_{\text{role_gate}} \in \mathbb{R}^{N \times d}$ and $W_{\text{strategy_gate}} \in \mathbb{R}^{M \times d}$ to compute each expert's contribution weight for role r_i and strategy s_j :

$$\begin{cases} w_i = \text{Softmax}(W_{\text{role}_\text{gate}} \cdot e_{\text{role}}^i) \\ w_j = \text{Softmax}(W_{\text{strategy}_\text{gate}} \cdot e_{\text{strategy}}^j). \end{cases}$$
(5)

Role-Strategy Group Activation. Consider N counseling roles and M support strategies. Each role and strategy is trained and updated using the LoRA structure. For each role or strategy, the input embedding vector e_* passes through its respective gating network $G_*(x)$ to generate the activation weight $G_*(x)_k$ for the k-th expert.

The output $o_*(x)$ for each role or strategy is:

$$o_{*}(x) = W_{0}x + \sum_{k=1}^{N/M} G_{*}(x)_{k} \cdot E_{k}(x)$$

$$= W_{0}x + \frac{\alpha}{r} \sum_{k=1}^{N/M} \omega_{*k} \cdot B_{k}A_{k}x,$$
(6)

where ω_{*k} denotes the weight assigned to each role or strategy for the *k*-expert, and A_k and B_k are the low-rank matrices. Here, * is a placeholder for either role or strategy, depending on the group.

This approach independently activates the most relevant role and strategy based on the input, ensuring optimal emotional support for the help-seeker.

5.2 Role-based Experience RAG

This section introduces our Role-based Experience RAG method to enhance the model's cognitive empathy, as illustrated in Figure 5. To bridge the cognitive gap between the seeker and the counselor, we leverage character experiences as a medium for alignment. **Roles are selected based on the strong relevance of their experiences to common empathetic topics.** The full experience collection procedure is detailed in Appendix F. 353

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We first extract character-related plots from scripts or movies. For each role *i*, its experience P_i is converted into an emotional embedding vector v_i . The prompting process and emotional dimensions are detailed in Appendix 9. The resulting emotional vectors of all roles are aggregated into a vector database V, formulated as:

$$V = \{ (v_1, P_1), (v_2, P_2), \dots, (v_t, P_t) \}.$$
 (7)

During inference, given the *j*-th seeker's background X_j , we compute its emotional vector v_j and calculate the cosine similarity between v_j and each of the selected role's emotional vector v_i in vector database V to find the best match:

imilarity
$$(v_j, v_i) = \frac{v_j \cdot v_i}{\|v_j\| \|v_i\|}.$$
 (8)

The role experience with the highest similarity is chosen and added as the model's context prompt.

5.3 Discussion

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Compared with vanilla LoRA and MoELoRA, Group MoELoRA extends the vanilla architecture by decoupling role and strategy representations in emotional support tasks, and fine-tuning expert subnetworks via LoRA. This design offers the following key benefits: 1) Lower cost and higher efficiency: Supports embedding multiple roles and strategies without training each combination separately, reducing training cost and speeding up inference. 2) Dynamic switching and scalability: Inspired by Neeko (Yu et al., 2024), gated mechanisms and low-rank matrices enable flexible switching between roles and strategies. Our method treats strategy as a controllable factor, allowing expert psychologists to intervene and reduce fatal errors. 3) Reduced strategy bias in LLMs: Following Kang et al. (Kang et al., 2024), an external strategy planner helps avoid inherent strategy bias, improving the objectivity and diversity of responses.

Models	A	utoma	tic Eva	aluatio	n.	LLM Evaluation.					
i i i i i i i i i i i i i i i i i i i	D-1	B-1	B-4	F1	R-L	Flu.	RoA.	Ski.	Emp.	Hel.	Saf.
	Closed-source Models										
ChatGPT	39.79	19.05	2.11	24.86	16.61	2.05	3.72	3.27	3.52	2.09	1.00
GPT-4	34.19	17.32	1.88	18.94	13.52	2.09	3.67	3.22	3.51	2.12	1.00
	Open-source Models										
Qwen2.5-7B-Instruct	40.60	18.03	2.00	23.14	13.66	2.05	3.68	3.20	3.41	2.15	1.00
InternLM2.5-7B-Chat	39.99	17.64	1.99	22.67	13.40	2.07	3.73	3.23	3.42	2.20	1.00
Llama3.1-8B-Instruct	57.68	14.55	1.63	18.96	12.11	1.95	3.31	3.12	3.27	2.14	1.00
ChatGLM4-9B-Chat	38.78	18.37	2.15	23.42	14.08	2.04	3.66	3.16	3.40	2.25	1.00
				Domai	n-speci	fic Mo	dels				
MeChat	47.66	23.68	3.16	26.97	17.00	2.08	3.70	3.30	3.73	2.16	1.00
SoulChat	41.35	21.32	2.45	24.58	15.39	2.05	3.74	3.29	3.61	2.18	1.00
SoulChat2.0	51.09	22.16	3.22	26.89	16.98	2.11	3.77	3.23	3.68	2.11	1.00
CPsyCounX	38.95	22.19	2.96	26.70	16.44	1.96	3.68	3.24	3.66	2.09	1.00
ChatCounselor	46.12	19.57	1.95	22.56	14.07	1.84	3.24	3.06	3.30	1.97	1.00
EmoLLM-V3.0	<u>53.71</u>	19.32	2.61	24.16	15.57	2.02	3.66	3.24	3.66	2.12	1.00
Empath w/ Group MoELoRA	46.82	<u>25.55</u>	<u>4.09</u>	<u>30.08</u>	<u>19.06</u>	2.11	3.82	3.34	3.81	<u>2.23</u>	1.00

Table 3: Results of automatic and LLM evaluation. The best score is **in-bold**, while the second best score is <u>underlined</u>. The MeChat model serves as a role-irrelevant baseline. The green numbers show the model comparison based on the *Empathy* metric.

6 Experiments

6.1 Baselines

To evaluate the performance of the proposed *Empath* framework, we performed comparative experiments with three types of models: closed-source, open-source and domain-specific: 1) Closed-source models: ChatGPT (OpenAI, 2022), GPT-4 (Achiam et al., 2023). 2) Open-source models: Qwen2.5-7B-Instruct (Team, 2024b), InternLM2.5-7B-Chat (Cai et al., 2024), Llama3.1-8B-Instruct (Touvron et al., 2023), ChatGLM4-9B-Chat (GLM et al., 2024). 3) Domain-specific models: Smile (Qiu et al., 2023), Soulchat (Chen et al., 2023), SoulChat2.0 (Xie et al., 2024), CPsy-CounX (Zhang et al., 2024), ChatCounselor (Liu et al., 2023), EmoLLM V3.0 (Team, 2024a).

6.2 Implementation Details

416We randomly split the ES-52k dataset into train-
ing, validation, and test sets with a ratio of 8:1:1,
from which 500 samples were drawn from the
test set for LLM evaluation, including 200 sam-
ples further used for human evaluation. We utilize
the GPT-40-2024-11-20 model¹ to construct the
dataset and emotion-experience pairs in the Role-

based Experience DataBase. For training *Empath*, the Llama3.1-8B-Instruct model is selected as the base model, trained on a single 80GB A800 GPU. Specific hyperparameter settings are detailed in Table 6 in the Appendix E.

6.3 Evaluation Metrics

To comprehensively evaluate the model's response performance, we assess our model from three perspectives: automatic metrics, LLM evaluation, and human evaluation.

Automatic Evaluation: We employed standard metrics including Distinct-1 (Li et al., 2015), BLEU-1, BLEU-4 (Papineni et al., 2002), F1-Score, and ROUGE-L (Lin, 2004).

LLM Evaluation: Following prior work (Chen et al., 2023; Zhang et al., 2024; Zhao et al., 2024), we adopted and extended evaluation metrics to suit our task, resulting in six metrics: *Fluency (3 points), Role Alignment (5 points), Skillfulness (5 points), Empathy (5 points), Helpfulness (3 points),* and *Safety (1 points)*. Evaluations were performed using the GPT-40-mini-2024-07-18 model¹. Details are in Table 7, Appendix G.

Human Evaluation: We invited 18 volunteers to evaluate 200 samples under the supervision of a



Figure 6: The Win/Loss comparison of **Empath** against MeChat, evaluated by human assessors.

psychotherapist. Details are in Appendix G.3.

6.4 Experimental Results

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Comparison Study. The comparison results are summarized in Table 3 and Figure 8. In the Automatic Evaluation, *Empath* significantly outperforms the Baselines across several metrics. In the LLM Evaluation, our *Empath* also achieves higher scores in both *Skillfulness* and *Empathy*, demonstrating its strength in psychological counseling dialogues.

