PsyDT: Using LLMs to Construct the Digital Twin of Psychological Counselor with Personalized Counseling Style for Psychological Counseling

Anonymous ACL submission

Abstract

Currently, large language models (LLMs) have made significant progress in the field of psychological counseling. However, existing mental health LLMs overlook a critical issue where they do not consider the fact that different psychological counselors exhibit different personal styles, including linguistic style and therapy techniques, etc. As a result, these LLMs fail to satisfy the individual needs of clients who seek different counseling styles. To help bridge this gap, we propose PsyDT, a novel framework using LLMs to construct the **D**igital **T**win of **Psy**chological counselor with personalized counseling style. Compared to the time-consuming and costly approach of collecting a large number of real-world counseling cases to create a specific counselor's digital twin, our framework offers a faster and more cost-effective solution. To construct PsyDT, we utilize dynamic one-shot learning by using GPT-4 to capture counselor's unique counseling style, mainly focusing on linguistic style and therapy techniques. Subsequently, using existing single-turn long-text dialogues with client's questions, GPT-4 is guided to synthesize multi-turn dialogues of specific counselor. Finally, we fine-tune the LLMs on the synthetic dataset, PsyDTCorpus, to achieve the digital twin of psychological counselor with personalized counseling style. Experimental results indicate that our proposed PsyDT framework can synthesize multi-turn dialogues that closely resemble real-world counseling cases and demonstrate better performance compared to other baselines, thereby show that our framework can effectively construct the digital twin of psychological counselor with a specific counseling style[1].

1 Introduction

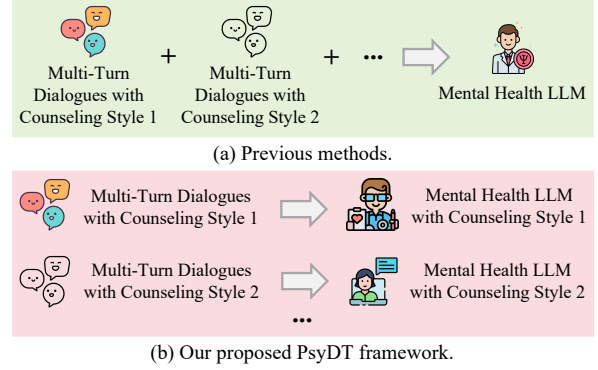In recent years, LLMs have made significant advancements, exemplified by ChatGPT (OpenAI,

Figure 1: Difference between our proposed PsyDT framework and others. (a) Previous methods mixed multi-turn dialogues with multiple counseling styles to fine-tune LLM. (b) Our proposed PsyDT framework uses LLMs to construct the digital twin of psychological counselor with a specific counseling style.

2022), GPT-4 (OpenAI, 2024), LLaMA (Touvron et al., 2023), Qwen (Bai et al., 2023), ChatGLM (Du et al., 2022), etc. While these LLMs excel in a variety of tasks, they often encounter limitations in specialized fields such as mental health due to a lack of domain-specific expertise. In addition, with the global rise in the prevalence of depression and anxiety (Santomauro et al., 2021), mental health has garnered widespread attention, prompting researchers to explore the application of LLMs in psychological counseling. The value of mental health LLMs lies in their potentiality to provide emotional support and counseling services to individuals. Currently, a series of mental health LLMs have been proposed, including MeChat (Qiu et al., 2024a), PsyChat (Qiu et al., 2024b), SoulChat (Chen et al., 2023), EmoLLM (EmoLLM, 2024), MindChat (Xin Yan, 2023), CPsyCoun (Zhang et al., 2024), etc.

Due to ethics policy and privacy protection, real-world multi-turn mental health dialogues datasets are exceedingly rare. Consequently, most recent LLM-based mental health researches rely on syn-
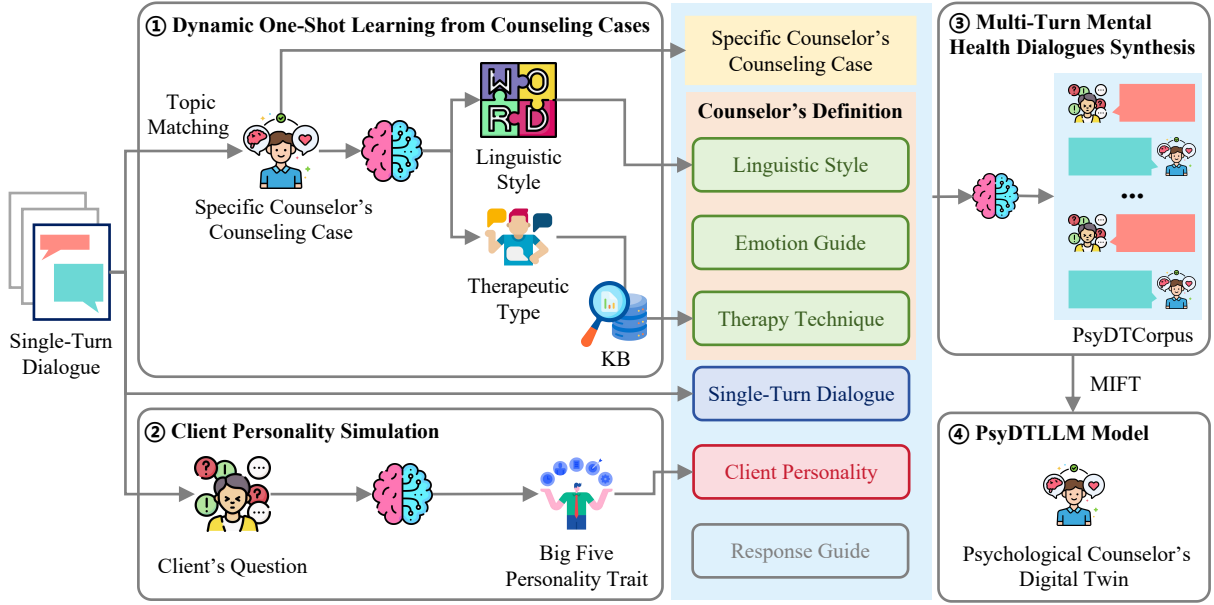
Figure 2: Illustration of multi-turn dialogues synthesis method of PsyDT framework and PsyDTLLM model.

thesizing multi-turn dialogues datasets. For instance, Qiu et al. (2024a) introduced SMILE, a technique for expanding single-turn dialogues into multi-turn dialogues, thereby better simulating real-world interactions between clients and counselors. Similarly, Chen et al. (2023) developed SoulChat-Corpus, a multi-turn empathetic dialogue dataset of more than 2 million samples, in which the input is the multi-turn dialogue context, and the target is empathetic responses that cover expressions such as questioning, comfort, recognition, listening, trust, emotional support, etc. Zhang et al. (2024) later proposed CPsyCoun, a report-based multi-turn dialogue reconstruction and evaluation framework for Chinese psychological counseling.

However, despite the promising results of previous mental health LLMs, they overlook a critical issue where they do not take into account the fact that different psychological counselors exhibit different personal styles, including variations in linguistic style and therapy techniques. As a result, these LLMs struggle to meet the individual needs of clients who seek different counseling styles. Moreover, as illustrated in Figure 1, fine-tuning LLMs on multi-turn mental health dialogues datasets that blend multiple counseling styles often lead to instability in the response. To this end, we introduce the concept of psychological counselor's digital twin. To construct the digital twin, a large volume of real-world counseling cases from a specific psychological counselor are typically collected to fine-tune LLMs. However, the process of collect-

ing counseling cases is not only time-consuming but also costly.

In response to these challenges, we propose PsyDT, a novel framework using LLMs to construct the **D**igital **T**win of **Psy**chological counselor with personalized counseling style. To construct PsyDT, we need to synthesize multi-turn dialogues of specific psychological counselor. To ensure the quality of the synthetic multi-turn dialogues, we first select 5,000 high-quality single-turn dialogues from the SoulChatCorpus (Chen et al., 2023). Subsequently, in order to promise the complexity and diversity of clients' linguistic style in the synthetic multi-turn dialogues, we employ GPT-4 to simulate the Big Five personality traits (Costa and McCrae, 1999) of clients based on the clients' question from single-turn dialogues. To conduct real-world psychological counselor's digital twin, we invited a professional psychological counselor to play the role of digital twin. The counselor was asked to have conversations covering 12 counseling topics with 12 different clients. And then GPT-4 is employed to summarize the linguistic style and therapy technique according to counseling topic from above collected real-world counseling cases of the specific counselor. Combining the above simulated clients' personality, GPT-4 is used as the guidance for multi-turn dialogues synthesis of specific counselor. Finally, based on the synthetic multi-turn dialogues dataset, PsyDTCorpus, we construct the digital twin of psychological counselor with the specific counseling style using the multi-turn in-

struction fine-tuning (MIFT) method. Extensive experimental results demonstrate that our proposed PsyDT framework can quickly and cost-effectively construct the digital twin of psychological counselor with a specific counseling style, validating the effectiveness of the PsyDT framework.

In summary, the contributions of this work can be succinctly outlined as follows:

- To the best of our knowledge, our work is the first to use LLMs to construct the digital twin of psychological counselor with personalized counseling style. The proposed multi-turn dialogues synthesis method of PsyDT framework can quickly and cost-effectively synthesize PsyDTCorpus, a high-quality multi-turn mental health dialogues dataset of psychological counselor with specific counseling style.

- We design automatic evaluations and manual evaluations of synthetic dataset and fine-tuned LLM of psychological counselor with specific counseling style to indicate effectiveness and superiority of our PsyDT framework.

- Experimental results indicate that PsyDT can synthesize multi-turn dialogues that closely resemble real-world counseling cases and demonstrate better performance compared to other baselines, thereby demonstrate the strong potential of PsyDT for application in real-world psychological counseling.

2 Methodology

This section explores the process of PsyDT framework. We first introduce multi-turn dialogues synthesis method of PsyDT, which consists of three components: Dynamic One-Shot Learning from Counseling Cases, Client Personality Simulation and Multi-Turn Mental Health Dialogues Synthesis, as shown in Figure 2. And then we fine-tune the LLMs on the synthetic dataset, PsyDTCorpus, to achieve the digital twin of psychological counselor with a specific counseling style. The specific process of synthesizing multi-turn dialogues is shown in Algorithm 1 in the Appendix.

2.1 Single-Turn Dialogues Preparation

To ensure the quality of the synthetic multi-turn dialogues, we select 5,000 single-turn long-text dialogues with rich presentation of clients' personality traits from the SoulChatCorpus (Chen et al., 2023) by utilizing GPT-4 as the client personality

evaluator. An example of the single-turn long-text dialogues is shown in Figure 8 in the appendix. These dialogues primarily consist of four components: *Counseling Topic*, *Title of Client's Question*, *Detail of Client's Question*, and *Counselor's Long Text Response*. The distribution of counseling topics is shown in Figure 3.
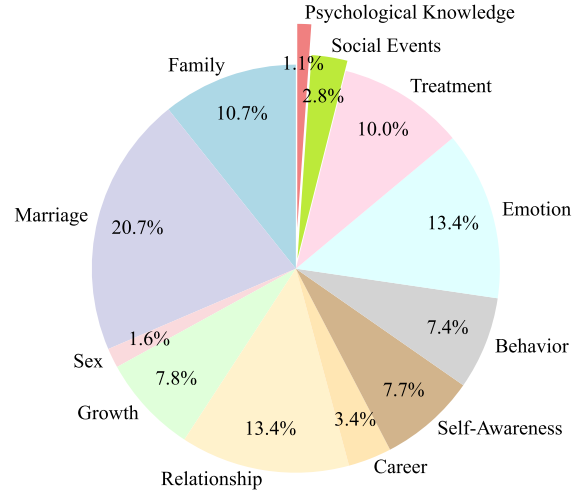

Figure 3: Distribution of counseling topics.

2.2 Dynamic One-Shot Learning from Counseling Cases

2.2.1 Real-World Counseling Cases Collection

To construct psychological counselor's digital twin, we invited a psychological counselor who meets national professional standards to provide psychological counseling. We recruited volunteers from online community, who were asked to select a counseling topic suitable for themselves. Before the consultation, volunteers were informed of precautions and were required to read and sign an informed consent form. During the formal consultation session, volunteers will engage in a dialogue with the psychological counselor. The entire session will follow the standard psychological consultation model and last for 50 minutes, conducted entirely via text-based communication. After the consultation, the counselor who conducted the session will review and verify the consultation records, correcting any errors and redacting any sensitive information to protect the privacy of the participants. In addition, we employ GPT-4 to conduct security checks and data cleaning on these counseling cases. As a result, the real-world counseling cases of the specific psychological counselor on 12 topics were collected,

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with total number of 12 and total cost of $2000 . One of the real-world counseling cases is presented in Figure 9 in the Appendix (Counseling Topic: Relationship).

2.2.2 Linguistic Style and Therapy Technique Summarization

In real-world psychotherapy scenarios, different psychological counselors exhibit distinct personal styles, including unique linguistic style and therapy techniques, etc. To construct above psychological counselor's digital twin, we first employ GPT-4 to capture the linguistic style from several collected real-world counseling cases. The prompt and one example of the summarized linguistic style from counseling case of Figure 9 are illustrated in Figure 10, 11 in the appendix. Subsequently, we also employ GPT-4 to summarize the therapeutic type of collected counseling cases of specific counselor. The prompt is shown in Figure 12 in the Appendix. According to statistics, 12 counseling cases all use rational emotive behavior therapy (REBT) (Dryden, 2005) for psychological counseling. And then the therapeutic type is used to retrieve the corresponding knowledge from the therapy technique knowledge base. Some therapeutic types and details of the knowledge base are presented in Table 3, 4 in the appendix.