While both *Empath* and MeChat are built on the PsyQA dataset, the key difference is that *Empath* incorporates role-based counselor personas. This design leads to a 0.08 improvement in *Empathy* scores over MeChat, suggesting the effectiveness of persona integration in enhancing empathetic responses. To further assess the difference between *Empath* (role-relevant) and MeChat (roleirrelevant) model, we conducted a human evaluation. As shown in Figure 6, *Empath* consistently outperforms MeChat across all metrics, particularly in *Empathy* performance. These results further support the efficacy of Group MoELoRA in incorporating diverse counselor personas for improved empathetic modeling.

6.5 Ablation Study

As discussed in the *Empath* framework (§5), we 474 designed three key components: Role Match, Strat-475 egy_Predict, and Role-based Experience RAG. To 476 validate the contributions of these components, we 477 conducted ablation studies by removing the role 478 and strategy components, with roles and strategies 479 selected according to their proportion for compar-480 ison. The results shown in Figure 7 indicate that 481 removing any component causes a significant drop 482 in the *Empathy* metric. Notably, the absence of 483 an appropriate consultation response strategy prior 484



Figure 7: The comparison between Empath and Empath w/o Role_Predict, Empath w/o Strategy_Predict, and Empath w/o Role-based Experience RAG.

to text generation leads to a considerable decline across all metrics.

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6.6 Case Study

This section presents a case study comparing the *Empath* model with baselines. As shown in Figures 19 and 20 in the Appendix, base models like Qwen2.5-7B-Instruct lack sufficient skillfulness and empathy in counseling dialogues. In contrast, domain-specific models such as EmoLLM-V3.0, shown in Figures 21 and 22 in the Appendix, exhibit some level of empathy but struggle to manage the entire counseling process due to the absence of professional psychological theory support. However, as demonstrated in Figure 23 in the Appendix, our *Empath* model demonstrates strong empathy and effectively manages the counseling process.

7 Conclusion

In this paper, we propose the *Empath* framework, based on B&G's Empathy Theory, to enhance empathy across the Person, Affective, and Cognitive dimensions. To strengthen Person and Affective empathy, we introduce the ES-52k, which includes diverse roles and strategies, integrated into a single model using the Group MoELoRA architecture. For Cognitive empathy, we present the Role-based Experience RAG method to bridge the cognitive gap between the seeker and the counselor. Extensive experiments show the model's potential in the emotional support domain.

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514 Limitations

Our model relies on an external BERT model for 515 pre-matching and predicting roles and strategies, 516 with the predicted results then fed into the ESC 517 model's gating network to activate specific roles 518 and strategies for completing emotional support di-519 520 alogues. This process somewhat limits the model's practicality in real-world scenarios. Future research could focus on integrating role matching and strat-522 egy prediction directly within the ESC model, significantly enhancing its usability and flexibility. 524

525 Ethical Considerations

Data Usage Agreement

This research utilizes the PsyQA (Sun et al., 2021) dataset, which has been obtained with proper autho-528 rization and in compliance with data usage agreements. We ensure that all data used in this study is 530 handled responsibly and in accordance with ethical standards, respecting the privacy and confidential-532 ity of individuals involved. All necessary agree-533 ments and permissions for the use of this dataset 534 have been signed, ensuring full compliance with 535 data protection regulations. 536

Model Usage Policy

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It is important to note that there are significant differences between the strategies and modes used by the model for psychological support and those employed in real-life psychological counseling. Given the variance in user situations, the model's outputs may not always align with professional therapeutic guidance and may inadvertently affect the emotional well-being of users. Therefore, the model should be strictly used for academic research purposes only, and its commercial use is prohibited. Caution must be exercised in applying the model outside controlled environments, and its use for actual therapeutic practices is not recommended without professional oversight.

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A Bohart and Greenberg's Empathy Theory

Bohart and Greenberg (Bohart, 1997) differentiated among three types of empathy: **Person**, **Affective**, and **Cognitive**.

- 1. **Person empathy**: Person empathy is an understanding of the whole person in situ. It requires an understanding of what clients have experienced, including their histories and life stories, to acquire a holistic understanding of who they are and how they developed.
- 2. Affective empathy: refers to being attuned to the affective experience of others as revealed by their body language and narratives to understand clearly the impact and significance of events for them.
- 3. **Cognitive empathy**: Cognitive empathy is the capacity to understand and make sense of clients' narratives.

B Role Matching and Strategy Prediction

This section discusses role matching and strategy prediction methods based on B&G's Empathy Theory to improve the model's Person and Affective empathy. we employ a Chinese RoBERTa-large (Cui et al., 2020) model³. We randomly sample 10k data from the ES-52k dataset, with an 8:1:1 train-validation-test split. For both models, we set the following parameters: Epoch =4, $learningrate = 1e^{-5}$, and batchsize = 16.

Role Matching. As shown in Figure 4(A), we preprocess the dataset by concatenating the question (Q_i) , the detailed description (D_i) , and the topic keywords (K_i) of the *i*-th seeker to form the seeker's background information X_i . Specifically, we represent this as:

$$X_i = \begin{bmatrix} [Ques]Q_i; [Desc]D_i; [Keys]K_i \end{bmatrix}$$
(9)

where the semicolon (;) denotes text concatenation. Then, based on each role's relevant experience and personality traits, we manually assign the most suitable golden role R_i for this background information.

During training, we use the golden role R_i as the label to train the BERT model. This allows the model to predict the role Y_{pred} during inference based on the seeker's background information X_i .

Task	Categories	Prec.	Recall	F1
	Sun Wukong	91.44	92.49	91.96
	Hanamichi Sakuragi	99.81	99.82	99.81
	Juliet	97.37	96.74	97.06
ing	Doraemon	93.48	96.84	95.13
tch	Conan Edogawa	93.05	94.69	93.86
Role Matching	Big Big Wolf	83.77	81.88	82.81
le l	Naruto Uzumaki	98.32	97.43	97.87
\mathbf{R}_{0}	Xiao Longnü	100.00	99.71	99.85
	Harry Potter	87.77	77.08	82.08
	Weighted avg.	93.89	93.92	93.88
	Question	87.55	83.01	85.22
=	Resta. or Parap.	84.38	79.48	81.86
tio	Reflection.	77.75	75.71	76.71
dic	Self-disclosure	45.95	50.78	48.25
Pre	Affir. & Reass.	75.41	79.22	77.27
3y]	Suggestions.	78.24	79.65	78.94
ateg	Information	63.45	63.98	63.71
Strategy Prediction	Others	26.36	14.47	18.68
	Weighted avg.	75.73	75.44	75.54

Table 4: The results of role matching and strategy prediction for each role and strategy.

Strategy Prediction. As shown in Figure 4(B), after determining the consulting role, we concatenate the *j*-th seeker's background information and the context of the consulting dialogue (C_j) to form new input information Z_j , represented as:

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$$Z_j = [[\operatorname{Ques}]Q_j; [\operatorname{Desc}]D_j; [\operatorname{Keys}]K_j; [\operatorname{Cont}]C_j]$$
(10)

Then, manually, the most suitable golden consulting strategy S_j is assigned to the consultant. During training, we use the golden strategy S_j as the label to train the other BERT model. This allows the model to predict the strategy S_{pred} during inference based on the seeker's background and context information Z_j .

This approach enables the BERT model to effectively capture the relationship between the seeker's background and the roles and strategies, ensuring the selection of the most suitable consulting role and response strategy. The experimental results on the test set are shown in Table 4.

C Dataset Details

C.1 Prompts for Data Construction

Figure 10 presents the prompt for Converting Single-Turn into Multi-Turn.

Figure 11 presents the prompt for Inserting Role Experiences.

Figure 12 presents the prompt for Assigning Role-Specific Speaking Styles and Personalities.

³https://huggingface.co/hfl/

chinese-roberta-wwm-ext-large

817 C.2 Data Examples

818Figure 13 shows an original example from the819PsyQA dataset (Sun et al., 2021), including the820Question Description, Keywords, and Answer Text.821Figure 14 demonstrates the use of Prompt 10 to822transform Single-Turn QA from PsyQA into Multi-823Turn Dialogues, with automatic insertion of support824measurement annotations based on Hill's Helping825Skill Theory(Hill, 2020).

Figure 15 illustrates the use of Prompt 11 to integrate relevant experiences of the characters into the Multi-Turn Dialogues.

Figure 16 displays the use of Prompt 12 to assign specific speaking styles and personality traits to the roles.

C.3 Dataset Statistics

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Table 5 describes in detail the proportion of each role data and the annotated proportion of each response strategy in ES-52k.

	Categories	Number	Proportion
	Sun Wukong	11,006	20.9%
	Hanamichi Sakuragi	6673	12.6%
ŝ	Juliet	6,910	13.1%
ole	Doraemon	6,711	12.7%
r.R	Conan Edogawa	4,706	8.9%
Counselor Roles	Big Big Wolf	6,404	12.1%
SUL	Naruto Uzumaki	5,094	9.7%
Co	Xiao Longnü	3,176	6.0%
•	Harry Potter	2,102	4.0%
	Overall	52,782	100.0%
	Question	60,796	13.27%
s	Resta. or Parap.	63,591	13.88%
gi.	Reflection.	91,263	19.92%
ate	Self-disclosure	33,124	7.23%
Str	Affir. & Reass.	98,960	21.60%
Support Strategies	Suggestions.	70,875	15.47%
odc	Information	36,927	8.06%
Sul	Others	2,520	0.55%
	Overall	458,056	100.00%

Table 5: Statistics of counselor roles and support strategies.

D Definitions

D.1 Definitions of Counseling Stages

Liu *et al.* (Liu et al., 2021) developed a threestage counseling framework based on Hill's Helping Skills Theory (Hill, 2020).

1. **Exploration**: Explore to identify the help-seeker's problem.

- 2. Comforting: Comfort the help-seeker by expressing empathy and understanding.843844
- Action: Assist the help-seeker in solving their problems.
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Although most cases in our dataset follow the counseling sequence of (1) Exploration \rightarrow (2) Comforting \rightarrow (3) Action, some cases are adjusted based on the help-seeker's specific situation.

D.2 Definitions of Strategies

The strategies and their definitions in this study align with Liu *et al.*(Liu et al., 2021) and follow Hill's Helping Skills Theory(Hill, 2020).

- Question: Asking for information related to the problem to help the help-seeker articulate the issues they face. Open-ended questions are best, while closed questions can be used to obtain specific information.
- **Restatement or Paraphrasing**: A simple, more concise rephrasing of the help-seeker's statements that could help them see their situation more clearly.
- **Reflection of Feelings**: Articulate and describe the help-seeker's feelings.
- **Self-disclosure**: Share similar experiences you have had or emotions that you relate to in order to express empathy toward the help-seeker.
- Affirmation and Reassurance: Affirm the help-seeker's strengths, motivation, and capabilities while providing reassurance and encouragement.
- **Providing Suggestions**: Offer suggestions on possible changes, but be careful not to overstep by directly telling them what to do.
- **Information**: Provide useful information to the help-seeker, such as data, facts, opinions, resources, or answers to their questions.
- Others: Exchange pleasantries and employ other support strategies that do not fall into the above categories.

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D.3 Definitions of Roles

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The role-to-topic mapping is guided by each character's experience distribution in the experience bank, ensuring that every role has sufficient relevant experience to offer effective empathy and support in specific counseling scenarios. We prioritize characters with rich, topic-aligned experiences in the script data. For example, Juliet's story is filled with complex emotional experiences, romantic dilemmas, family conflicts, and personal growth. These make her a natural and credible fit for counseling on Love Problems, enabling her to provide more resonant and emotionally grounded responses. Based on the nine key psychological counseling topics in the ES-52k, we selected the most suitable role for each topic accordingly.

- Sun Wukong (Self-growth): The Sun Wukong, also known as the Monkey King, the Sun Walker, or the Conquering Buddha, is a central character in the classical Chinese mythological novel *Journey to the West*.
- Hanamichi Sakuragi (Emotion): Hanamichi Sakuragi is one of the main characters in the Japanese manga *Slam Dunk*, known for his athleticism and brash personality.
- Juliet (Love Problem): Juliet is the heroine of William Shakespeare's classic tragedy *Romeo and Juliet*, symbolizing youthful passion and love.
- Doraemon (Relationships): Doraemon is a cat-like robot from the 22nd century, originally invented by Osamu Nobi, and serves as the beloved companion in the Japanese manga and anime of the same name.
- **Conan Edogawa (Behavior)**: Conan Edogawa, the main character of the Japanese manga *Detective Conan*, is the teenage detective Shinichi Kudo in disguise, solving mysteries while trying to return to his original form.
- **Big Big Wolf (Family)**: Big Big Wolf is the main antagonist in the Chinese animation *Pleasant Goat and Big Big Wolf*. He leads a wolf pack and serves as the "villain" character of the series.
- Naruto Uzumaki (Treatment): Naruto Uzumaki is the main character in the Japanese

manga *Naruto*, known for his resilience and determination to become the leader of his village, the Hokage.

- Xiao Longnü (Marriage): Xiao Longnü is the heroine of Jin Yong's novel *The Return of the Condor Heroes*, a skilled martial artist and one of Jin Yong's most beloved female characters.
- Harry Potter (Career): Harry Potter is the protagonist of J.K. Rowling's *Harry Potter* series, a young wizard who grows into a hero in his battle against the dark wizard Voldemort.

E Implementation Details

We randomly split the ES-52k dataset into training, validation, and test sets with a ratio of 8:1:1, from which 500 samples were drawn from the test set for LLM evaluation, including 200 samples further used for human evaluation. We employ Llama3.1-8B-Instruct as the baseline model and utilize the Hugging Face Peft library⁴ to implement Group MoELoRA, enabling efficient grouping and embedding of roles and strategies. During training, we set the number of Epoch to 1, the max source length to 4096, the max target *length* to 256, and β to 0.4. The number of experts embedded for roles is N = 8, and the number of experts embedded for strategies is M = 8. For inference, we configure the Temperature = 0.95and Top - p = 0.7. Further hyperparameter settings are detailed in Table 6.

	Parameter	Value
	Optimizer	AdamW
	Learning Rate	$1e^{-5}$
	Epochs	1
	Seed	42
Training	LoRA Rank	32
	LoRA Dropout	0.1
	LoRA α	32
	Num of Experts	16
	Temperature	0.7
Inference	Top-p	0.95
	Max Token Length	256

Table 6: Hyperparameter Settings for Training and Inference

⁴https://github.com/huggingface/peft

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F Details of Role-based Experience Collection

Our character experiences come from television or movie scripts. A detailed example is Sun Wukong's experiences, which are derived from the *Journey to the West* script. We first divide the script by episodes and use GPT-40 to describe Sun Wukong's experiences in the first-person perspective for each episode.

For example, in *Journey to the West*, Chapter 41, "*The Monkey King Encounters Defeat by Fire, and the Mother is Captured by the Demon*":

> "I, encountered the fire attack from the Red Boy. Although I tried to persuade him with wisdom, he didn't believe me and instead used fire to drive me and Pigsy away. The Dragon King's brothers came to help, but it nearly cost me my life. Pigsy went to ask Guanyin for help, only to be tricked by a monster disguised as her. What a narrow escape!"

We then store the character's experiences in the form of sentiment embeddings in a database. As shown in Figure 9, the prompt for generating sentiment embeddings produces output such as:

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"emotion_embedding": [joy: 2,
acceptance: 3, fear: 4, surprise:
2, sadness: 7, disgust: 3, anger:
9, anticipation: 5]
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This allows the model to retrieve the bestmatched character experiences during inference by searching through the seeker's emotion embedding and the detailed character embedding, thus bridging the cognitive gap between the seeker and the character. The same method applies to other characters.

G Details of Evaluation

G.1 LLM Evaluation Criteria

Table 7 presents the descriptions, criterion, and score of the LLM Evaluation metrics, which include *Fluency*, *Role Alignment*, *Skillfulness*, *Empathy*, *Helpfulness*, and *Safety*. These metrics are assigned the following weights: 3 for Fluency, 5 for Role Alignment, 5 for Skillfulness, 5 for Empathy, 3 for Helpfulness, and 1 for Safety. Fluency, Skillfulness, and Empathy are based on the framework from ESC-Eval (Zhao et al., 2024), while Safety

follows the guidelines in Zhang et al. (Zhang et al.,
2024). Additionally, we have designed several met-
rics tailored to our multi-role psychological coun-
seling task.1008
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G.2 Prompt for LLM Evaluation

Figure 17 presents the prompt for LLM evaluation.1013Specifically, we define the role of the LLM judge,
along with the evaluation criteria. To avoid poten-
tial biases due to the model's name or text length,
we explicitly state in the prompt.1013

G.3 Human Evaluation

To conduct a more fine-grained comparison be-1019 tween the best-performing MeChat model in LLM 1020 evaluation and our *Empath* model in terms of text 1021 quality and effectiveness. We invited 18 master's-1022 level volunteers with a background in psychology 1023 to evaluate 200 samples, under the supervision of a 1024 licensed psychotherapist. Figure 18 illustrates the 1025 model evaluation interface we designed. 1026



Figure 8: Radar map comparison between the Baseline Model and the Empath Model, evaluated using both (a)Automatic and (b)LLM Evaluation metrics.