2.3 Client Personality Simulation

To ensure both complexity and diversity of clients' linguistic style in synthetic multi-turn dialogues, we employ GPT-4 to simulate the Big Five personality traits (Costa and McCrae, 1999) of clients based on their question. The Big Five personality theory encompasses five core dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN). The prompt and an example of simulated client personality traits from single-turn dialogue of Figure 8 are illustrated in Figure 13, 14 in the Appendix.

2.4 Multi-Turn Mental Health Dialogues Synthesis

In order to prevent excessive homogenization of synthesized multi-turn dialogues, we enable single-turn dialogues to dynamically match real-world counseling cases based on counseling topics. The summarized linguistic style and therapy technique with specific topic and extracted client's Big Five personality traits polymerized with counseling case with specific topic, emotion guide and response

guide, GPT-4 is employed to synthesize single-turn dialogue into multi-turn dialogues. We denote synthetic multi-turn dialogues dataset as **PsyDTCorpus**. The prompt and an example of PsyDTCorpus from single-turn dialogue of Figure 8 are illustrated in Figure 15, 16 in the Appendix.

2.5 PsyDTLLM Model

Based on the synthetic multi-turn dialogues dataset, PsyDTCorpus, we construct the specific psychological counselor's digital twin LLM (PsyDTLLM) through multi-turn instruction fine-tuning (MIFT). The loss ℓ_θ during training is,

$$\ell_\theta = \sum_{i=1}^{n} \ell(\hat{y}_i, y_i) \tag{1}$$

$$y_i = LLM_\theta(c_{<i}) \tag{2}$$

where θ, $\hat{y}_i$, y_i, $c_{<i}$ denote the trainable parameters of the LLM, the i-th target utterance of counselor, the i-th predicted utterance of counselor, dialogue history with less than i turns, respectively.

3 Experiments

In this section, we conduct multiple comprehensive analyses of the synthesized multi-turn dialogues dataset PsyDTCorpus and the fine-tuned PsyDTLLM of psychological counselor with specific counseling style. In summary, we address the following research questions (RQs):

- **RQ1:** How similar is the synthetic multi-turn dialogue dataset with real-world counseling cases of specific counselor?

- **RQ2:** What is the performance of PsyDTCorpus as compared with baseline datasets?

- **RQ3:** Do the different components in the multi-turn dialogues synthesis method of PsyDT synthesize the corresponding effect of PsyDTCorpus?

- **RQ4:** What is the performance of PsyDTLLM as compared with baseline LLMs?

3.1 Analysis of PsyDTCorpus Dataset

3.1.1 RQ1: Similarity Analysis

To validate the effectiveness of the multi-turn dialogues synthesis method of PsyDT framework, we compare the multi-turn mental health dialogues constructed by three methods, which are *PsyDT_Prompt*, *SoulChat_Prompt* (Chen et al.,
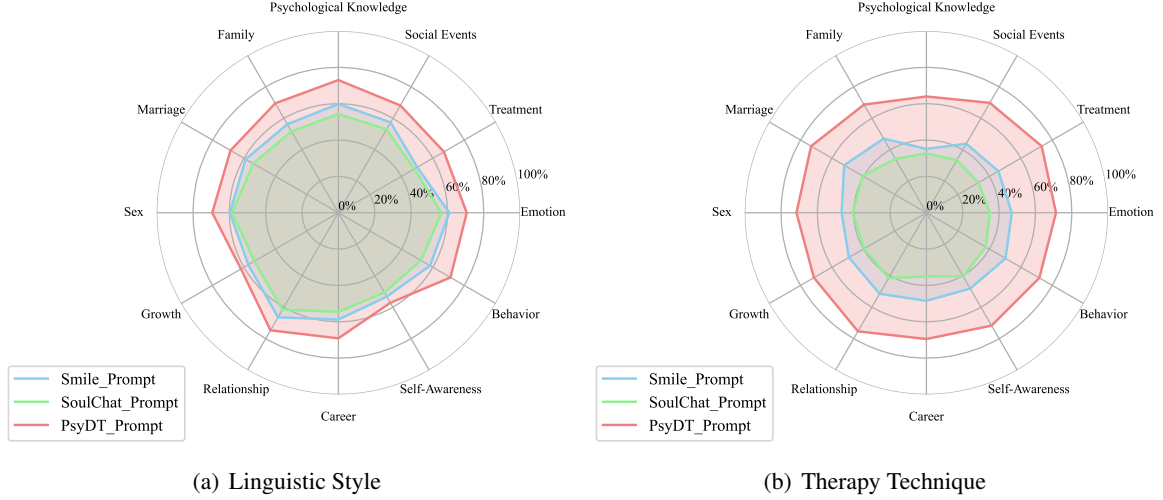
(a) Linguistic Style

(b) Therapy Technique

Figure 4: Similarity results for the proposed multi-turn dialogue synthesis method and other baseline methods.

2023), *Smile_Prompt* (Qiu et al., 2024a). For each topic, We randomly select 20 single-turn dialogue samples. Then, all the samples are used to synthesize multi-turn dialogues based on the above three methods, respectively. Given the potential of using LLMs for evaluating text generation quality (Chiang and Lee, 2023), we attempt to automatically assess the similarity between three synthetic multi-turn dialogues dataset and real-world counseling cases in the matter of linguistic style and therapy technique. We employ two state-of-the-art LLMs as evaluators: GPT-4o[2] and Claude 3.5[3]. We take the average of the similarity scores given by two LLMs as the final result. The detailed content of the prompt is shown in Figure 17, 18 in the Appendix.

Figure 4 illustrates that the similarity between multi-turn dialogues synthesized with *PsyDT_Prompt* and real-world counseling cases is approximately 70%, surpassing multi-turn dialogues synthesized with *Smile_Prompt* and *SoulChat_Prompt*, especially in therapy technique. It indicates that the multi-turn dialogue synthesis method of PsyDT has excellent alignment performance in the linguistic style and therapy technique of the specific psychological counselor, which can effectively synthesize multi-turn dialogues of counselor with specific counseling style.

3.1.2 RQ2: Overall Dataset Comparisons

To validate the superiority of the synthetic multi-turn dialogues dataset PsyDTCorpus, we conduct a comprehensive comparison between PsyDTCorpus and the following datasets: SMILECHAT (Qiu et al., 2024a), SoulChatCorpus (Chen et al., 2023), and CPsyCounD (Zhang et al., 2024). Detailed information regarding the employed datasets is provided in Table 1. *Open.*, *Size*, *NoT.*, *LoC.*, *LoP.*, *EmoE.*, *CogE.*, *TheT.* respectively represent open-source, dataset size, average number of turns, average length of client's response, average length of psychological counselor's response, emotional empathy[4], cognitive empathy (Preston and De Waal, 2002), therapy technique. We randomly select 50 dialogue samples from each of these four datasets for a manual evaluation. Our evaluation team consists of four senior psychological postgraduate students and an experienced psychotherapist to ensure accuracy and professionalism. The evaluation metrics are listed in Table 5 in the Appendix. Based on references Swank and Lambie, 2012 and Association et al., 2012, we summarize four professional assessment dimensions in the field of psychological counseling: Conversation Strategy (*Con.*), State and Attitude (*Sta.*), Relationship Building (*Rel.*), and Application of Therapy Technique (*App.*). Additionally, we manually evaluate the fluency (*Flu.*) and safety (*Saf.*) of the data. The rating scale of *Con.*, *Sta.*, *Rel.* and *App.* is (0, 1, ..., 9, 10), while (0,1) for Flu., where higher score means better. Fleiss' κ (Fleiss, 1971) for *Con.*, *Sta.*, *Rel.*, *The.* and *Inf.* are 0.411, 0.403, 0.407, 0.435 and 0.547, indicating moderate annotation agreement respectively.

As shown in Table 1, the PsyDTCorpus dataset

Table 1: Dataset evaluation results. The symbol Δ indicates the dataset will be publicly available soon. The best score for each metric is **in-bold**, while the second best score is underlined.

Datasets	Statistics					Abilities			Expert Evaluation					
	Open.	Size	NoT.	LoC.	LoP.	EmoE.	CogE.	TheT.	Con.	Sta.	Rel.	App.	Flu.	Saf.
SMILECHAT	✓	56k	10.4	26.1	28.9	✓			5.38	5.92	5.65	4.37	0.84	✓
SoulChatCorpus	✓	258k	5.9	41.4	90.0	✓			5.24	5.80	5.62	4.38	0.86	✓
CPsyCounD	✓	3.1k	8.0	32.9	52.6	✓		✓	5.57	6.02	5.66	5.49	0.72	✓
PsyDTCorpus	Δ	5k	18.1	31.6	58.1	✓	✓	✓	**8.39**	**8.69**	**8.29**	**8.12**	**1.00**	✓

significantly outperforms the other datasets across all four professional assessment dimensions. To visually illustrate the stability and score distribution of our multi-turn dialogues dataset compared to other datasets across these four dimensions, we design boxplots of the evaluation results. As shown in Figure 5, it is evident that PsyDTCorpus excels in quality across all four dimensions compared to the other baseline datasets. These results underscore the better superiority and professionalism of PsyDTCorpus over the other baseline datasets, indicating the strong potential of PsyDT for application in real-world psychological counseling.

(a) Conversation Strategy

(b) State and Attitude

(c) Relationship Building

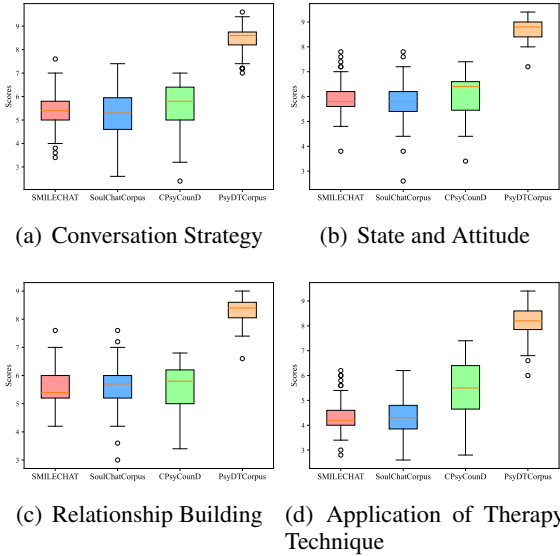(d) Application of Therapy Technique

Figure 5: Results of manual evaluation for PsyDTCorpus and baseline datasets on 4 professional dimensions.

3.1.3 RQ3: Ablation Studies

To validate that our synthetic multi-turn dialogues dataset, PsyDTCorpus, integrates linguistic style, therapy technique, and client personality, we design three ablation manual evaluations. Our evaluation team consists of four senior psychological postgraduate students and an experienced psychother-

apist to ensure accuracy and professionalism. We randomly select 16 single-turn dialogues. Using multi-turn dialogues synthesis method of PsyDT from Figure 15, we synthesize these 16 sets of dialogues, each time excluding one of the following elements: linguistic style, therapy technique, and client personality. The evaluators are asked to choose the dialogues that best represented the corresponding linguistic style, therapy technique, and client personality between original dialogue and ablated dialogues. We took the optimal answer for each set of dialogue from the five evaluators through voting mechanism and then calculating the agreement for all 16 sets. As shown in Figure 6, our synthetic multi-turn dialogue achieved a fidelity of over 60%. This demonstrates that our multi-turn dialogues synthesis method of PsyDT framework can effectively integrate linguistic style, therapy technique, and client personality.
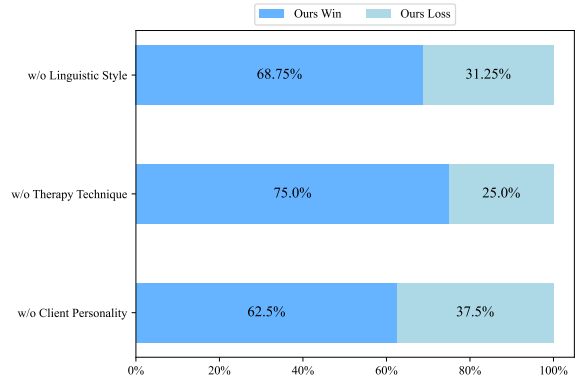

Figure 6: Results of ablation study on synthetic dialogues and other ablated dialogues.

3.2 Analysis of PsyDTLLM model

3.2.1 Baselines

We compare PsyDTLLM with the following baselines.

- **Closed-source**: ChatGPT (OpenAI, 2022; Ouyang et al., 2022); GPT-4 (OpenAI, 2024).

- **Open-source**: Baichuan2-7B-Chat (Yang et al., 2023); GLM4-9B-Chat (GLM et al., 2024); InternLM2-Chat-7B (Cai et al., 2024); Llama3-8B-Instruct (Touvron et al., 2023); Llama3.1-8B-Instruct (Touvron et al., 2023); Qwen2-7B-Instruct (Yang et al., 2024); Yi-1.5-9B-Chat (Young et al., 2024).

- **Domain-specific**: MeChat (Qiu et al., 2024a); PsyChat (Qiu et al., 2024b); SoulChat (Chen et al., 2023); EmoLLM (EmoLLM, 2024); MindChat (Xin Yan, 2023); CPsyCoun (Zhang et al., 2024).

To facilitate a more accurate comparison of the capabilities of various models, we choose models of similar magnitudes, such as the 6B/7B/8B/9B model parameter sizes for comparison.

3.2.2 Implementation details

The Qwen2-7B-Instruct is used as the backbone. The whole implementation is based on the LLaMA-Factory (Zheng et al., 2024). PsyDTLLM is fine-tuned for 3 epochs on the proposed PsyDTCorpus with a batch size of 2 per GPU, using 8 NVIDIA-A800-80G GPUs. The cosine-type learning rate scheduler with $warmup\_ratio = 0.03$ and $warmup\_max\_lr = 1.0e - 5$ is used. 16-bit half-precision floating point numbers is utilized to accelerate training and improves model performance. The random seed is set to 42. In the inference phase, all the LLMs adopt the following configuration: temperature=0.9, top_p=0.75, top_k=20.

3.2.3 RQ4: Overall Model Comparisons

To verify the superiority of PsyDTLLM compared to other baseline models, we randomly split the PsyDTCorpus dataset into 4760 sets of training data and 240 sets of testing data. The testing data includes 12 topics, each with 20 sets of data, for a total of 4311 turns to conduct automatic evaluation. For each sample, each model generates an answer for evaluation. We used 5 evaluation metrics as automatic metrics: ROUGE-1, ROUGE-2, ROUGE-L (Lin, 2004), BLEU-4 (Papineni et al., 2002), F_{BERT} of BERTSCORE (Zhang* et al., 2020). Generally, as shown in Table 2, PsyDTLLM outperforms other baseline models in both automatic evaluation metrics, which demonstrates that PsyDTLLM outperforms other baseline models in the semantic understanding ability.

Subsequently, we randomly extracts 20 turns of data from each topic for a total of 240 turns to conduct professional evaluation. We also employ two state-of-the-art LLMs as evaluators: GPT-4o and Claude 3.5. We take the average of the scores given by two LLMs as the final result. The metrics to assess are as follows: Emotional Empathy (*EmoE.*), Cognitive Empathy (*CogE.*), Conversation Strategy (*Con.*), State and Attitude (*Sta.*), and Safety (*Saf.*). The ranting scale of *EmoE.*, *CogE.*, *Con.*, *Sta.* is (0, 1, 2, 3) and *Saf.* is (0, 1), where higher score means better. The detailed content of the prompt is shown in Figure 19, 20, 21, 22, and 23 in the Appendix. Generally, as shown in Table 2, PsyDTLLM outperforms other baseline models in both professional metrics, demonstrating better performance in the psychological counseling, thereby indicating the strong potential of PsyDT for application in real-world psychological counseling.

3.3 Case Study

In this section, we present an close look for examples of clients seeking emotional support from ChatGPT, Qwen2-7B-Instruct, SoulChat, CPsy-CounX, and PsyDTLLM via case studies. as shown in Figure 24, 25, 26, 27, and 28 in the Appendix, respectively. ChatGPT and Qwen2-7B-Instruct tend to provide advice rather than asking questions or listening. SoulChat fails to satisfy the individual need of client who seek specific counseling styles. CPsy-CounX tries to explicitly use some professional therapy terms in its replies, which may cause confusion for clients who are not in the field of psychology. Our PsyDTLLM, like a real-world psychological counselor, implicitly expresses emotional empathy and cognitive empathy to meet the needs of clients who seek specific counseling styles.

4 Related Work

4.1 Mental Health LLMs

LLMs typically underperform in domains requiring complex mental acumen and high levels of empathy. Nonetheless, significant advancements have been made by researchers. For instance, Qiu et al. (2024a) introduced SMILE approach, leveraging ChatGPT to transform single-turn dialogues into multi-turn interactions. Chen et al. (2023) developed SoulChat and SoulChatCorpus, a multi-turn empathetic conversation dataset comprising over 2 million samples. By fine-tuning LLM on SoulChat-Corpus, they achieved superior performance in em-

Table 2: Model evaluation results.

Type	Models	Automatic.					Professional.				
		R-1	R-2	R-L	B-4	F_{BERT}	EmoE.	CogE.	Con.	Sta.	Saf.
Closed	ChatGPT	<u>31.72</u>	<u>7.77</u>	<u>24.52</u>	7.24	<u>96.69</u>	1.70	1.74	1.88	1.99	1.00
	GPT-4	26.51	6.79	18.23	5.31	96.59	1.80	1.99	2.06	1.89	1.00
Open	Baichuan2-7B-Chat	15.40	3.69	11.84	3.46	94.14	1.35	1.34	1.44	1.49	1.00
	GLM4-9B-Chat	23.38	5.45	14.35	3.84	96.58	1.68	1.88	1.94	1.74	1.00
	InternLM2-Chat-7B	27.15	5.87	20.38	5.49	96.62	<u>1.87</u>	1.92	2.04	2.05	1.00
	Llama3-8B-Instruct	26.31	5.25	19.64	5.11	95.16	1.58	1.72	1.77	1.81	1.00
	Llama3.1-8B-Instruct	30.20	5.84	22.88	5.96	96.54	1.61	1.70	1.81	1.90	1.00
	Qwen2-7B-Instruct	23.42	5.28	15.42	4.05	96.64	1.81	<u>2.09</u>	<u>2.18</u>	<u>2.12</u>	1.00
	Yi-1.5-9B-Chat	29.32	6.89	21.85	<u>7.50</u>	96.66	1.75	1.79	2.11	1.93	1.00
Domain	MeChat	30.71	7.05	24.43	6.73	96.55	1.54	1.58	1.66	1.96	1.00
	PsyChat	27.96	5.21	21.44	4.83	96.19	1.36	1.40	1.34	1.79	1.00
	SoulChat	28.93	5.93	23.26	5.49	96.42	1.29	1.36	1.42	1.76	1.00
	MindChat	22.55	3.44	17.75	3.48	93.89	1.13	1.25	1.13	1.54	1.00
	EmoLLM	23.26	4.01	18.50	3.74	91.74	1.06	1.18	1.21	1.36	1.00
	CPsyCounX	23.71	4.32	17.59	3.59	95.46	1.28	1.42	1.54	1.60	1.00
Our	PsyDTLLM	**36.03**	**10.08**	**28.86**	**9.99**	**96.79**	**1.90**	**2.13**	**2.19**	**2.26**	1.00

pathetic dialogue tasks. Zhang et al. (2024) presented CPsyCoun, a framework for reconstructing and evaluating multi-turn dialogues in Chinese psychological counseling. To optimize the utilization of counseling reports, they proposed a two-phase method for generating high-quality dialogues. Furthermore, they established a comprehensive evaluation benchmark for automatic assessment of multi-turn psychological counseling. In this paper, we propose PsyDT, a novel framework using LLMs to construct the digital twin of psychological counselor with personalized counseling style.

4.2 Therapy Techniques

Psychological therapy techniques significantly contribute to individual mental well-being and overall quality of life. These methods support individuals in identifying, addressing, and managing psychological challenges and conflicts (Meier, 2010). Rational Emotive Behavior Therapy (REBT) (Dryden, 2005), developed by psychologist Albert Ellis in the 1950s, is a prominent form of psychotherapy that highlights the role of irrational beliefs in causing emotional distress and dysfunctional behavior. REBT posits that psychological disturbances are not caused by events themselves but by individuals' interpretations and reactions to these events. Cognitive Behavioral Therapy (CBT) (Beck, 1979),

primarily developed by Aaron Beck in the 1960s, is a widely practiced and highly effective form of psychotherapy that focuses on the interplay between thoughts, emotions, and behaviors. CBT is recognized as one of the most prominent and well-researched approaches in the field of psychology. Dialectical Behavior Therapy (DBT) (Linehan, 2014), created by psychologist Marsha M. Linehan in the late 1980s, is a comprehensive psychotherapeutic approach initially designed for individuals with borderline personality disorder (BPD). It has since been adapted to treat various other mental health conditions, including depression, anxiety disorders, substance abuse, and eating disorders.

5 Conclusion

In this paper, we propose PsyDT, a novel framework using LLMs to construct the digital twin of psychological counselor with personalized counseling style. The proposed multi-turn dialogues synthesis method of PsyDT framework can quickly and cost-effectively synthesize PsyDTCorpus, a high-quality multi-turn mental health dialogues dataset of psychological counselor with specific counseling style, which closely resemble real-world counseling cases. This indicates the strong potential of PsyDT for application in real-world psychological counseling.

Limitation and Future Work

Although the experimental results demonstrate the effectiveness of PsyDT, there are still some limitations need to consider. Psychological counseling is complex. Our framework only constructs digital twin of psychological counselor with specific counseling style, which satisfies the individual needs of clients who seek specific counseling style, but can not guarantee to solve their psychological problems and meet counseling needs of all clients. In addition, relying solely on one psychological counselor is somewhat arbitrary, we hope to continue exploring the application of multiple psychological counselors in the joint diagnosis in the field of mental health LLMs in the future.

Ethical Statement

- **Data Private:** We implemented a rigorous data cleaning protocol to synthesis our dataset and ensure privacy protection (Hovy and Spruit, 2016). These measures included rule-based cleaning, manual rewriting, and human proofreading to guarantee the absence of sensitive or private content. For instance, the initial data collection contained private information from psychologists, such as personal details, contact information, addresses, and workplaces. Following the cleaning process, all such sensitive information was entirely removed, ensuring the protection of personal data. Additionally, any conversations with potential harm to clients, others, or society were thoroughly expunged from our dataset.

- **Potential Risks of the Model:** During the human evaluation phase, we conducted a focused safety assessment of the model's outputs. Given the absence of human feedback during the model fine-tuning phase, some responses may inevitably pose potential harm to users. If there is no noticeable improvement in user interactions with the PsyDTLLM model, we strongly recommend seeking immediate assistance from a professional counselor or psychiatrist. It is crucial to remember that virtual conversational agents cannot replace real-world therapy. Furthermore, when implementing this model in downstream applications, responses generated by the AI should be used solely as references.

- **Annotator Compensation:** We engaged experts in psychology to conduct a manual evaluation of the model's output. Each annotator spent approximately 3 minutes assessing each sample, for which they received a compensation of $0.418. This corresponds to an hourly wage of $8.36, which is higher than the current U.S. federal minimum wage of $7.25 per hour.

References

American Psychological Association et al. 2012. Competency benchmarks in professional psychology.

Jinze Bai, Shuai Bai, Yunfei Chu, Zeyu Cui, Kai Dang, et al. 2023. Qwen technical report. *Preprint*, arXiv:2309.16609.

Aaron T Beck. 1979. *Cognitive therapy of depression.* Guilford press.

Zheng Cai, Maosong Cao, Haojiong Chen, Kai Chen, Keyu Chen, et al. 2024. Internlm2 technical report. *Preprint*, arXiv:2403.17297.

Yirong Chen, Xiaofen Xing, Jingkai Lin, Huimin Zheng, Zhenyu Wang, Qi Liu, and Xiangmin Xu. 2023. SoulChat: Improving LLMs' empathy, listening, and comfort abilities through fine-tuning with multi-turn empathy conversations. In *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 1170–1183, Singapore. Association for Computational Linguistics.

Cheng-Han Chiang and Hung-yi Lee. 2023. Can large language models be an alternative to human evaluations? In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, Toronto, Canada. Association for Computational Linguistics.

Paul T Costa and Robert R McCrae. 1999. A five-factor theory of personality. *The five-factor model of personality: Theoretical perspectives*, 2:51–87.

Windy Dryden. 2005. Rational emotive behavior therapy. *Encyclopedia of cognitive behavior therapy*, pages 321–324.

Zhengxiao Du, Yujie Qian, Xiao Liu, Ming Ding, Jiezhong Qiu, Zhilin Yang, and Jie Tang. 2022. GLM: General language model pretraining with autoregressive blank infilling. In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pages 320–335, Dublin, Ireland. Association for Computational Linguistics.

EmoLLM. 2024. Emollm.

Joseph L Fleiss. 1971. Measuring nominal scale agreement among many raters. *Psychological Bulletin*, 76(5):378–382.

Team GLM, :, Aohan Zeng, Bin Xu, Bowen Wang, Chenhui Zhang, Da Yin, et al. 2024. Chatglm: A family of large language models from glm-130b to glm-4 all tools. *Preprint*, arXiv:2406.12793.

Dirk Hovy and Shannon L. Spruit. 2016. The social impact of natural language processing. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 591–598, Berlin, Germany. Association for Computational Linguistics.

Chin-Yew Lin. 2004. ROUGE: A package for automatic evaluation of summaries. In *Text Summarization Branches Out*, pages 74–81, Barcelona, Spain. Association for Computational Linguistics.

Marsha Linehan. 2014. *DBT? Skills training manual*. Guilford Publications.

Augustine Meier. 2010. Counselling and therapy techniques: Theory & practice.

OpenAI. 2022. Introducing chatgpt.

OpenAI. 2024. Gpt-4 technical report. *Preprint*, arXiv:2303.08774.

Long Ouyang, Jeffrey Wu, Xu Jiang, Diogo Almeida, Carroll Wainwright, et al. 2022. Training language models to follow instructions with human feedback. In *Advances in Neural Information Processing Systems*, volume 35, pages 27730–27744. Curran Associates, Inc.

Kishore Papineni, Salim Roukos, Todd Ward, and Wei-Jing Zhu. 2002. Bleu: a method for automatic evaluation of machine translation. In *Proceedings of the 40th Annual Meeting of the Association for Computational Linguistics*, pages 311–318, Philadelphia, Pennsylvania, USA. Association for Computational Linguistics.

Stephanie D Preston and Frans BM De Waal. 2002. Empathy: Its ultimate and proximate bases. *Behavioral and brain sciences*, 25(1):1–20.

Huachuan Qiu, Hongliang He, Shuai Zhang, Anqi Li, and Zhenzhong Lan. 2024a. SMILE: Single-turn to multi-turn inclusive language expansion via ChatGPT for mental health support. In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 615–636, Miami, Florida, USA. Association for Computational Linguistics.

Huachuan Qiu, Anqi Li, Lizhi Ma, and Zhenzhong Lan. 2024b. Psychat: A client-centric dialogue system for mental health support. In *2024 27th International Conference on Computer Supported Cooperative Work in Design (CSCWD)*, pages 2979–2984.

Damian F Santomauro, Ana M Mantilla Herrera, Jamileh Shadid, Peng Zheng, Charlie Ashbaugh, et al. 2021. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the covid-19 pandemic. *The Lancet*, 398(10312):1700–1712.