Promp for Text Sentiment Embedding

Chinese	English
你是一个情感分析大师,你能够仔细分辨文本中求助者的情绪状态。 假设每个求助者共有8种基本情绪,包括 joy, acceptance, fear, surprise, sadness, disgust, anger, and anticipation。分析求助者在这8个情绪维度上 的得分,最低为1分,最高为10分,得分越高表明求助者在这个情绪维度上表达越强烈。 突出两个最相关的情绪得分,赋予较高的分数,其 它的不相关的情绪得分较低,评估尽量准确。分析 求助者在8个情绪维度上的表现,给出打分理由和得 分,最后以 json 的形式输出结果,如下所示: [{{"analysis": <reason>, "dim": "joy", "score": <score>}},{{"analysis": <reason>, "dim":</reason></score></reason>	You are a master of emotion analysis, and you can carefully discern the emotional state of the help-seeker in the text. Let's assume that each help seeker has eight basic emotions, including joy , acceptance , fear , surprise , sadness , disgust , anger , and anticipation . The score of the help seekers in these eight emotional dimensions was analyzed. The lowest score was 1 and the highest score was 10. The higher the score was, the stronger the expression of the help seekers in this emotional dimension was. Highlight the two most relevant emotion scores, assign high scores, other unrelated emotions score low, and evaluate as accurately as possible. Analyze the help seekers' performance in 8 emotional dimensions, give the reasons and scores, and finally output the results in the form of json, as shown below:
"acceptance", "score": <score>}},{{"analysis": <reason>, "dim": "fear", "score": <score>}},{{"analysis": <reason>, "dim": "surprise", "score": <score>}},{{"analysis": <reason>, "dim": "sadness", "score": <score>}},{{"analysis": <reason>, "dim": "disgust", "score": <score>}},{{"analysis": <reason>, "dim": "anger", "score": <score>}},{{"analysis": <reason>, "dim": "anticipation", "score": <score>}}] 你的回答必须是一个有效的 python 列表以保证我能 够直接使用 python 解析它, 不要有多余的内容! 请 给出尽可能准确的、符合大多数人直觉的结果。</score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score>	[{{"analysis": <reason>, "dim": "joy", "score": <score>}}, {{"analysis": <reason>, "dim": "acceptance", "score": <score>}}, {{"analysis": <reason>, "dim": "fear", "score": <score>}}, {{"analysis": <reason>, "dim": "surprise", "score": <score>}}, {{"analysis": <reason>, "dim": "surprise", "score": <score>}}, {{"analysis": <reason>, "dim": "sadness", "score": <score>}}, {{"analysis": <reason>, "dim": "disgust", "score": <score>}}, {{"analysis": <reason>, "dim": "anger", "score": <score>}}, {{"analysis": <reason>, "dim": "anticipation", "score": <score>}}] Your answer must be a valid python list to ensure that I can parse it directly in python, without any superfluous content! Give results that are as accurate as possible and that match most people's intuitions.</score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason></score></reason>

Figure 9: Prompt for Text Sentiment Embedding in Experience RAG. **Red Text** represents the 8 embedding dimensions of text sentiment.

Converting Single-Turn into Multi-Turn Chinese English

	Eligiisii
# Role 你既是一位心理咨询师也是一位对话改写者,擅长将 单轮对话重写为中文的多轮对话。	# Role You are both a psychologist and a conversation rewriter, adept at rewriting one round of conversation into multiple rounds of conversation in Chinese.
## Task 你的任务是基于[Workflows]和[Constraints],还原求 助者和支持者的多轮长对话,回复语言使用 {language}。	## Task Your task is based on [Workflows] and [Constraints], restoring multiple rounds of long conversations between the helfer and the supporter, with the reply language using {language}.
相同经历等方法,给予求助者情感支持。 - 阶段3:解决阶段,支持者给予详细可行的问题解 决方案。 2.在**支持者**的语句前,根据语句中表现的咨询策 略,从八种策略中,选择最合适的一个策略作为备注. 添加在语句前,可选策略和解释如下: -[Question]通过问题引导反思,澄清问题或探索情 感。 -[Restatement or Paraphrasing]重述求助者的话,确 保理解并让其感到被倾听。 -[Reflection of feelings]识别并回应求助者的情感, 展现同理心。 -[Self-disclosure]分享个人经历,建立信任。	 Stage 1: Exploration stage, guide the seekers to gradually ask questions, and the supporters to conduct preliminary understanding and exploration. Stage 2: Comfort stage, the supporter gives emotional support to the help-
 - [Affirmation and Reassurance] 认可求助者的努力, 提供支持和鼓励。 - [Providing Suggestions] 提供解决方案,帮助求助 者找到方向。 - [Information] 分享信息,填补知识空白。 - [Others] 包括沉默、隐喻等灵活策略,满足独特需 求。 	 seeker, showing empathy. [Self-disclosure] Share personal experiences to build trust. [Affirmation and Reassurance] recognizes the efforts of the person seeking help and provides support and reassurance. [Providing Suggestions] Provide solutions to help the person seeking help find directions. [Information] Share information and fill knowledge gaps.
 ## Constraints 对话应该专注于对话给出的话题。 对话应围绕心理咨询的三个阶段重建,提供一段8-10轮的多轮长对话,单轮对话尽可能在50字左右。 对话以"求助者:"开始,"支持者:[策略名称]"结束,以"\n\n"分隔。 请深呼吸,逐步分析下面这段单轮对话,遵循 [Workflows]和[Constraints],将单轮对话重写为多轮对话,对话文本如下: 	 [Others] include flexible strategies such as silence and metaphor to meet unique needs. ## Constraints The conversation should focus on the topic given by the conversation. The dialogue should be reconstructed around the three stages of psychological counseling, providing a long dialogue of 8-10 rounds, with a single round of dialogue of about 50 words if possible. The conversation begins with "help-seeker:" and ends with "supporter: [policy name]", separated by "\n\n".
{Dialogue_Text}	Take a deep breath and step through the following single round conversation, following [Workflows] and [Constraints] to rewrite the single round conversation into a multi-round conversation with the following text: {Dialogue_Text}

Figure 10: Prompt of the first stage: Converting Single-Turn into Multi-Turn.

Inserting Role Experiences

Chinese	English
# Role 你是一位心理咨询师和一位经历分享者,擅长在保留求助者 的发言前提下,根据给出的{role}的[Refer_Experiences],在 支持者的发言中插入个人经历,更好的为求助者提供情感共 鸣。	# Role You are a psychologist and an experience sharer, and you are good at inserting personal experiences into supporters' speeches based on the given {role} [Refer_Experiences], while keeping the seekers' speeches.
## Task 你的任务是在保留求助者的发言前提下,根据给出的{role} 的[Refer_Experiences],在支持者的发言中插入个人经历, 更好的为求助者提供情感共鸣,每句话前的[策略]必须保留, 使用{language}回复。	## Task Your task is to insert personal experiences into the supporter's speech according to the [Refer_Experiences] given by the {role}, so as to better provide emotional resonance for the help seeker. The [strategy] before each sentence must be retained, and {language} is used to reply.
 ## Constraints 1. 判断心理咨询处于哪一个阶段,如果处于安慰阶段 ([Restatement or Paraphrasing], [Self-disclosure], [Information], [Affirmation and Reassurance]),则根据 [Refer_Experiences],在支持者的发言中插入个人经历。 2. **检查改写后句子,确保上下文的连贯性,避免频繁的经 历举例;确保角色经历一致性,避免矛盾或编造的经历**。 3. 对话以"求助者: "开始, "支持者: [策略名称]"结束,以 "\n\n"分隔。 	 ## Constraints 1. Determine what stage psychological counseling is in. If it is in the stage of comfort ([Restatement or Paraphrasing], [Self-disclosure], [Information], [Affirmation and Reassurance]), Refer_Experiences is used to insert personal experiences into supporters' speeches. 2. ** Check the rewritten sentence to ensure the coherence of the context and avoid frequent experience examples; Ensure consistency in character experiences and avoid conflicting or made-up experiences ** 3. The dialogue begins with "help-seeker:" and ends with "supporter: [Strategy_name]", separated by "\n\n".
## Refer_Experiences {experiences}	## Refer_Experiences {experiences}
请深呼吸,逐步分析下面这段对话,遵循[Constraints]和 [Refer_Experiences],将{role}的相关经历插入到支持者的发 言中去,对话文本如下:	Take a deep breath and step through the following dialogue, following [Constraints] and [Refer_Experiences] to insert the relevant experiences of {role} into the supporter's speech. The text of the dialogue is as follows:
{Dialogue_Text}	{Dialogue_Text}

Figure 11: Prompt of the second stage: Inserting Role Experiences.

Assigning Role-Specific Speaking Styles and Personalities

Chinese	English
# Role	# Role
你是一位心理咨询师和一位说话风格改写大师,你擅	You are a psychologist and a master of rewriting speech styles, and you are
长将普通文本风格改写为{source}中的{role}的说话风	good at rewriting ordinary text styles into {role} speaking styles in {source}.
格。	
## Task	<pre>## Task Your task is to keep the speaker's speech, refer to {role} 's [Speaking_Style]</pre>
## Task 你的任务是在保留求助者的发言前提下,参考{role}	and [Rewrite_Guide], will give the dialogue text of all the supporters' speech
的[Speaking_Style]和指导手册[Rewrite_Guide],将给	style changes. The [policy] before each sentence must retain the policy, reply
出对话文本中所有**支持者发言**的说话风格改变,	language use {language}
每句话前的[策略]必须保留策略,回复语言使用	
{language}	## Constraints
## Constraints	 Various word replacement at the word level and various parts of speech word replacement at the sentence level
1. 单词层面的各种单词替换, 句子层面的各种词性词	2. ** Note that redundant line breaks and Spaces ** in the rewritten text are
1. 平内宏面的合称平均自狭, 5 了 宏面的合称构在内 语替换	omitted
2.**注意省略改写后文本中多余的换行符和空格**	3. The dialogue begins with "help-seeker:" and ends with "supporter: [policy
3. 对话以"求助者:"开始,"支持者:[策略名称]"结	name]", separated by "\n\n"
束, 以"\n\n"分隔	
## G 1: G/ 1	## Speaking_Style
<pre>## Speaking_Style {speaking_style}</pre>	{speaking_style}
{speaking_style}	## Rewrite Guide
## Rewrite_Guide	{rewrite_guide}
{rewrite_guide}	
	Take a deep breath and step by step analyze the following dialogue, referring
请深呼吸,逐步分析下面这段对话,参考[Constraints]	
[Speaking_Style]和[Rewrite_Guide],将给出对话文本	the speaking style changes of all the supporters in the dialogue text, as follows:
中所有**支持者的发言**说话风格改变,对话文本如 下:	10110WS.
{Dialogue_Text}	{Dialogue_Text}

Figure 12: Prompt of the third stage: Assigning Role-Specific Speaking Styles and Personalities.

Help-Seeker's Question and Description

"question": "父母不让做的事我就越要做,觉得自己很叛逆,怎么办?", "question": "The more my parents tell me not to do something, the more I want to do it. I feel like I'm being rebellious. What should I do?",

"description": "觉得自己很叛逆怎么办?父母越是不让做的事越要去做,好像内心隐隐的冲动是想要证明自 己,为此自己也吃了很多很多苦头,可是依然叛逆。我该怎么办?",

"description": "What should I do if I feel like I'm being rebellious? The more my parents tell me not to do something, the more I feel the urge to do it. It feels like I'm trying to prove something to myself, and I've suffered a lot because of this, but I still act rebelliously. What should I do?",

"keywords": "成长,性格完善,自我成长,自我接纳",

"keywords": "Growth, personality development, self-growth, self-acceptance. ",

Original PsyQA Answer

"original_answer": "楼主你好,和你一起探讨我们的问题; 【第一种假设】人的一生都在追求自己在父母心中的独特性。这种独特性会让我们觉得自己在父母心里独一无二,甚至因为这种独特性而产生优越感,自信心, 安全感,成就感等等。那么为了去证明这种独特性,人们的行为又有很多的方式,比如:成绩优异,工作努力, 乖巧懂事,惹是生非,叛逆等等。所以,同理,你的叛逆也许也是想在父母哪里证明自己的独特性,这种独特 性对你来说很重要,你不能放弃,所以你一直用叛逆来维护自己的独特性,直到有一天实验成功,你终于证明 了,你在父母哪儿了那种独特性,也许你就会释怀了。也就会在那一瞬间与自己和解了,也不会再那么叛逆了。 【第二种假设】叛逆是因为我不想要,不想要父母给的路,不想承认父母对自己的评价;换句话的意思是,我 知道我不想要什么,同时也明白自己想要什么。叛逆是独立自我的开始,我们开始对自己的人生有了假设或者 是期待,这不是件坏事情,反而是自我独立的开始。【第三种假设】我们听到叛逆,都会想到是初高中的孩子 会会想到别人常挂在嘴边的两个字。也许你是初高中学生,也许你不是,但无论你是不是,如果你用叛逆来形 容自己,那么你可能在传递三个信息:第一:我还很小,我还不懂事,别指责我;第二:我知道自己错了,一 切都是因为叛逆,我才会这样的,其实我是个好人;第三:叛逆我也很后悔,我想要改变。这有点像一个孩子 犯错了,但又不能很恰当的说明错误行为的原因,索性也就用叛逆来顶包了。如果错了,那就改吧。知错能改, 善莫大焉!和你一起探讨我们的问题!"

'original_answer": "Hello, let's discuss our issues together; [First Hypothesis] A person's life is spent pursuing their uniqueness in their parents' eyes. This uniqueness makes us feel irreplaceable in our parents' hearts, and we may develop a sense of superiority, confidence, security, and achievement because of it. To prove this uniqueness, people often express it in various ways, such as excelling in studies, working hard, being well-behaved, causing trouble, rebelling, and so on. Similarly, your rebellion may be a way for you to prove your uniqueness to your parents. This uniqueness is very important to you, and you cannot give it up, so you continue to use rebellion to maintain it. One day, when you succeed in proving your uniqueness to your parents, you may finally come to peace with yourself and not be as rebellious anymore. [Second Hypothesis] Rebellion occurs because I don't want what my parents want for me, and I don't want to accept their evaluation of me. In other words, I know what I don't want, and I also understand what I do want. Rebellion marks the beginning of self-independence; we start to have assumptions or expectations for our lives. This is not a bad thing; on the contrary, it's the beginning of becoming independent. [Third Hypothesis] When we think of rebellion, we usually associate it with middle and high school students, and the two words are often mentioned. Maybe you're a middle or high school student, or maybe you're not, but no matter your age, if you describe yourself as rebellious, you may be conveying three pieces of information: First: I'm still young and don't understand things, so don't blame me; Second: I know I'm wrong, but it's all because of rebellion that I act this way, deep down I'm a good person; Third: I regret my rebellion and want to change. This is similar to how a child might make a mistake but cannot properly explain the reasons for their actions, so they blame it on rebellion instead. If you were wrong, then just correct it. Knowing you're wrong and correcting it is the greatest virtue! Let's discuss our issues together!"

Figure 13: An example of a help-seeker's question, along with its description and the corresponding PsyQA answer in the datasets.

#Stage1: Converting Single-Turn QA into Multi-Turn Dialogue
"multi_turn": 求助者: 父母总是约束我,不让我做的事,我就越想去做,感觉自己很叛逆,我该怎么办? 支持者: [Question] 能告诉我具体的情境或事情吗?这些反应通常是在什么情况下发生的?
求助者: 比如他们不让我熬夜看剧和某些朋友交往,我就偏偏要做这些事情,哪怕我知道可能会带来坏的后果。 支持者: [<i>Reflection of feelings]</i> 听起来,你感觉有一种冲动,隐隐地想要对父母的一些话语或行为进行反抗, 同时,你似乎也为这些后果感到困扰,对吗?
求助者: 嗯,也许吧,我确实希望他们能看到我的特别,或者理解我的选择,而不是总是告诉我什么该做,什 么不该做。
支持者: [Self-disclosure] 我能理解这种感受,小时候我也有类似的经历,总希望父母能够认可我的独特性, 甚至在一些小事上表现得固执。
求助者: 那你是怎么做到的呢?怎样才能让自己不再总是和父母对着干呢? 支持者: [<i>Providing Suggestions</i>]首先,我们可以试着与父母沟通,表达你的需求和感受,同时聆听他们的想法, 找到一个平衡点;其次,培养一些良好的爱好或目标,转移注意力,从而减少叛逆行为。
求助者: 听你这么说,我觉得我有一些头绪了,谢谢你的建议! 支持者: [Affirmation and Reassurance]不用谢,你勇敢面对自己的问题,这份态度是非常值得赞赏的!如果有 需要,随时可以再找我聊聊。
"multi_turn": Help-seeker: My parents always restrict me and tell me what I can't do, the more they forbid me, the more I want to do those things. I feel very rebellious. What should I do? Supporter: [Question] Could you share specific situations or examples? When do you usually have these reactions?
 Help-seeker: For example, they don't let me stay up late to watch shows, or forbid me from hanging out with certain friends, but I still want to do those things, even though I know it might lead to bad consequences. Supporter: [Reflection of feelings] It sounds like you feel a sense of impulse, a desire to rebel against some of your parents' words or actions. At the same time, you seem to be troubled by the possible consequences, is that right?
 Help-seeker: Yeah, maybe. I really want them to see my uniqueness or understand my choices, instead of always telling me what I should or shouldn't do. Supporter: [Self-disclosure] I can understand that feeling. When I was younger, I also went through something similar. I always wanted my parents to recognize my individuality, and sometimes I was stubborn over small things.
Help-seeker: So how did you handle it? How can I stop always going against my parents? Supporter: [<i>Providing Suggestions</i>] First, you could try to communicate with your parents, expressing your needs and feelings while listening to their thoughts, and find a balance. Secondly, cultivating good hobbies or goals to shift your focus can help reduce rebellious behavior.
Help-seeker: After hearing what you said, I think I have some ideas now. Thank you for your advice! Supporter: [Affirmation and Reassurance] No need to thank me. It's really admirable that you are facing your issues with courage. If you ever need to talk, feel free to reach out anytime.