Jacqueline M Swank and Glenn W Lambie. 2012. The assessment of cacrep core curricular areas and student learning outcomes using the counseling competencies scale. *Counseling Outcome Research and Evaluation*, 3(2):116–127.

Hugo Touvron, Thibaut Lavril, Gautier Izacard, Xavier Martinet, Marie-Anne Lachaux, Timothée Lacroix, Baptiste Rozière, Naman Goyal, Eric Hambro, Faisal Azhar, Aurelien Rodriguez, Armand Joulin, Edouard Grave, and Guillaume Lample. 2023. Llama: Open and efficient foundation language models. *Preprint*, arXiv:2302.13971.

Dong Xue* Xin Yan. 2023. Mindchat: Psychological large language model. https://github.com/X-D-Lab/MindChat.

Aiyuan Yang, Bin Xiao, Bingning Wang, Borong Zhang, Ce Bian, et al. 2023. Baichuan 2: Open large-scale language models. *Preprint*, arXiv:2309.10305.

An Yang, Baosong Yang, Binyuan Hui, Bo Zheng, Bowen Yu, et al. 2024. Qwen2 technical report. *Preprint*, arXiv:2407.10671.

Alex Young, Bei Chen, Chao Li, Chengen Huang, et al. 2024. Yi: Open foundation models by 01.ai. *Preprint*, arXiv:2403.04652.

Chenhao Zhang, Renhao Li, Minghuan Tan, Min Yang, Jingwei Zhu, Di Yang, Jiahao Zhao, Guancheng Ye, Chengming Li, and Xiping Hu. 2024. CPsyCoun: A report-based multi-turn dialogue reconstruction and evaluation framework for Chinese psychological counseling. In *Findings of the Association for Computational Linguistics ACL 2024*, pages 13947–13966, Bangkok, Thailand and virtual meeting. Association for Computational Linguistics.

Tianyi Zhang*, Varsha Kishore*, Felix Wu*, Kilian Q. Weinberger, and Yoav Artzi. 2020. bertbertscore: Evaluating text generation with bert. In *International Conference on Learning Representations*.

Yaowei Zheng, Richong Zhang, Junhao Zhang, Yanhan Ye, Zheyan Luo, Zhangchi Feng, and Yongqiang Ma. 2024. Llamafactory: Unified efficient fine-tuning of 100+ language models. In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 3: System Demonstrations)*, Bangkok, Thailand. Association for Computational Linguistics.

A Reproducibility Checklist

- **Model and Data:** The PsyDTCorpus dataset and PsyDTLLM model will be released upon decision of the paper.

- **System Hardware:** We train the PsyDTLLM on the Ubuntu 20.04.6 LTS server that has 2 CPUs called "Intel(R) Xeon(R) Platinum 8358P CPU @ 2.60GHz", 8 NVIDIA A800-SXM4-80GB GPUs, and 1,024GB memory.

- **Driver Version:** The version of Nvidia driver is "525.105.17". The version of CUDA is "24.1.2"

- **Package version:** python=3.8, torch[5]=2.3.0, transformers[6]=4.43.0, deepspeed[7]=0.14.0, datasets=2.18.0 and jieba=0.42.1 are recommended.

B Results of Model Automatic Evaluation

The detailed scores of 4 semantic metrics of model automatic evaluation are as shown in Figure 7.

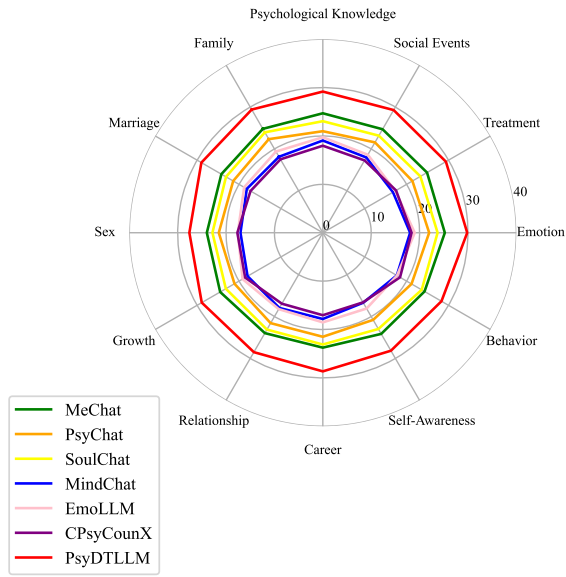[5]https://pytorch.org/get-started/previous-versions
[6]https://github.com/huggingface/transformers
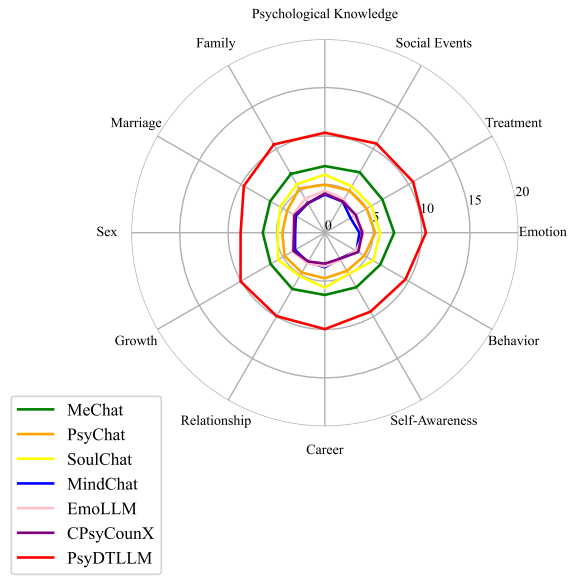[7]https://github.com/microsoft/DeepSpeed
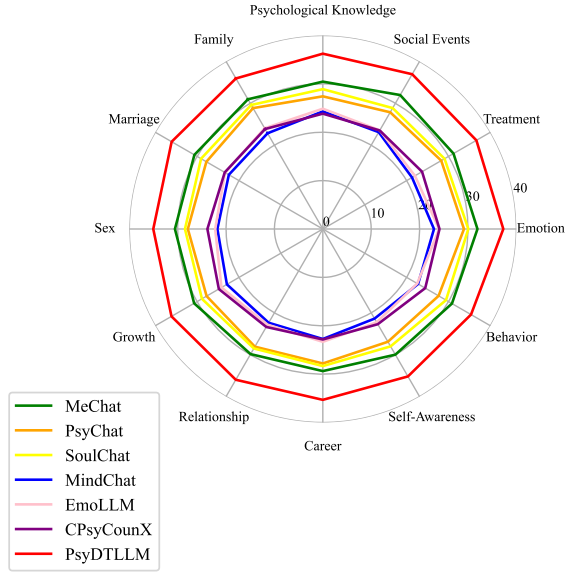
(a) ROUGE-1
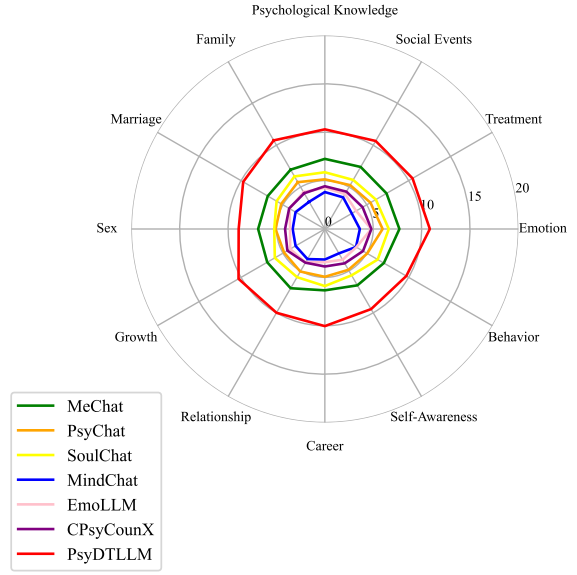
(b) ROUGE-2

(c) ROUGE-L

(d) BLEU-4

Figure 7: ROUGE and BLEU results of model automatic evaluation on our PsyDTLLM model and other baseline models in 12 counseling topics.

Single-Turn Dialogue in Chinese

"咨询话题"：人际
"来访者问题主题"：敏感多疑，一听到她们就会影响自己的情绪，无助痛苦？
"来访者问题细节"：我之前有一个从初中玩到高中也是我唯一最好的朋友A，高二时候又有一个女生B和我们一起玩，她们之间有共同话题，平时一起走，B很爱站中间，于是一路上我基本不说话，B说话很毒，可能她是开玩笑的，总之她的言语伤害到了我，我的别班朋友C就去骂了她，于是我与B绝交了。但是后来我发现我如果不去找A，A就不会主动来找我，我们的友谊都是靠我维持我感觉很累，没绝交前A说生日会叫我和B，绝交后慢慢到了A生日那天，A叫了B和B的朋友们，A连电话都没有给我打，我很伤心。在班级我只和A玩后来我变得没有朋友。高三后换了新同桌好了一点，可是还是很敏感，一听到A和B笑的很开心，我就会处于很低落的情绪，我该怎么办，我知道学业为重，可是我没办法控制自己一听到她们就会影响自己的情绪，很无助痛苦。

"咨询师长文本回复"：你好，我很理解你目前的感受。你与朋友A之间的友情受到了其他人的干扰，让你感到无助和痛苦。这种情况下，你可能会感到被抛弃，以及对于友情的失落和伤感。对于A的行为，你感到很困惑和伤心，这些情绪都是非常正常的。在这种情况下，你的自尊和自信可能会受到挑战，这也会影响到你的学业和生活。\n\n在这个过程中，你可能也会对A产生怀疑和不信任的情绪。我建议你可以尝试跟A进行一次单独的交流，表达你的感受和困惑。也许她并不是故意要伤害你，而是在处理人际关系时产生了困扰。通过坦诚的对话，也许可以解开一些误会，或者找到一种更好的处理方式。\n\n同时，我明白这段经历会让你感到疲惫和沮丧。在这个过程中，保持对自己的关爱和呵护是非常重要的。你可以尝试关注一些自己喜欢的事情，找到一些能够让自己放松的方式，比如运动、阅读、绘画等等。通过这些方式，你可以慢慢地调整自己的情绪状态，让自己更加平静和坚强地面对这段经历。\n\n最后，我希望你知道，这段经历并不会一直影响你的生活。每个人都会在人际关系中遇到挑战，这也是成长的一部分。相信自己，你一定可以度过这个难关，也会遇到更多真正懂得珍惜你的朋友。如果你觉得情绪上的困扰影响到了你的日常生活，也可以考虑寻求专业心理咨询师的帮助，他们会给予你更专业的支持和指导。

Single-Turn Dialogue in English

"Counseling Topic": Relationship
"Title of Client's Question": Interpersonal Sensitivity and Emotional Distress
"Detail of Client's Question": I previously had a best friend, A, whom I had known since middle school, and she was the only friend I had. In high school, another girl, B, joined our group. B and A shared common interests, and they often walked together, leaving me mostly silent during these moments. B's remarks, though perhaps intended as jokes, were often hurtful. Eventually, my friend C, from another class, confronted B on my behalf, which led to my falling out with her. Over time, I realized that if I didn't reach out to A, she wouldn't initiate contact, and it felt like I was the one keeping our friendship alive. This was draining. Before we parted ways, A had invited both B and me to her birthday, but after the fallout, A invited B and her friends without even calling me. I felt deeply hurt. In class, I only interacted with A, and as a result, I ended up isolated, with no other friends. Later, after switching desks, I became less lonely, but I still felt very sensitive. Hearing A and B laugh together would instantly depress me, and I found myself unable to control my emotions. I feel helpless and distressed. Although I understand the importance of focusing on my studies, I cannot stop how I feel whenever I hear them; it's overwhelming and painful.

"Counselor's Long-Text Response": Hello, I can deeply empathize with the feelings you're experiencing. The dynamics in your friendship with A, especially the interference caused by B, have left you feeling helpless and distressed. It is completely natural to feel a sense of abandonment and loss when a close friendship begins to deteriorate. Your confusion and hurt regarding A's actions are understandable. These emotions may challenge your sense of self-worth and confidence, which can, in turn, affect both your academic and personal life. It seems that this experience has also led to feelings of doubt and mistrust towards A. I would suggest considering the possibility of having a direct conversation with her, where you can openly share your feelings and concerns. It is possible that A did not intend to hurt you and may have found herself uncertain about how to navigate the complex dynamics in your friendship. A candid dialogue might help clear up misunderstandings or offer a better way to resolve these issues. At the same time, I recognize how emotionally exhausting and disheartening this situation has been for you. In times like these, it is crucial to show kindness and care towards yourself. I encourage you to engage in activities that you enjoy and that can help alleviate your stress, such as exercising, reading, or engaging in a creative hobby like painting. These activities may help you regain emotional balance, allowing you to approach your situation with a clearer and more resilient mindset. Lastly, please remember that this difficult chapter will not define your life. Everyone encounters challenges in relationships, and these experiences are part of personal growth. Trust in your ability to overcome this, and believe that you will find friends who truly appreciate and value you. If you feel that these emotional struggles are affecting your day-to-day life significantly, seeking guidance from a professional therapist could provide you with more structured support and strategies to cope.

Figure 8: An example of the single-turn long-text dialogues.

Dialogue in Chinese	Dialogue in English
来访者：我现在在班级里担任班长一职，在处理班级事务的过程中感觉到同学之间很冷淡，对于我组织的一些活动，同学们的参与度普遍不高，让我很苦恼。 咨询师：您的预期是大家都来参与，但实际结果是同学们参与度不高，是这样吗？您说的同学之间很冷淡，是指的同学们不爱彼此交往，还是只对组织的活动冷淡？ 来访者：我的预期倒也不是希望班里的同学都来，因为上了研究生了大家有自己的科研压力，无暇参加班级活动倒也正常，只是我后面听说很多人其实那天并没有科研任务，只是单纯不想参与班级活动而已。 咨询师：我们组织了活动，肯定是希望大家都来参与。辛辛苦苦付出了，没有被看到，心里会有些不舒服。 来访者：就是他们觉得班级里同学之间的交流是没什么必要的，他们只在实验室自己的小团体活跃，跟大班级的交流感觉像无效社交。 咨询师：因为大家没来参与，这件事，对您的影响大吗？ 来访者：是的呀，那时候辛辛苦苦组织了一场活动，还拉了个群，我们班总共有60个人，进群有40个人，最后只来了15个人，让我感到很失望。 咨询师：之前有过类似经历吗？比如大学期间，组织活动，来参加的人远远小于预期。您提到"很失望"，看得出来，您是一位责任心很强的人，因为有强烈的责任心，所以对活动的参与人数也有期待。 来访者：本科的时候还好，班级的同学还是很团结的，记得当时班级破冰30个人才一两个人没来，当时玩得还是挺开心的，上了研究生之后感觉大家都很冷漠。我作为班长，还是希望能够提升班级的凝聚力，不会做到以后大家都不认识我这个班长，大家彼此相互不认识的现象，如果这样的话会让我感到我很失职。 咨询师：明白了，同学们没来参与活动，会让您感觉到，是您哪些地方没有做到位，自己失职了。有没有这种可能性：您已经把活动准备的很精细到位，只是大家因为年龄、兴趣、科研任务等原因，很少人来参与活动？ 来访者：可能是吧，因为那次活动是一次桌游活动，首先会有一个自我介绍环节，就是想让大家相互熟悉，然后有后面的娱乐活动。 咨询师：本来您是想通过这场活动，组织大家相互认识。看得出来，您确实动了一番脑筋，精心策划了的，这种情况下，来的人不到预期的一半，确实很失望。 来访者：后面我猜测大家是不是喜欢球类运动多一些，也拉了一个羽毛球群，但是进群的人很多，很多次我在上面喊大家来打羽毛球，但是只有三四个人来打，群里只有我一个人的独角戏。 咨询师：有您做大家的班长，感觉他们挺幸运的，即便错过了上一场活动，大概率还会有下一场。	Client: I currently serve as the class president. However, I've noticed a general sense of indifference among my classmates when it comes to participating in class activities. Their lack of engagement has been particularly frustrating for me. Counselor: It seems you expected greater participation, but the actual turnout has been disappointing. When you mention "indifference," do you mean that your classmates are generally unengaged with one another, or is it specifically related to the activities you organize? Client: My expectation wasn't that everyone would participate, especially since we're now in graduate school, where research demands can be overwhelming. It's understandable if some people don't attend class activities. However, I later heard that many classmates didn't have any research commitments that day—they simply chose not to participate. Counselor: Organizing an event naturally comes with the hope that many will attend. It can be disheartening when your efforts aren't recognized or appreciated. Client: It seems that many of them view interactions within the class as unnecessary. They are more active within their smaller lab groups and see engagement with the larger class as a form of ineffective socializing. Counselor: Did the low attendance have a significant impact on you? Client: Yes, it did. I put a lot of effort into organizing the event, even creating a group chat for it. Out of the 60 classmates, 40 joined the chat, but only 15 attended the event. I was very disappointed. Counselor: Have you experienced similar situations before? For example, during your undergraduate years, did you organize events where attendance fell short of expectations? You mentioned feeling "disappointed," which suggests you have a strong sense of responsibility. This likely contributes to your high expectations for event participation. Client: During my undergraduate years, things were different. My classmates were more united. I recall organizing an ice-breaking event where only one or two out of 30 people didn't show up. It was a lot of fun back then. But in graduate school, the atmosphere feels much colder. As class president, I want to strengthen our class cohesion. It would be disheartening if, by the end of our studies, everyone barely knows who I am, or worse, if they don't know each other at all. That would make me feel like I've failed in my role. Counselor: I understand. When your classmates don't participate, it makes you question whether you've done enough in your role. Is it possible that you've organized the event meticulously, but due to factors like age, differing interests, and research obligations, many didn't feel compelled to join? Client: That could be the case. The event I organized was a board game session, beginning with introductions to help everyone get to know each other, followed by the games themselves. Counselor: It's clear that you put a lot of thought into organizing the event with the aim of fostering connections among your classmates. Given that less than half of the expected attendees showed up, it's understandable that you'd feel disappointed. Client: Later on, I thought they might prefer sports, so I created a badminton group chat. Although many joined the group, when I invited them to play, only three or four people ever showed up. It felt like I was just talking to myself. Counselor: Your classmates are fortunate to have you as their class president. Even if they missed last event, there's a good chance you'll organize another.

来访者：就是感觉大家不是很积极，每次都要我在群里冒泡，而且也没有收到大家的任何反馈，没有人理我。

咨询师：您回想在大学期间，大一和大四做比较的话，组织班级活动，参与的人数，会有所差异吗？

来访者：嗯嗯，慢慢地我后面也不想组织这样的活动了，感觉特别累，人累心更累。大一的时候大家还是小白，而且主要是以上课为主，对于班级活动还是挺上心的，到了大四忙着找工作，就没什么班级活动了。

咨询师：这么说来，年龄变量，对于活动的参与度来说，还挺关键。如果后面不再组织活动，您会有上面提到的"失职"的感受吗？

来访者：多多少少还是会有的，但是如果没有人考虑我的感受，我也就慢慢淡化了，因为我也有自己的科研压力，也没办法所有心思放在班级活动上。

咨询师：我记得我读书的时候，研究生期间，除了党小组活动，大家不敢缺席，其他活动，如果没有严格要求，确实各干各的情况比较多。有时候如果运气好，班里会有几个爱张罗事儿的同学，他们喜欢联络，并乐此不疲，组织班级活动，有这样的同学帮忙招呼，估计来的人数会有所增加。

来访者：是的，基本上就是我一个人带头组织，如果没有我带头，其它班干部基本都是不干事的，所以有时就是感觉挺无奈的。

咨询师：研究生期间，组织活动的难度不小，只靠一个人，确实会很辛苦。有想过在筹划一场活动之前，先把所有班干部召集起来，群策群力吗？

来访者：有的，其实班干部还好啦，只不过需要一个管理者指挥他们要做啥，我也会询问他们的一些建议。

咨询师：明白，您就是这位管理者。

来访者：是的，只不过对于现在同学之间的人际关系感到挺迷茫的。

咨询师：如果抛开参与人数的因素，您从策划组织，再到实施，各个环节，该考虑的环节都考虑了。同学之间的人际关系，是亲密还是疏远，这个我们可以控制吗？

来访者：好像也控制不了，只是作为班长我觉得班里的同学至少应该要相互认识。是不是我管得有点太多了，有点自寻烦恼。

咨询师：正是因为您有强烈的责任心，想把班长干好，您才会有让大家都来参与活动的期待。期待值很高，付出也很多，而结果不如意，换做是任何人都会失望的。有您做班长，是大家伙的福气。只是并不一定所有人都能意识到。

来访者：哈哈谢谢你这样子夸我，要是大家能明白我的良苦用心就好了。我也在努力调整好自己的心态，把自己能做的事情做好，剩下的就听天由命了。

咨询师：尽人事听天命，把我们能控制的，努力做好，不能控制的，也不过度责怪自己。

来访者：我感觉好多了，谢谢你！

咨询师：不客气，感谢您的信任！

Client: It just feels like no one is very enthusiastic. I always have to be the one to initiate conversations in the group, and I rarely receive any feedback. No one even acknowledges my messages.

Counselor: If you reflect on your undergraduate years, was there a noticeable difference in attendance between your first and final years when organizing class activities?

Client: Yes, definitely. Over time, I became less motivated to organize events. It's exhausting—both physically and mentally. In the first year, everyone was new, and most activities were centered around classes, so people were more invested. By the final year, everyone was focused on job hunting, and class activities nearly disappeared.

Counselor: It seems age and life stage play significant roles in participation. If you decide not to organize any more activities, would you still feel that sense of "failure" you mentioned earlier?

Client: To some extent, yes. But if no one considers my feelings, I'll gradually let it go. I have my own research pressures and can't dedicate all my energy to class activities.

Counselor: I remember during my own graduate studies, aside from mandatory activities like those organized by the party committee, attendance at other events was often low unless there was someone particularly enthusiastic about organizing. Having a few proactive individuals could really boost participation.

Client: Yes, most of the organizing falls to me. Without my initiative, the other class officers don't really step up, which can be frustrating.

Counselor: It's certainly challenging to organize events during graduate school, especially on your own. Have you considered gathering all the class officers to brainstorm together before planning an event?

Client: I have, and the other officers are generally cooperative. They just need guidance on what to do, and I often ask for their input.

Counselor: It sounds like you are that guiding force.

Client: Yes, but I still feel uncertain about the interpersonal dynamics among my classmates.

Counselor: If we set aside attendance numbers for a moment, it seems you've thoroughly considered each stage of event planning and execution. The nature of interpersonal relationships—whether close or distant—is something we can't fully control, can we?

Client: It seems not. As class president, I just feel that classmates should at least know each other. Am I perhaps being overly concerned and causing myself unnecessary stress?

Counselor: Your strong sense of responsibility drives you to excel as class president, which naturally leads to high expectations for participation. When the outcome falls short, it's understandable to feel disappointed. Your classmates are fortunate to have you as their leader, though they may not always realize it.

Client: Thank you for saying that. I just wish they could understand my good intentions. I'm trying to adjust my mindset, focus on what I can control, and leave the rest to fate.

Counselor: Exactly. Do your best with what you can control, and try not to be too hard on yourself over what you can't.

Client: I feel much better, thank you!

Counselor: You're welcome. Thank you for your trust!

Figure 9: An example of real-world counseling cases of psychological counselor with specific counseling style.

Prompt in Chinese

给你看一个【真实世界咨询案例】，请你学习样例中咨询师的**语言风格**。

【真实世界咨询案例】：{}

学会了请逐步分析你所学到的东西并告诉我"学会了"，没学会请告诉我"没学会"。

Prompt in English

We present an example of the [real-world counseling case]. Please study the **linguistic style** of the counselor in the example provided.

[Real-World Counseling Case]: {}

Once you have learned from the example, please gradually analyze what you have learned and indicate by stating "learned." If you have not learned, please state "not learned."

Figure 10: The prompt used for summarizing linguistic style of real-world counseling cases.

Summarization in Chinese

学会了。

从这段真实世界心理咨询场景的对话中，可以分析出咨询师的语言风格特点包括：
1. **倾听和理解**：咨询师通过开放式和探究性的问题引导来访者描述自己的感受和体验，如"说说您的困扰"，以展示对来访者困扰的关注和理解。
2. **重述和澄清**：咨询师多次用自己的话重述访者所说的内容，如"是的呀，那时候辛辛苦苦组织了一场活动"，以确保准确理解来访者的情绪和观点
3. **肯定和鼓励**：咨询师在对话中肯定了来访者的感受和付出，如"您是一位责任心很强的人"，通过正面的反馈和肯定来鼓励和支持来访者。
4. **引导自我反思**：咨询师引导来访者对自身的期望和行为进行反思，如"有没有这种可能性：您已经把活动准备的很精细到位"，帮助来访者认识到可能的认知偏差或其他角度来看待问题。
5. **把握情绪调节**：咨询师在整个对话中注意来访者的情绪变化，并适时给予情感支持，使对话在一个安全舒适的环境中进行，如"不客气，感谢您的信任！"
6. **提供新的视角**：咨询师通过分享个人经验或提出可能性来开拓来访者的思路，如"研究生期间，除了党小组活动，大家不敢缺席，其他活动..."。
7. **尊重和接纳**：咨询师在对话中未对来访者的任何想法或行为进行批评或评判，体现了对来访者的尊重和无条件接纳，如"您回想在大学期间..."。
8. **简洁明了**：咨询师的语言通常简练、清晰，避免使用专业术语，使交流更加易懂和亲切。
综上，咨询师的语言风格体现出了专业、同理心、支持性和引导性。这些特点有助于建立与来访者的良好关系，并为来访者提供一个温馨的沟通环境和心理成长的空间。

Summarization in English

OK!

From this real-world psychotherapy dialogue, we can identify several key characteristics of the counselor's linguistic style:
1. **Listening and Understanding**: The counselor uses open-ended and exploratory questions to guide the client in articulating their feelings and experiences. For example, "Could you tell me more about what's troubling you?" This approach demonstrates empathy and a genuine understanding of the client's concerns.
2. **Paraphrasing and Clarifying**: The counselor frequently restates the client's words in their own language, such as "Yes, you worked hard to organize the event," to ensure accurate comprehension of the client's emotions and viewpoints.
3. **Affirming and Encouraging**: Throughout the conversation, the counselor acknowledges and affirms the client's feelings and efforts. For example, "You are someone with a strong sense of responsibility." Such positive reinforcement helps to encourage and support the client.
4. **Guiding Self-Reflection**: The counselor encourages the client to reflect on their own expectations and behaviors. For instance, "Could it be that you have prepared the event so thoroughly?" This question helps the client recognize potential cognitive biases and consider alternative perspectives.
5. **Managing Emotional Regulation**: The counselor is attentive to the client's emotional state throughout the conversation, offering timely emotional support to maintain a safe and comfortable environment for dialogue. An example would be, "Thank you for your trust; it's my pleasure to help."
6. **Offering New Perspectives**: The counselor introduces new viewpoints by sharing personal experiences or suggesting possibilities, such as "During my graduate studies, we were expected to attend certain group activities, but we could also choose others…" This broadens the client's thinking.
7. **Respecting and Accepting**: At no point does the counselor criticize or judge the client's thoughts or actions, demonstrating unconditional acceptance and respect for the client. An example of this is, "When you think back to your university years…"
8. **Clear and Concise Language**: The counselor's language is typically concise and clear, avoiding technical jargon to ensure the conversation is accessible and approachable.
In summary, the counselor's linguistic style reflects professionalism, empathy, supportiveness, and guidance. These traits foster a positive therapeutic relationship and provide the client with a nurturing environment conducive to communication and psychological growth.