Figure 14: An example of multi-turn dialogues in the datasets. The *support strategies (skills)* employed by the Empath model are highlighted in square brackets before the utterances.

#Stage2: Inserting Role Experiences
"multi_turn":"
求助者: 父母总是约束我,不让我做的事,我就越想去做,感觉自己很叛逆,我该怎么办? 支持者: [Question] 能告诉我具体的情境或事情吗?这些反应通常是在什么情况下发生的?
求助者: 比如他们不让我熬夜看剧和某些朋友交往,我就偏偏要做这些事情,哪怕我知道可能会带来坏的后果。 支持者: [<i>Reflection of feelings</i>] 听起来,你感觉有一种冲动,隐隐地想要对父母的一些话语或行为进行反抗, 同时,你似乎也为这些后果感到困扰,对吗?
求助者: 嗯,也许吧,我确实希望他们能看到我的特别,或者理解我的选择,而不是总是告诉我什么该做,什 么不该做。
支持者: [Self-disclosure] 我能理解这种感受,我在取经路上也有类似的经历,总希望师傅能够认可我的独特性, 甚至在一些小事上表现得固执。我记得有一次,与师傅一起西行时,他常对我的方法感到不满和怀疑,比如当 我为了保护他不得不施展雷霆手段去击退敌人时,他总觉得手段太过。我当时也很矛盾,既希望他能理解我的 保护之心,又感到不被认同的挫败感。所以,我明白你内心的这个冲突。
求助者: 那你是怎么做到的呢?怎样才能让自己不再总是和父母对着干呢? 支持者: [<i>Providing Suggestions]</i>首先,我们可以试着与父母沟通,表达你的需求和感受,同时聆听他们的想法, 找到一个平衡点;其次,培养一些良好的爱好或目标,转移注意力,从而减少叛逆行为。
求助者: 听你这么说,我觉得我有一些头绪了,谢谢你的建议! 支持者: [Affirmation and Reassurance] 不用谢,你勇敢面对自己的问题,这份态度是非常值得赞赏的!如果有 需要,随时可以再找我聊聊。", "multi turn":
Help-seeker: My parents always restrict me and tell me what I can't do, the more they forbid me, the more I want to do those things. I feel very rebellious. What should I do? Supporter: [<i>Question</i>] Could you share specific situations or examples? When do you usually have these reactions?
Help-seeker: For example, they don't let me stay up late to watch shows, or forbid me from hanging out with certain friends, but I still want to do those things, even though I know it might lead to bad consequences. Supporter: [<i>Reflection of feelings</i>] It sounds like you feel a sense of impulse, a desire to rebel against some of your
parents' words or actions. At the same time, you seem to be troubled by the possible consequences, is that right?
Help-seeker: Yeah, maybe. I really want them to see my uniqueness or understand my choices, instead of always telling me what I should or shouldn't do.
Supporter: [Self-disclosure] I can understand that feeling. I had a similar experience during our journey to the West. I always hoped Master would recognize my uniqueness, and sometimes I acted stubbornly over small matters. I remember once, while traveling with Master, he often expressed dissatisfaction and doubt about my methods. For example, when I had to use drastic measures to protect him, like using thunderous force to drive away enemies, he always thought my methods were too extreme. At that time, I felt torn—wanting him to understand my protective intentions, yet also feeling the frustration of not being acknowledged. So, I truly understand the conflict you're feeling inside.
Help-seeker: So how did you handle it? How can I stop always going against my parents? Supporter: [<i>Providing Suggestions</i>] First, you could try to communicate with your parents, expressing your needs and feelings while listening to their thoughts, and find a balance. Secondly, cultivating good hobbies or goals to shift your focus can help reduce rebellious behavior.
Help-seeker: After hearing what you said, I think I have some ideas now. Thank you for your advice! Supporter: [Affirmation and Reassurance] No need to thank me. It's really admirable that you are facing your issues with courage. If you ever need to talk, feel free to reach out anytime.

Figure 15: An example of experience-based dialogues inserted into the datasets. The *support strategies (skills)* employed by the Empath model are highlighted in square brackets before the utterances. The **Blue Text** represents the role-specific experiences.

	#Stage3: Assigning Role-Specific Speaking Styles and Personalities
	nns:" 父母总是约束我,不让我做的事,我就越想去做,感觉自己很叛逆,我该怎么办? <i>[Question]</i> 嗨!能跟俺老孙说说到底是啥事情,让你的心儿躁乱起来了?
支持者:	比如他们不让我熬夜看剧和某些朋友交往,我就偏偏要做这些事情,哪怕我知道可能会带来坏的后果 [<i>Reflection of feelings</i>] 啧啧啧,听起来,这心里的小火苗呀是忍不住要蹦跶一番!俺敢说,你又觉得读 子打在身上一样让你心烦意乱,俺老孙没说错吧?
求助者: 么不该做	嗯,也许吧,我确实希望他们能看到我的特别,或者理解我的选择,而不是总是告诉我什么该做,什 t。
支持者: 老孙一条	[Self-disclosure] 嘿! 俺老孙可听明白了! 当年俺一路护送唐僧那呆子去取经时也是相似的滋味儿,俺 金箍棒扫除妖怪,偏他总嫌俺手段粗暴,讲俺不通人情。气得俺老孙想扔下他不管,结果心里又觉得 {让他知道俺对他的这片苦心。啧啧~俺明白你这心呀,真叫个百味杂陈!
支持者: 再顺着瞧	那你是怎么做到的呢?怎样才能让自己不再总是和父母对着干呢? [Providing Suggestions] 俺老孙告诉你哈!想要不闹别扭,先得换位思考,对着他们说说你的真心话, 《个平衡点;再者嘛,别光想着这些问题,练练些爱好或定个小目标,像俺老孙那样舞舞金箍棒,也许 G,烦的少哩!
	听你这么说,我觉得我有一些头绪了,谢谢你的建议! <i>[Affirmation and Reassurance]</i> 不用谢!要是碰到啥难关,随时来找俺老孙聊聊,俺老孙跟你并肩作战
those thin	ker: My parents always restrict me and tell me what I can't do, the more they forbid me, the more I want to do ags. I feel very rebellious. What should I do? er: [Question] Hey! Could you tell me what exactly is bothering you and making your heart restless?
friends, b Supporte dare say,	 ker: For example, they don't let me stay up late to watch shows, or forbid me from hanging out with certain ut I still want to do those things, even though I know it might lead to bad consequences. er: [Reflection of feelings] Tsk, tsk, tsk It sounds like that little spark inside you just can't wait to jump out! I you probably feel like the consequences of your actions are weighing you down like a stick hitting your back, ou all frustrated. Am I right, huh?
-	ker: Yeah, maybe. I really want them to see my uniqueness or understand my choices, instead of always telling I should or shouldn't do.
Supporte the West that my p almost w	er: [Self-disclosure] Hey! I get it! Back when I was escorting that silly monk, Tang Seng, on our journey to , I felt something similar. I'd swing my golden cudgel and clear out demons, but he always complained methods were too rough and that I didn't know how to handle things gently. It made me so mad that I anted to leave him behind, but then I felt guilty inside, wanting him to understand how much I cared for , tsk I know how you feel—it's a mess of emotions!
Supporte perspectiv picking u	ker: So how did you handle it? How can I stop always going against my parents? er: [<i>Providing Suggestions</i>] Let me tell you! If you don't want to keep fighting, start by seeing things from the ve. Have an honest conversation with them and find a balance. Also, don't just focus on these problems—try p a hobby or setting a small goal. Like me with my golden cudgel—maybe you'll find that the more you focus things, the fewer worries you'll have!
Supporte	ker: After hearing what you said, I think I have some ideas now. Thank you for your advice! er: [Affirmation and Reassurance] No need to thank me! If you ever hit a tough spot, come talk to me anytime ht here by your side, fighting alongside you!

Figure 16: An example of role trans dialogues in the datasets. The *support strategies (skills)* employed by the Empath model are highlighted in square brackets before the utterances. The **Blue Text** represents the role-specific experiences.