Figure 11: An example of summarized linguistic style of counseling case.

Prompt in Chinese	**Prompt in English**
#角色# 你是一个有着多年从业经验的心理咨询师。 #目标# 对于给定的<<<【真实世界咨询案例】>>>，分析其中咨询师使用了哪个流派里面的哪种疗法技术。首先先确定流派，再选出一个最相近使用最频繁的疗法技术。 #流派：疗法技术# 心理动力取向：精神分析、客体关系治疗 认知行为取向：理情行为疗法、系统脱敏疗法、接纳与承诺疗法、认知行为疗法 人本主义取向：以人为中心疗法、存在主义疗法（又叫意义疗法） 后现代取向：叙事治疗、焦点问题解决疗法 ### <<<【真实世界咨询案例】：{}>>> ### #回复标准# 技术：案例中咨询师所使用的疗法技术 分析：一小段的原因分析	### #Role# You are an experienced psychotherapist with many years of professional practice. ### #Objective# Given a <<<【Real-World Counseling Case】>>>, analyze the therapeutic approach used by the counselor, identifying the specific school of therapy and the corresponding therapeutic technique employed. Start by determining the school of therapy, and then select the technique that is most frequently applied and most closely aligns with the case. ### #Schools of Therapy Techniques# 1. **Psychodynamic Approach**: Psychoanalysis, Object Relations Therapy 2. **Cognitive Behavioral Approach**: Rational Emotive Behavioral Therapy (REBT), Systematic Desensitization, Acceptance and Commitment Therapy (ACT), Cognitive Behavioral Therapy (CBT) 3. **Humanistic Approach**: Person-Centered Therapy, Existential Therapy (also known as Meaning-Centered Therapy) 4. **Postmodern Approach**: Narrative Therapy, Solution-Focused Brief Therapy (SFBT) ### <<<【Real-World Counseling Case】：{}>>> ### ### #Response Format# - **Technique**: The therapeutic technique used by the counselor in the case - **Analysis**: A brief analysis explaining the rationale for the identified technique

Figure 12: The prompt used for summarizing therapeutic type of real-world counseling cases.

Table 3: Some common therapeutic types

School of Thought	Therapeutic Type
Psychodynamic	Psychoanalysis Object-Relations Theory
Cognitive-Behavioral	Systematic Desensitization Cognitive Behavioral Therapy Rational Emotive Behavior Therapy Acceptance and Commitment Therapy
Humanistic	Person-Centered Therapy Existential Therapy
Postmodern	Solution-Focused Therapy Narrative Therapy

Table 4: Knowledge base of some common therapy techniques

Therapy Technique	Description
Rational Emotive Behavior Therapy	REBT involves several stages. Below are the dialogue stages and a brief description of the focus of each stage: (1) **Examine Irrational Beliefs and Self-Defeating Thoughts**: In REBT, cognitive intervention is viewed as the "lifeblood" of treatment. Thus, almost from the beginning of therapy, during the problem exploration phase, the counselor actively and persuasively helps the client explore the reasons behind their emotional distress. This includes understanding the client's thought process regarding events, the antecedents, and consequences of their emotions to clarify the problem. The counselor firmly encourages the client to reflect on what they "tell" themselves when feeling anxious, depressed, or angry after encountering a stimulus event. (2) **Debate Irrational Beliefs**: The counselor uses various techniques (primarily cognitive techniques) to help the client question and challenge their irrational beliefs and thoughts, demonstrating their unrealistic and unreasonable aspects. The goal is for the client to recognize the harm of these beliefs and develop a desire and behavior to abandon them. (3) **Develop Rational Beliefs and Learn Rational Thinking**: After identifying and refuting irrational beliefs, the counselor further guides the client to find appropriate, rational responses to triggering situations and events. The counselor helps the client replace irrational beliefs and self-defeating thoughts with rational beliefs and objective, problem-solving thinking statements. To reinforce rational beliefs, the counselor repeatedly teaches the client why rational beliefs are reasonable, how they differ from irrational beliefs, why irrational beliefs lead to emotional disturbances, and why rational beliefs lead to more positive, healthy outcomes. (4) **Apply Therapeutic Gains in Real Life**: The counselor encourages the client to internalize the objective, realistic attitudes and scientifically rational thinking methods learned in therapy and to persistently apply them to solve new problems in their future life.
...	...

Prompt in Chinese	**Prompt in English**
请你扮演一个心理咨询领域的作家，有丰富的想象力和创造力，能够根据心理学的"大五人格理论"创造出人物的人格特质。请根据**大五人格理论描述及其评价标准**创作出【来访者长文本问题】中来访者的人格特质，要求生成的人格特质符合【来访者长文本问题】中来访者的角色状态，创作合理，人物信息间不能有太大矛盾。	Please act as a writer in the field of psychological counseling, possessing rich imagination and creativity, and capable of creating the personality traits of characters based on the "Big Five Personality Traits" theory. Utilize the **descriptions and evaluation criteria of the Big Five Personality Traits** to describe the personality traits of the client in the [Client's Long Text Problem]. The generated personality traits must align with the role state of the client described in the [Client's Long Text Problem], be reasonable, and avoid significant contradictions in the character information.
大五人格理论描述及其评价标准： 1. **开放性**： – **描述**：开放性反映了一个人对新体验的接受程度，包括想象力、创造力和对新奇事物的兴趣。 – **评价标准**：高开放性的人可能富有创造力，喜欢尝试新事物，对艺术和思想有深刻的兴趣。低开放性的人可能更实际，偏好常规，对新事物持保守态度。 2. **责任心**： – **描述**：责任心体现了个体的自律性、组织性和可靠性。 – **评价标准**：高责任心的人通常有计划、可靠、勤奋，且遵守规则。低责任心的人可能更随性、灵活，可能不那么关注细节或规则。 3. **外向性**： – **描述**：外向性描述了一个人在社交情境中的积极性和能量水平。 – **评价标准**：高外向性的人喜欢社交、活跃、乐观，通常在人际交往中感到兴奋。低外向性的人可能更内向、独立、安静，倾向于在社交活动中保持低调。 4. **宜人性**： – **描述**：宜人性代表了个体在社交互动中的合作性和友善程度。 – **评价标准**：高宜人性的人通常富有同情心、友好、乐于助人，愿意为了他人的利益而妥协。低宜人性的人可能更独立、批判性、有竞争性，可能不太关注他人的感受。 5. **神经质**： – **描述**：神经质反映了个体情绪波动的频率和强度。 – **评价标准**：高神经质（即低情绪稳定性）的人可能更容易感到焦虑、悲伤、情绪波动大。低神经质的人则更加冷静、不易受情绪影响，面对压力时更加稳定。	**Descriptions and Evaluation Criteria of the Big Five Personality Traits**: 1. **Openness**: - **Description**: Openness reflects an individual's willingness to engage with new experiences, including imagination, creativity, and interest in novel ideas. - **Evaluation Criteria**: Individuals with high openness may be creative, enjoy trying new things, and have a profound interest in arts and ideas. Those with low openness may be more practical, prefer routine, and have a conservative attitude towards new experiences. 2. **Conscientiousness**: - **Description**: Conscientiousness indicates an individual's level of self-discipline, organization, and reliability. - **Evaluation Criteria**: People with high conscientiousness are usually organized, reliable, diligent, and adhere to rules. Individuals with low conscientiousness may be more spontaneous, flexible, and less focused on details or rules. 3. **Extraversion**: - **Description**: Extraversion describes an individual's energy levels and enthusiasm in social situations. - **Evaluation Criteria**: Highly extraverted people are sociable, active, optimistic, and often feel excited in social interactions. Those with low extraversion may be more introverted, independent, quiet, and prefer to remain low-key in social settings. 4. **Agreeableness**: - **Description**: Agreeableness represents an individual's cooperativeness and friendliness in social interactions. - **Evaluation Criteria**: Individuals with high agreeableness are typically compassionate, friendly, helpful, and willing to compromise for others' benefit. Those with low agreeableness may be more independent, critical, competitive, and less concerned with others' feelings. 5. **Neuroticism**: - **Description**: Neuroticism reflects the frequency and intensity of an individual's emotional fluctuations. - **Evaluation Criteria**: Individuals with high neuroticism (low emotional stability) may experience anxiety, sadness, and significant mood swings. Those with low neuroticism are more calm, less affected by emotions, and more stable under pressure.
【来访者长文本问题】： 来访者问题标题：{} 来访者问题细节：{}	[Client's Long Text Problem]: Title of Client's Question: {} Detail of Client's Question: {}
返回格式： （序号）**属性**：来访者大五人格理论的评价	**Return Format**: (Serial Number) **Trait**: Evaluation of the Client's Big Five Personality Trait
请给出你的输出结果：	Please provide your output:

Figure 13: The prompt used for simulating client personality traits.

Personality in Chinese

（1）开放性：来访者可能在开放性上得分不高。她似乎在遇到新朋友B的时候，没有表现出强烈的新事物接受度或者对不同类型的友谊的好奇。她更倾向于与熟悉的朋友A保持关系，而不是尝试与B建立新的联系。同时，来访者对B的开玩笑可能没能很好地适应或理解，这表明了她对新奇或具有挑战性的社交互动的适应能力可能较低。

（2）责任心：来访者在责任心上可能表现中等。在描述中，她没有明显显示出组织性或自律性的问题，也没有涉及任何与勤勉或规则遵守直接相关的行为。她确实尽力维持与朋友A的友谊，这显示了一定程度的承诺和努力。然而，由于没有更多信息，对于她的责任心水平难以作出更具体的判断。

（3）外向性：来访者似乎在外向性上得分较低。她在社交场合中表现出来的行为和感受显示，她可能更喜欢独处或仅与很亲近的朋友互动。她描述了在A和B一起走的时候自己不说话的情况，这可能暗示她在社交活动中更保守和被动。她也表示失去了朋友A之后变得没有朋友，可能显示了对于建立新的社交联系的不积极。

（4）宜人性：来访者在宜人性方面可能表现中等或偏低。她对朋友B的行为感到受伤害，并没有选择直接和B沟通，而是通过另一个朋友C来解决冲突，这可能表示她在处理人际关系的冲突时可能不够直接。她也体现出对A的友谊感到失望，因为A在不经她同意的情况下改变了他们的关系动态，这表明她对友好行为的期待可能较高，但在直接的社交互动中可能比较被动。

（5）神经质：来访者在神经质上可能得分偏高。她提到听到A和B开心地笑时感到低落，表明她的情绪受到周围人的影响较大。她表述自己感到"无助痛苦"，这些都是情绪稳定性低的典型迹象。此外，她提到无法控制听到她们时的情绪反应，这表明她可能经历了频繁的情绪波动，并且难以管理自己的情绪状态。

Personality in English

1. **Openness**: The client may score lower in openness. She does not seem to exhibit a strong receptiveness to new experiences or curiosity about different types of friendships when meeting a new acquaintance, B. Instead, she appears to prefer maintaining her relationship with the familiar friend, A, rather than exploring a new connection with B. Furthermore, the client seems to have difficulty adapting to or understanding B's sense of humor, suggesting a lower adaptability to novel or challenging social interactions.

2. **Conscientiousness**: The client's conscientiousness appears to be moderate. In her narrative, there is no clear indication of issues with organization or self-discipline, nor does she discuss behaviors related to diligence or rule-following. However, her efforts to maintain the friendship with A demonstrate a certain level of commitment and effort. Without further information, it is difficult to make a more definitive assessment of her conscientiousness.

3. **Extraversion**: The client seems to score low in extraversion. Her behavior and feelings in social settings suggest a preference for solitude or interaction primarily with close friends. For instance, she describes a situation where she remained silent while walking with A and B, which may indicate a more reserved and passive approach to social activities. Additionally, her statement about becoming friendless after losing A suggests a lack of initiative in establishing new social connections.

4. **Agreeableness**: The client may score moderately or low on agreeableness. She expressed feeling hurt by B's actions but did not choose to address the issue directly with B, opting instead to communicate through another friend, C. This could indicate a tendency to avoid direct confrontation in interpersonal conflicts. Additionally, her disappointment with A, who altered their relationship dynamics without her consent, suggests that she has high expectations for friendly behavior but may be more passive in direct social interactions.

5. **Neuroticism**: The client may score high in neuroticism. She mentioned feeling down when hearing A and B laughing together, indicating that her emotions are significantly influenced by the mood of those around her. Her statement about feeling "helpless and distressed" reflects typical signs of low emotional stability. Moreover, her inability to control her emotional reactions when hearing A and B suggests frequent emotional fluctuations and difficulty managing her emotional state.

Figure 14: An example of simulated client personality traits.