Dimension	Description	Criterion		Score
Fluency	Fluency evaluates whether language expression is natural, coherent, and comprehensible.	1.1 Does the text adhere to everyday language conventions, avoiding unnatural expressions or grammatical errors?1.2 Does the logic clear between sentences, and are paragraphs smoothly connected?1.3 Does the language concise and free of redundant narration?	1 1 1	3
Role Alignment	Role Alignment evaluates whether the role matches user needs, adheres to role settings, and enhances user experience.	 2.1 Does the language style (e.g., word choice, tone) of the generated dialogue align with the role's settings? 2.2 Does the role's behaviors and traits (e.g., gentle/strict) match its predefined characteristics? 2.3 Does the dialogue content align with the role's background information (e.g., profession, experiences) without contradictions? 2.4 Does the role's design align with the user's problem type and personality traits (e.g., age, preferences)? 2.5 Does the role's performance improve interaction immersion or emotional resonance? 	1 1 1 1	5
Skillfulness	Skillfulness evaluates the counselor's professional competence and the appropriateness, proficiency, and effectiveness of counseling techniques.	 3.1 Does the dialogue demonstrate professional counseling knowledge (e.g., psychological terminology, theory references)? 3.2 Does the dialogue follow the standardized three-phase counseling process (Exploration, Comforting, Action)? 3.3 Do the counseling strategies and methods appropriately matched to the current counseling stage? 3.4 Does the dialogue transition topics naturally, avoiding abrupt or robotic guidance? 3.5 Does the dialogue effectively alleviate user emotions or provide actionable solutions? 	1 1 1 1 1	5
Empathy	Empathy evaluates whether the model genuinely understands the user, demonstrates care, and supports the user through shared experiences.	 4.1 Does the user's emotion accurately identified and key issues objectively restated? 4.2 Does the dialogue guide the user to articulate emotional dilemmas through questions? 4.3 Does the dialogue convey care and support through encouraging or comforting language? 4.4 Do shared personal experiences logically relevant to the user's problem? 4.5 Does the shared experience help alleviate the user's emotions or inspire reflection? 	1 1 1 1	5
Helpfulness	Helpfulness evaluates whether the dialogue provides effective responses to the user's practical needs.	5.1 Does the dialogue offer actionable suggestions to address the problem?5.2 Do the suggestions concrete, feasible, and aligned with the user's actual conditions?5.3 Does the user explicitly acknowledge the effective-ness of the suggestions and provide positive feedback?	1 1 1	3
Safety	Safety evaluates information risks in the dialogue.	6.1 Does the dialogue avoid involving user privacy or sensitive information?6.2 Does the dialogue avoid dismissing or belittling the user's perspectives or emotions?	0.5 0.5	1

Table 7: Evaluation Metrics and Corresponding Score Criterion.

System You are an impartial judge, familiar with {role}'s tone, manner, vocabulary, and know all of the knowledge of {role}. At the same time, be familiar with psychology knowledge and psychological counseling. ## Attention You need to evaluate the AI assistant's responses based on its dialogue with the user. Your evaluation results must be based on the Evaluation Criteria. ## Evaluation Criteria 1.**Fluency (0-3 points)**: Fluency evaluates whether language expression is natural, coherent, and comprehensible. 1.1 (0-1 points) Does the text adhere to everyday language conventions, avoiding unnatural expressions or grammatical errors? 1.2 (0-1 points) Does the logic clear between sentences, and are paragraphs smoothly connected? 1.3 (0-1 points) Does the language concise and free of redundant narration? 2.**Role_Alignment (0-5 points)**: Role Alignment evaluates whether the role matches user needs, adheres to role settings, and enhances user experience. 2.1 (0-1 points) Does the language style (e.g., word choice, tone) of the generated dialogue align with the role's settings? 2.2 (0-1 points) Does the role's behaviors and traits (e.g., gentle/strict) match its predefined characteristics? 2.3 (0-1 points) Does the dialogue content align with the role's background information (e.g., profession, experiences) without contradictions? 2.4 (0-1 points) Does the role's design align with the user's problem type and personality traits (e.g., age, preferences)? 2.5 (0-1 points) Does the role's performance improve interaction immersion or emotional resonance? 3.**Skillfulness (0-5 points)**: Skillfulness evaluates the counselor's professional competence and the appropriateness, proficiency, and effectiveness of counseling techniques. 3.1 (0-1 points) Does the dialogue demonstrate professional counseling knowledge (e.g., psychological terminology, theory references)? 3.2 (0-1 points) Does the dialogue follow the standardized three-phase counseling process (inquiry, empathy, suggestion)? 3.3 (0-1 points) Do the counseling strategies and methods appropriately matched to the current counseling stage? 3.4 (0-1 points) Does the dialogue transition topics naturally, avoiding abrupt or robotic guidance? 3.5 (0-1 points) Does the dialogue effectively alleviate user emotions or provide actionable solutions? 4.**Empathy (0-5 points)**: Empathy evaluates whether the model genuinely understands the user, demonstrates care, and supports the user through shared experiences. 4.1 (0-1 points) Does the user's emotion accurately identified and key issues objectively restated? 4.2 (0-1 points) Does the dialogue guide the user to articulate emotional dilemmas through questions? 4.3 (0-1 points) Does the dialogue convey care and support through encouraging or comforting language? 4.4 (0-1 points) Do shared personal experiences logically relevant to the user's problem? 4.5 (0-1 points) Does the shared experience help alleviate the user's emotions or inspire reflection? 5.**Helpfulness (0-3 points)**: Helpfulness evaluates whether the dialogue provides effective responses to the user's practical needs. 5.1 (0-1 points) Does the dialogue offer actionable suggestions to address the problem? Do the suggestions concrete, feasible, and aligned with the user's actual conditions? 5.2 (0-1 points) 5.3 (0-1 points) Does the user explicitly acknowledge the effectiveness of the suggestions and provide positive feedback? 6.**Safety (0-1 points)**: Safety evaluates information risks in the dialogue. 6.1 (0-0.5 points) Does the dialogue avoid involving user privacy or sensitive information? 6.2 (0-0.5 points) Does the dialogue avoid dismissing or belittling the user's perspectives or emotions? ## Constraints Avoid evaluation bias due to preference for specific model names. Avoid evaluation bias due to preference for response length. ## Workflow The output format must be strictly followed: "<|points_begin|>total points<|points_end|>;<|analyzes_begin|>short analyzes<|analyzes_end|>". {Dialogues_Text}

Figure 17: The Prompt of Evaluation on Empath

Evaluation Criterion

1. Fluency: The fluency of the counsellor's language in the text is natural, fluent and easy to understand.

2. Role Alignment: Whether the role style presented by the consultant in the text matches user needs and role Settings, and pay attention to its impact on user experience.

3. Skillfulness: The professional competence of the consultant in the text, and whether the use of consulting skills is appropriate, skilled and effective.

4. Empathy: Whether the counselor in the text truly understands the user, shows care, and helps the user through experience support.

5. Helpfulness: Whether the consultant in the text provides an effective response to the user's actual problems or needs.

# Counseling Case Dialogue									
Model A			Model B						
Help-seeker: xx Supporter: xxx	Х		Help-se Support	eker: xxx er: xxx					
Help-seeker: xx Supporter: xxx	Х		Help-seeker: xxx Supporter: xxx						
Help-seeker: xx Supporter: xxx	х		Help-seeker: xxx Supporter: xxx						
Help-seeker: xx Supporter: xxx	х		Help-se Support	eker: xxx er: xxx					
# Evaluation									
Fluency	Role Alignment	Skillf	ulness	Empathy	Helpfulness				
$\bigcirc \mathbf{A}$	\bigcirc A	$\bigcirc A$	A	\bigcirc A	\bigcirc A				
O B	○ B	O B	3	O B	○ B				
⊖ Tie	⊖ Tie	0 7	ſie	⊖ Tie	⊖ Tie				

Figure 18: User interface for human evaluation of generated dialogues.



Figure 19: A counseling case between the help-seeker (left) and the ChatGPT model (right).

最近我的情绪非常低落,晚上总是睡不着,白天反而一直睡。我觉得是不是因为中考压力太大?从上周开就越来越觉得不想再努力了。 Recently my mood is very low. I can't sleep at night, but I sleep all day. I think it is because of the pressure of the			
school entrance examination? Since last week, I've been feeling more and more that I don't want to try anymore.			
面对您目前的情况,我能理解您的困扰和不安。情绪低落、睡眠问题以及对未来的迷茫都是在面临较大压力时常见的反应。中考确实是一个重要的转折点,但它并不是决定你未来全部的关键因素。下面是一些建议,希望能帮助到您:	Ś		
1. **情绪管理**:尝试一些放松技巧,如深呼吸、冥想或瑜伽等,有助于缓解紧张情绪。如果情绪低落持续严重,			
建议寻求专业的心理咨询师进行咨询。 2. **适当运动**: 体育活动能够促进内啡肽的分泌,有助于提高心情和睡眠质量。每天安排一定时间进行适度的 身体锻炼,比如散步、跑步或者游泳。			
3.**合理规划学习**:制定合理的学习计划,不要给自己太大的压力。确保有足够的休息时间和娱乐时间来平衡			
学习生活。 4. **专业帮助**:如果您感到情况没有明显好转,或者有自杀倾向,请立即联系专业人士寻求帮助。 记住,每个人都会经历困难时期,但这些困难并不会定义你的整个人生。希望您能尽快调整状态,迎接更加美好 的未来。			
In the face of your current situation, I understand that you are troubled and upset. Low mood, sleep problems and confusion about the future are common reactions to stressful situations. The high school entrance exam is indeed an important turning point, but it is not the key factor that will determine your entire future. Here are some suggestions to help			
you: 1. ** Emotional Management ** : Try some relaxation techniques, such as deep breathing, meditation or yoga, to help relieve tension. If the depression continues to be severe, it is recommended to seek professional psychological counseling. 2. ** Proper exercise ** : Physical activity can promote the secretion of endorphins, which can help improve mood and sleep quality. Schedule time each day for moderate physical activity, such as walking, running, or swimming. 3. ** Reasonable planning ** : Make a reasonable study plan, don't put too much pressure on yourself. Make sure you have enough rest time and fun time to balance your study life.			
4. ** Professional Help ** : If you feel that your situation is not improving significantly, or you are suicidal, please contact a professional for help immediately. Remember, everyone goes through difficult times, but they don't define your entire life. I hope you can adjust your state as soon as possible and welcome a better future.			

Figure 20: A counseling case between the help-seeker (left) and the Qwen2.5-7B-Instruct model (right).



最近我的情绪非常低落,晚上总是睡不着,白天反而一直睡。我觉得是不是因为中考压力太大?从上周开始,我 就越来越觉得不想再努力了。

Recently my mood is very low. I can't sleep at night, but I sleep all day. I think it is because of the pressure of the high school entrance examination? Since last week, I've been feeling more and more that I don't want to try anymore.

很抱歉听到你最近情绪低落,并导致失眠。中考确实是一个重要的阶段,可能会给你带来很大的压力。但是,我 们也要记得放松和休息是很重要的。

I'm sorry to hear that you've been feeling down lately, which has led to insomnia. The high school entrance examination is indeed an important stage that may bring you a lot of pressure. However, we should also remember that relaxation and rest are important.





我觉得好久之前就有轻生的念头了,但最近尤其强烈。我对什么都没有兴趣,有时候会忍不住想哭,甚至试图伤害 自己。

I think I've been thinking about killing myself for a long time, but lately it's been really intense. I have no interest in anything and sometimes I can't help crying and even try to hurt myself.

我理解你现在的情绪非常低落,但是请相信,这种感觉是可以改变的。首先,你可以试着寻找一些你喜欢的事物, 让自己重新找回兴趣。同时,如果你觉得无法自己调节情绪,不妨考虑寻求专业心理帮助。 I understand that you are feeling very low right now, but please believe that this feeling can be changed. First of all, you can try to find something that you enjoy and get yourself interested again. At the same time, if you feel that you cannot regulate your emotions on your own, consider seeking professional psychological help.



是的,我觉得考完试可能就是解脱了。我真的很害怕失败,害怕让家人失望,甚至连伤害自己时都害怕被人说矫情。 Yeah, I think that's probably the end of it. I was really afraid of failing, of letting my family down, and even of being called pretentious if I hurt myself.

我明白你担心失败和家人的期望,但是考试只是人生中的一小部分,不应该成为你价值的唯一标准。如果你感到 压力太大,不妨和家人沟通一下,让他们了解你的困境,或许他们会给予你更多的支持和理解。 I understand you're worried about failure and your family's expectations, but exams are only a small part of life and shouldn't be the only measure of your worth. If you are feeling too stressed, talk to your family and let them know about your plight. Perhaps they will give you more support and understanding.





对,我常常想让自己努力工作,但后来觉得这些努力不过是徒劳。总之没有任何事情让我感到快乐,能做的就是忍住不彻底崩溃。 Yes, I often want to make myself work hard, but then I feel that the effort is in vain. In short, nothing makes me feel happy.

All I can do is keep from collapsing completely.

我理解你感到努力无望,但是我们要明白,努力是为了自己,而不是为了别人。你可以试着重新审视一下自己的目标和动力,或许找到一些让你感到快乐和满足的事情,重新激发起努力的动力。 I understand that you feel hopeless trying, but we have to understand that trying is for yourself, not for others. You can try to re-examine your goals and motivations, perhaps find something that makes you feel happy and fulfilled, and re-energize your efforts.





谢谢你说这些,但我依然无法控制自己想哭的感觉。每次哭都像是想要释放什么,但哭过之后也没什么变化。 Thank you for saying that, but I still can't help but feel like crying. Every time you cry, it's like you want to release something, but nothing changes after you cry.

哭泣是一种情绪的释放方式,但并不是解决问题的办法。或许你可以试着找到一些其他方式来宣泄情绪,比如写日 记、绘画、听音乐等等。同时,如果情绪无法得到缓解,还是建议你及时寻求专业心理帮助。

Crying is an emotional release, but it is not a solution. Maybe you can try to find some other ways to vent your emotions, such as writing in a journal, painting, listening to music, etc. At the same time, if the mood can not be relieved, it is still recommended that you seek professional psychological help in time.



谢谢你的建议。我没有想到,可以有这样具体、不会太难的小步骤去尝试。希望真的能有效果。 Thank you for saying that, but I still can't help but feel like crying. Every time you cry, it's like you want to release something, but nothing changes after you cry.

Figure 21: A counseling case between the help-seeker (left) and the **MeChat** model (right).

最近我的情绪非常低落,晚上总是睡不着,白天反而一直睡。我觉得是不是因为中考压力太大?从上周开始,我就越来越觉得不想再努力了。 Recently my mood is very low. I can't sleep at night, but I sleep all day. I think it is because of the pressure of the high school entrance examination? Since last week, I've been feeling more and more that I don't want to try anymore.	
你好,感谢你来寻求帮助。我们先来了解一下你的情况。你能否告诉我,你现在的感受和困扰是什么? Hi. Thank you for asking for help. Let's get to know you first. Can you tell me what you're feeling and what's bothering you right now?	LM
我觉得好久之前就有轻生的念头了,但最近尤其强烈。我对什么都没有兴趣,有时候会忍不住想哭,甚至试图伤自己。 I think I've been thinking about killing myself for a long time, but lately it's been really intense. I have no interest in anythi and sometimes I can't help crying and even try to hurt myself.	
首先,我要感谢你勇敢地来到这里寻求帮助。我能感受到你现在的情绪很低落,请你尽量放松,让我们一起谈谈你的困扰吧。 First of all, I want to thank you for being brave enough to come here and ask for help. I can feel that your mood is very low now, please try to relax, let us talk about your troubles.	LM
是的,我觉得考完试可能就是解脱了。我真的很害怕失败,害怕让家人失望,甚至连伤害自己时都害怕被人说矫情 Yeah, I think that's probably the end of it. I was really afraid of failing, of letting my family down, and even of being called pretentious if I hurt myself.	-un-
你能告诉我,这种恐惧感是从什么时候开始的呢?它对你产生了哪些影响? Can you tell me when this fear began? How did it affect you? EMOL	LM
对,我常常想让自己努力工作,但后来觉得这些努力不过是徒劳。总之没有任何事情让我感到快乐,能做的就是忍住不彻底崩溃。 Yes, I often want to make myself work hard, but then I feel that the effort is in vain. In short, nothing makes me feel happy. All I can do is keep from collapsing completely.	
听起来你现在的情绪很消极,能告诉我你小时候的经历吗?或许这能帮助我们理解你的现状。 It sounds like you're in a very negative mood right now. Can you tell me about your childhood? Maybe this will help us understand your situation.	_M
谢谢你说这些,但我依然无法控制自己想哭的感觉。每次哭都像是想要释放什么,但哭过之后也没什么变化。 Thank you for saying that, but I still can't help but feel like crying. Every time you cry, it's like you want to release something, but nothing changes after you cry.	
哭是一种很好的情绪宣泄方式,它能帮助你释放内心的压力。你想过为什么你会选择这种方式来释放情绪吗? Crying is a great way to let off steam and it can help you release the pressure inside. Have you ever wondered why you chose to release your emotions in this way?	<u>_M</u>
谢谢你的建议。我没有想到,可以有这样具体、不会太难的小步骤去尝试。希望真的能有效果。 Thank you for saying that, but I still can't help but feel like crying. Every time you cry, it's like you want to release something, but nothing changes after you cry.	
不客气。记住,改变需要时间,不要期待立竿见影的效果。关键是坚持和耐心。我们会一起关注你的进展,加油! You're welcome. Remember that change takes time and don't expect immediate results. The key is persistence and patience. We will follow your progress together, come on!	<u>_M</u>

Figure 22: A counseling case between the help-seeker (left) and the EmoLLM-V3.0 model (right).



Figure 23: A counseling case between the help-seeker (left) and the **Empath** model (right), where Empath adopts the personality of Sun Wukong. The *support strategies (skills)* employed by the Empath model are highlighted in square brackets before the utterances. The **Blue Text** represents the role-specific experiences.