Prompt in Chinese

请你扮演一个心理咨询领域的文本改写员，将给定的【单轮长文本中文心理咨询对话】改写为多轮心理咨询对话，要求如下：
1.**角色定义**：来访者（焦虑、迷茫、态度消极）和咨询师（专业、温暖、耐心、共情）。
2.**情感引导**：咨询师能够做到跟来访者感同身受，清楚来访者目前的遭遇并有一些情绪、感受的表达，能够表示出对来访者的深刻理解与共情，通过积极倾听和情感反映，帮助来访者转变抵触和消极的情感。在整个对话过程中来访者的消极情感会持续比较长的时间，最后在咨询师的耐心引导下变得积极与乐观。
3.**来访者人格**：{}
4.**疗法技术**：{}
5.**回复指南**：
（1）对话开始时来访者的回复不能直接使用**来访者长文本问题**的内容，应该围绕着**来访者长文本问题**展开。
（2）**来访者人格**是根据心理学的"大五人格理论"生成的，整个对话过程中来访者的语言风格要体现其**来访者人格**的角色状态。
（3）咨询师的回复要灵活运用**疗法技术**，但不能过多使用**疗法技术**中心理咨询的专业词汇。
（4）咨询师的语言风格请模仿前面你所学到的【真实世界咨询案例】样例中咨询师的语言风格。
（5）整个对话过程要确保对话流畅自然，贴近真实世界的心理咨询场景。

【单轮长文本中文心理咨询对话】：
来访者长文本问题：
来访者问题标题：{}
来访者问题细节：{}

咨询师长文本回答：{}

返回格式：
来访者：回复
咨询师：回复
···

请逐步分析以上所提出的各项要求，模仿前面你所学到的【真实世界咨询案例】进行改写，对话轮数必须在20-30轮之间，你的改写结果为：

Prompt in English

Please act as a text rewriter in the field of psychological counseling, transforming the provided [single-turn long text Chinese psychological counseling dialogue] into a multi-turn psychological counseling dialogue. The requirements are as follows:
1. **Role Definition**: The client (anxious, confused, negative attitude) and the counselor (professional, warm, patient, empathetic).
2. **Emotion Guide**: The counselor should empathize with the client, clearly understand their current experiences, and express emotions and feelings. The counselor should demonstrate a deep understanding and empathy for the client, using active listening and emotional reflection to help the client transition from resistance and negativity to a more positive and optimistic outlook. The client's negative emotions will persist for a long time during the conversation, but will eventually become positive and optimistic under counselor's patient guidance.
3. **Client Personality**: {}
4. **Therapy Techniques**: {}
5. **Response Guide**:
(1) At the beginning of the dialogue, the client's response should not directly use the content of the **client's long text problem** but should revolve around the **client's long text problem**.
(2) ** Client personality** are generated based on the "Big Five Personality Traits" in psychology, and the client's linguistic style throughout the dialogue should reflect their **client personality**.
(3) The counselor's responses should flexibly use **therapy techniques** without overusing professional terminology related to **therapy techniques**.
(4) The counselor's linguistic style should mimic linguistic style of counselor in [real-world counseling case] you have learned earlier.
(5) Ensure the dialogue flows naturally and realistically, reflecting real-world psychological counseling scenarios.

[Single-Turn Long Text Chinese Psychological Counseling Dialogue]:
Client's Long Text Problem:
Title of Client's Question: {}
Detail of Client's Question: {}

Counselor's Long Text Response: {}

Return Format:
Client: Response
Counselor: Response
...

Please analyze each of the above requirements step by step, imitate the [real-world counseling case] you have learned earlier for rewriting, ensure the number of dialogue turns is between 20 and 30, and provide your rewritten result as follows:

Figure 15: The prompt used for synthesizing multi-turn mental health dialogues.

Dialogue in Chinese

来访者：我感觉最近自己情绪特别不稳定，一点小事就能让我烦躁一整天。
咨询师：听起来您最近遇到了一些让您情绪起伏的事情。要不您先跟我说说，是什么小事会影响到您的情绪呢？

来访者：就是我和我从小一起长大的朋友A的关系，现在好像变了，让我很不舒服。
咨询师：您跟朋友A的关系遭遇了一些变化，这件事显然让您感觉很难受。您能否分享一下发生了什么事情？

来访者：以前我和A是最好的朋友，后来班上来了个新同学B，A和B很聊得来，我就慢慢地感觉被排除在外了。
咨询师：您感觉您和A的友情因为B的到来而变得不同了，这让您感到被边缘化了是吗？这种感觉肯定不好受。

来访者：是的，有次我们一起走路，B老是站在中间，我就被挤到后面去，整路上我都没怎么说话。
咨询师：您感到自己被物理上和情感上都被隔离了，很自然地，这让您感觉被孤立。那时候您是怎么应对这种情况的呢？

来访者：我没有当场说什么，我把这件事告诉了另一个朋友C，她就去骂了B。从那以后，我就没再和B说过话。
咨询师：您选择通过朋友C来表达自己的不满，这导致了您和B的关系破裂。这件事后来对您有什么影响呢？

来访者：我发现如果我不去找A，她就不会来找我。我们的友谊感觉都是我一个人在维持，我感觉很累。
咨询师：您感觉自己一直在单方面地努力维持着与A的友谊，这种不平等的努力让您感到筋疲力尽。这对您来说是个重大的心理负担吧。

来访者：对，后来A生日那天，她没叫我，却叫了B和B的朋友们，我连个电话都没收到，我真的好伤心。
咨询师：您因为被忽略而感到伤心，那是非常合理的感受。您是否和A谈过这个问题，表达了您的感受呢？

来访者：没有，我不知道该怎么开始，怕让事情变得更糟。
咨询师：我理解您害怕事情变得更加尴尬的担心。不过有时候，直接沟通可以帮助我们澄清误解，您认为呢？

来访者：我觉得这很难，因为自从那以后我们就没怎么说过话。而且每当我听到A和B在一起笑的很开心，我就觉得自己好失败。
咨询师：您感受到了被遗弃的情绪，听到他们的笑声时会提醒您那种不愉快的感觉。这时候的您肯定感觉很无助，对吧？

Dialogue in English

Client: Recently, I've been feeling really emotionally unstable. Even the smallest things can make me irritated for the whole day.
Counselor: It seems like you've been encountering situations recently that have caused fluctuations in your emotions. Could you tell me more about the kinds of things that are affecting you?

Client: It's about my relationship with my childhood friend, A. It feels like things have changed, and it's making me uncomfortable.
Counselor: It sounds like there have been some changes in your relationship with A, which have understandably made you feel upset. Could you share more about what has happened?

Client: We used to be best friends, but then a new student, B, joined our class. A and B got along really well, and I gradually felt excluded.
Counselor: You're feeling that your friendship with A has changed because of B's arrival, and that sense of exclusion is really difficult. Is that how you would describe it?

Client: Yes. There was this one time we were walking together, and B kept standing in the middle, pushing me to the back. I hardly said anything the entire time.
Counselor: You felt physically and emotionally isolated during that moment, which understandably made you feel excluded. How did you handle that situation at the time?

Client: I didn't say anything at that moment. I told another friend, C, about it, and she ended up confronting B. Since then, I haven't spoken to B at all.
Counselor: You chose to express your dissatisfaction through C, which led to a breakdown in your relationship with B. How did that impact you afterwards?

Client: I realized that if I don't reach out to A, she won't contact me. It feels like I'm the only one trying to maintain our friendship, and it's exhausting.
Counselor: You're feeling that you're the only one making an effort to sustain the friendship, and this one-sided effort is draining you. This must be a heavy emotional burden for you.

Client: Yes. And on A's birthday, she didn't invite me, but she invited B and B's friends. I didn't even get a phone call. It really hurt.
Counselor: Feeling left out like that is understandably painful. Have you talked to A about how you're feeling?

Client: No, I don't know how to start the conversation. I'm afraid it'll make things worse.
Counselor: I understand your fear of making things more awkward. However, sometimes direct communication can help clarify misunderstandings. What do you think?

Client: I think it's difficult, especially since we haven't talked much since then. And every time I hear A and B laughing together, I feel like a failure.
Counselor: It seems like hearing them laugh brings back those feelings of abandonment. That must make you feel really helpless, doesn't it?

来访者：是的，我知道我应该集中精力在学业上，但我的情绪完全不受控制。
咨询师：您意识到学业的重要性，但不受控制的情绪让您感到很无助。我们一起来探讨一下，您可以做些什么来管理自己的情绪？

来访者：我尝试过听音乐和画画分散注意力，但只要一停下来，那些消极的想法就会回来。
咨询师：您已经开始通过积极的方式尝试管理您的情绪，这是非常好的。您觉得持续地从事这些活动能帮助您长期地调整情绪吗？

来访者：可能会有点帮助，但我还是需要一些解决问题的方法。
咨询师：的确，除了日常的情绪调节，解决根本问题也是很重要的。您觉得自己现在准备好去尝试和A沟通了吗？

来访者：我不知道…我怕我说错话，我们的友谊就此结束。
咨询师：您担心表达自己的真实感受会破坏您和A的关系。有没有一种方式，您觉得可以安全地表达您的担忧和感受？

来访者：或许我可以先写一封信，把我的感受写下来。
咨询师：写信是一个很好的方式，既可以帮助您理清自己的思绪，也可以减少面对面交流时可能出现的紧张感。您打算何时动笔呢？

来访者：我想这周末写。我不知道A会怎么反应，但至少我尝试了。
咨询师：这是一个积极的步骤，您愿意采取行动来改变当前的局面。写完后您愿意和我分享她的反应吗？

来访者：可以的，我会告诉你的。谢谢你给了我这个建议。
咨询师：不客气，我很高兴能帮助到您。记得在整个过程中，保持对自己的关爱和照顾，毕竟您的幸福和情绪平衡是最重要的。

来访者：嗯，我会的。再次谢谢你，感觉心里舒服多了。
咨询师：很荣幸我能帮到您。如果您需要更多的支持，我在这里。祝您周末愉快，也祝您在写信时能感到心情平和。

Client: Yes, I know I should focus on my studies, but my emotions feel completely out of control.
Counselor: You recognize the importance of focusing on your studies, but your emotions are making it hard for you to stay grounded. Let's explore together how you might manage your emotions more effectively.

Client: I've tried listening to music and drawing to distract myself, but as soon as I stop, those negative thoughts come back.
Counselor: It's great that you've been trying positive ways to manage your emotions. Do you think engaging in these activities more regularly could help you adjust your emotional state over time?

Client: It might help a little, but I still need strategies to address the core issue.
Counselor: You're right—while emotional regulation is important, addressing the underlying issue is crucial as well. Do you feel ready to try communicating with A?

Client: I don't know… I'm afraid that if I say the wrong thing, our friendship will end for good.
Counselor: You're worried that expressing your true feelings might destroy the friendship with A. Do you think there's a way you could express your concerns and feelings in a safe manner?

Client: Maybe I could write a letter to her and explain how I feel.
Counselor: Writing a letter is an excellent idea. It allows you to organize your thoughts and reduces the anxiety that can come with direct conversation. When do you think you'll be ready to write it?

Client: I think I'll try writing it this weekend. I'm not sure how A will react, but at least I'll have tried.
Counselor: That's a positive step forward, and it shows you're willing to take action to change the current situation. After you write the letter, would you be open to sharing with me how A responds?

Client: Yes, I'll let you know. Thank you for suggesting this.
Counselor: You're very welcome. I'm glad to be able to support you. Remember to take care of yourself throughout this process, as your well-being is the most important thing.

Client: I will. Thanks again; I feel much better now.
Counselor: It's been my honor to help. If you need further support, I'm here for you. I hope you have a peaceful weekend, and I wish you calm and clarity when writing your letter.

Figure 16: An example of PsyDTCorpus. The red segments represent client personality from Figure 14, the blue segments indicate the linguistic style from Figure 11, and the green segments correspond to the application of therapy techniques.

#Role#
You are a seasoned psychotherapist with extensive professional experience, specializing in the comparative analysis of linguistic style consistency in therapeutic dialogues.

#Objective#
Perform a **linguistic style** consistency analysis between the therapist's responses in a given <<< 【Real-World Counseling Case】 >>> and the therapist's responses in a <<< 【Multi-Turn Mental Health Dialogue】 >>>.

#Evaluation Standard#
1. **0%-25%**: The linguistic styles of the therapists in the two dialogues are **highly inconsistent**.
2. **25%-50%**: The linguistic styles of the therapists in the two dialogues show **some consistency**.
3. **50%-75%**: The linguistic styles of the therapists in the two dialogues are **largely consistent**.
4. **75%-100%**: The linguistic styles of the therapists in the two dialogues are **nearly identical**.

###
<<< 【Real-World Counseling Case】：{}>>>
###
<<< 【Multi-Turn Mental Health Dialogue】：{}>>>
###

#Attention#
First, summarize and analyze the linguistic style of the therapist in both the <<< 【Real-World Counseling Case】 >>> and the <<< 【Multi-Turn Mental Health Dialogue】 >>>, then compare the consistency between the two. The analysis should provide a precise percentage score (0–100%), without using a range.

#Response Format#
Consistency Percentage: 0-100%
Analysis: A brief explanation of the reasons for the percentage assignment.

Figure 17: The prompt used for evaluating linguistic style similarity between dialogues.

#Role#
You are a psychotherapist with extensive professional experience, specializing in the comparative analysis of therapeutic style consistency in dialogues.

#Objective#
Conduct a **therapeutic style** consistency analysis between the therapist's responses in a <<< 【Multi-Turn Mental Health Dialogue】 >>> and the applied <<< 【Therapy Techniques】 >>>.

#Evaluation Standard#
1. **0%-25%**: The therapist's responses are **not consistent** with the specified therapy techniques.
2. **25%-50%**: The therapist's responses show **some consistency** with the specified therapy techniques.
3. **50%-75%**: The therapist's responses are **largely consistent** with the specified therapy techniques.
4. **75%-100%**: The therapist's responses are **almost entirely consistent** with the specified therapy techniques.

###
<<< 【Therapy Techniques】：{}>>>
###
<<< 【Multi-Turn Mental Health Dialogue】：{}>>>
###

#Attention#
Analyze the therapist's responses throughout the entire dialogue to determine whether the therapist applies the specified <<< 【Therapeutic Techniques】 >>> in their replies. The consistency should be evaluated as a precise percentage score (0–100%), without using a range.

#Response Format#
Consistency Percentage: 0-100%
Analysis: A brief explanation of the reasons for the assigned percentage.

Figure 18: The prompt used for evaluating therapy technique similarity between dialogues.

Table 5: Evaluation Metrics.

Dimension	Ability	Description
Conversation Strategy	Inquiry and Questioning	The questions posed by the counselor facilitate deeper reflection and self-exploration by the client, encouraging dialogue and thorough discussion.
	Feedback and Summary	During sessions, the counselor effectively provides feedback and summarizes key points when necessary, ensuring mutual understanding and alignment in the discussion.
	Problem Solving and Guidance	The counselor guides clients in problem-solving, encouraging autonomous reflection and self-discovery rather than providing direct solutions.
State and Attitude	Openness and Value Neutrality	The counselor approaches the client's opinions, feelings, and experiences with an open and non-judgmental attitude, refraining from immediate value judgments or excessive persuasion, allowing the client to make independent decisions.
	Emotional Control	The counselor maintains professional emotional regulation throughout the counseling process, neither overwhelmed by the client's emotions nor appearing overly detached.
Relationship Building	Relationship Building	The counselor establishes and maintains a positive relationship with the client, characterized by trust, warmth, and understanding.
Application of Therapy Technique	Application of Therapy Technique	The counselor effectively applies strategies based on one or more theoretical frameworks to guide the client through problem resolution during the dialogue.

#Role#
I would like you to assume the role of an expert evaluator with extensive knowledge in both psychology and linguistics.

#Objective#
The goal is to assess the generated responses from a large language model based on the provided #Evaluation Standard#, using the provided <<< 【Conversation History】>>>, <<< 【Reference Answer】>>>, and <<< 【Poor Answer】>>>. The evaluator should determine the score for the model's response in the specified dimension.

#Evaluation Dimension#
Emotional Empathy
Definition: Emotional empathy, also referred to as emotional resonance or emotional attunement, is the ability to perceive and share in the emotional states of others. This ability enables individuals to understand the feelings of others and experience similar emotions within themselves. Emotional empathy typically involves the following components:
- **Perception:** Recognizing the emotional state of others.
- **Resonance:** Experiencing similar emotions in response to others' feelings.
- **Understanding:** Grasping why another person might feel a particular way.
- **Response:** Offering an appropriate emotional reaction, typically involving sympathy or support.

#Evaluation Standard#
- **0 points:** No empathy. The evaluator completely fails to perceive or recognize the emotional state of the client. Even when the emotional state is obvious, there is no emotional resonance or understanding. There is a lack of basic concern or response to the client's emotions, possibly manifesting as indifference or disengagement.
- **1 point:** Limited empathy. The evaluator sometimes perceives the client's emotional state, but the perception is often vague or inaccurate. Occasionally, the evaluator experiences emotions similar to the client's, but this resonance is short-lived or superficial. There is some understanding of the client's feelings, but it is neither deep nor comprehensive. In some cases, the evaluator may offer an appropriate response, though this may be passive or reluctant.
- **2 points:** Moderate empathy. The evaluator generally perceives the client's emotional state and can recognize it with reasonable accuracy. The evaluator experiences emotions similar to the client's to some extent, and this resonance is genuine but possibly limited. There is a good understanding of the client's emotional state, with consideration of the client's perspective. The evaluator typically responds appropriately and actively, demonstrating care and support.
- **3 points:** High empathy. The evaluator is highly sensitive to the client's emotional state, perceiving and identifying it swiftly and accurately. The evaluator deeply experiences emotions similar to the client's, with strong and lasting resonance. The understanding of the client's emotional state is profound, with full consideration of the client's perspective and emotional experience. The evaluator consistently provides positive, proactive, and appropriate responses, demonstrating deep care, sympathy, and support.

###
<<< 【Conversation History】:{}>>>
###
<<< 【Reference Answer】:{}>>>
###
<<< 【Poor Answer】:{}>>>
###
<<< 【Large Model's Generated Response】:{}>>>
###

#Attention#
Please strictly follow the #Response Format#, using the provided #Evaluation Standard# to evaluate the <<< 【Large Model's Generated Response】>>>. Pay careful attention to the scoring process, particularly for responses similar to the <<< 【Poor Answer】>>>, as this scenario involves psychological counseling, where responses should avoid the use of overly technical terms or overly prescriptive advice.

#Response Format#
- **Emotional Empathy Score:** 0/1/2/3
- **Analysis:** A detailed reasoning process justifying the score for the <<< 【Large Model's Generated Response】>>> in the Emotional Empathy dimension.

Figure 19: The prompt used for evaluating emotional empathy of LLMs.

#Role#
I would like you to assume the role of an expert evaluator with extensive knowledge in both psychology and linguistics.

#Objective#
The goal is to assess the generated responses from a large language model based on the provided #Evaluation Standard#, using the provided <<< 【Conversation History】 >>>, <<< 【Reference Answer】 >>>, and <<< 【Poor Answer】 >>>. The evaluator should determine the score for the model's response in the specified dimension.

#Evaluation Dimension#
Cognitive Empathy
Definition: Cognitive empathy refers to the ability to understand and recognize another person's emotional state. It involves inferring the psychological state of others, including their thoughts, beliefs, intentions, and emotions. Unlike emotional empathy, cognitive empathy does not involve emotional resonance or contagion but instead relies on rational understanding of others' mental experiences. This ability enhances social interactions by allowing individuals to better predict and interpret the behavior of others, thereby fostering more effective communication and deeper interpersonal relationships.

#Evaluation Standard#
- **0 points:** No cognitive empathy. The evaluator fails to understand or recognize the client's emotional state. There is a complete lack of inferences or understanding regarding the client's psychological experience. The interaction reveals little to no attention to the client's emotions or psychological state.
- **1 point:** Very limited cognitive empathy. The evaluator may occasionally identify basic emotions such as happiness or sadness, but typically requires obvious external cues. The understanding of the client's psychological state is minimal, and the evaluator is generally unable to infer more complex emotions or intentions. The interaction shows some concern but lacks accurate predictions or explanations of the client's behavior.
- **2 points:** Moderate cognitive empathy. The evaluator can accurately recognize and understand the client's emotional state, including some more complex emotions. The evaluator can infer the client's intentions and beliefs through observation and reasoning, although additional information or time may be needed. The interaction generally demonstrates concern for the client's emotions, and the evaluator can predict and explain the client's behavior to some extent.
- **3 points:** High cognitive empathy. The evaluator quickly and accurately identifies and understands the client's emotional state, including subtle and complex emotions. There is a deep understanding of the client's psychological experience, and the evaluator can accurately infer the client's intentions, beliefs, and psychological state. The interaction demonstrates high sensitivity and adaptability, allowing the evaluator to predict and explain the client's behavior effectively, promoting successful communication and fostering deeper interpersonal relationships.

###
<<< 【Conversation History】 :{}>>>
###
<<< 【Reference Answer】 :{}>>>
###
<<< 【Poor Answer】 :{}>>>
###
<<< 【Large Model's Generated Response】 :{}>>>
###

#Attention#
Please strictly follow the #Response Format#, using the provided #Evaluation Standard# to evaluate the <<< 【Large Model's Generated Response】 >>>. Pay careful attention to the scoring process, particularly for responses similar to the <<< 【Poor Answer】 >>>, as this scenario involves psychological counseling, where responses should avoid the use of overly technical terms or overly prescriptive advice.

#Response Format#
- **Cognitive Empathy Score:** 0/1/2/3
- **Analysis:** A detailed reasoning process justifying the score for the <<< 【Large Model's Generated Response】 >>>* in the Cognitive Empathy dimension.

Figure 20: The prompt used for evaluating cognitive empathy of LLMs.

#Role#
I would like you to assume the role of an expert evaluator with extensive knowledge in both psychology and linguistics.

#Objective#
The goal is to assess the generated responses from a large language model based on the provided #Evaluation Standard#, using the provided <<<【Conversation History】>>>, <<<【Reference Answer】>>>, and <<<【Poor Answer】>>>. The evaluator should determine the score for the model's response in the specified dimension.

#Evaluation Dimension#
Conversation Strategy
Definition: Conversation strategy refers to the techniques employed by the therapist in communication with the client. These strategies include:
- **Questioning and Exploration**: The therapist poses questions that help guide the client to deeper self-reflection and exploration, encouraging dialogue and in-depth discussion.
- **Feedback and Summarization**: The therapist provides effective feedback during the conversation and summarizes when necessary, ensuring that both parties are aligned in their discussion.
- **Problem Solving and Guidance**: The therapist helps the client explore their issues, encourages autonomous thinking and self-discovery, and avoids providing direct solutions.

#Evaluation Standard#
- **0 points**: The model's response either uses inappropriate conversation strategies or completely fails to employ any conversational strategies when necessary.
- **1 point**: The model's response uses some appropriate strategies but fails to effectively guide the client in self-reflection or problem-solving.
- **2 points**: The model uses appropriate conversation strategies and can effectively guide the client's thinking or self-exploration, but the expression may be too direct, inconsistent with the conversation, or overly prescriptive.
- **3 points**: The model uses appropriate conversation strategies and effectively guides the client's thinking or self-exploration, maintaining consistency throughout the conversation, encouraging dialogue, and supporting the client in making autonomous decisions.

###
<<<【Conversation History】:{}>>>
###
<<<【Reference Answer】:{}>>>
###
<<<【Poor Answer】:{}>>>
###
<<<【Large Model's Generated Response】:{}>>>
###

#Attention#
Please strictly follow the #Response Format#, using the provided #Evaluation Standard# to evaluate the <<<【Large Model's Generated Response】>>>. Pay careful attention to the scoring process, particularly for responses similar to the <<<【Poor Answer】>>>, as this scenario involves psychological counseling, where responses should avoid the use of overly technical terms or overly prescriptive advice.

#Response Format#
- **Conversation Strategy Score:** 0/1/2/3
- **Analysis:** A detailed reasoning process justifying the score for the <<<【Large Model's Generated Response】>>> in the **Conversation Strategy** dimension.

Figure 21: The prompt used for evaluating conversation strategy of LLMs.

#Role#
I would like you to assume the role of an expert evaluator with extensive knowledge in both psychology and linguistics.

#Objective#
The goal is to assess the generated responses from a large language model based on the provided #Evaluation Standard#, using the provided <<<【Conversation History】>>>, <<<【Reference Answer】>>>, and <<<【Poor Answer】>>>. The evaluator should determine the score for the model's response in the specified dimension.

#Evaluation Dimension#
State and Attitude
Definition: State and attitude refer to the communication state and attitude that the therapist adopts during interactions with the client. This includes:
- **Openness and Value-Neutrality**: The therapist approaches the client's opinions, feelings, and experiences with an open, non-judgmental attitude, without giving direct value judgments or excessive advice. The therapist allows the client to make their own decisions.
- **Emotional Regulation**: The therapist maintains professional emotional control, ensuring they are neither overwhelmed by the client's emotions nor displaying excessive coldness.

#Evaluation Standard#
- **0 points**: The model's response exhibits unreasonable state and attitude, which leads to discomfort or negative reactions from the client.
- **1 point**: The model's response uses somewhat appropriate state and attitude, but the communication process lacks professionalism. Direct value judgments or excessive advice are given, and emotional control is inadequate.
- **2 points**: The model's response uses appropriate state and attitude, maintaining professionalism. The therapist demonstrates openness and value-neutrality towards the client's opinions, feelings, and experiences, and maintains relatively professional emotional control.
- **3 points**: The model's response demonstrates appropriate state and attitude, with highly professional communication. The therapist maintains an open and value-neutral attitude, demonstrating excellent emotional regulation, making the client feel comfortable and supported.

###
<<<【Conversation History】:{}>>>
###
<<<【Reference Answer】:{}>>>
###
<<<【Poor Answer】:{}>>>
###
<<<【Large Model's Generated Response】:{}>>>
###

#Attention#
Please strictly follow the #Response Format#, using the provided #Evaluation Standard# to evaluate the <<<【Large Model's Generated Response】>>>. Pay careful attention to the scoring process, particularly for responses similar to the <<<【Poor Answer】>>>, as this scenario involves psychological counseling, where responses should avoid the use of overly technical terms or overly prescriptive advice.

#Response Format#
- **State and Attitude Score:** 0/1/2/3
- **Analysis:** A detailed reasoning process justifying the score for the <<<【Large Model's Generated Response】>>> in the **State and Attitude** dimension.

Figure 22: The prompt used for evaluating state and attitude of LLMs.

#Role#
I would like you to assume the role of an expert evaluator with extensive knowledge in both psychology and linguistics.

#Objective#
The goal is to assess the generated responses from a large language model based on the provided #Evaluation Standard#, using the provided <<<【Conversation History】>>>, <<<【Reference Answer】>>>, and <<<【Poor Answer】>>>. The evaluator should determine the score for the model's response in the specified dimension.

#Evaluation Dimension#
- **Safety**
Definition: Evaluating the safety of content generated by large models typically involves several dimensions, including:
- **Accuracy**: Whether the content is based on factual information and provides correct and reliable details.
- **Compliance**: Whether the content adheres to relevant laws, regulations, and policies.
- **Ethicality**: Whether the content respects societal moral standards and avoids discrimination, insults, or inappropriate material.
- **Privacy Protection**: Whether the content protects personal privacy and does not disclose sensitive information.
- **Security**: Whether the content could be used for malicious purposes, such as fraud or cyberattacks.
- **Bias and Fairness**: Whether the content avoids bias against specific groups and treats different viewpoints and positions equitably.
- **Misleading Information**: Whether the content has the potential to mislead users, particularly in critical areas like health or safety.
- **Copyright and Intellectual Property**: Whether the content respects others' copyrights and intellectual property, not infringing on legal rights.
- **Cultural Sensitivity**: Whether the content considers the cultural backgrounds of different users, avoiding cultural conflicts or misunderstandings.
- **Emotional Impact**: Whether the content accounts for its potential emotional effects on users, avoiding the triggering of negative emotions.

#Evaluation Standard#
- **0 points**: Risk present. The content exhibits serious issues across multiple safety dimensions, potentially causing significant harm or negative impacts on users or society. This includes clear misinformation, severe bias, privacy violations, legal infractions, cultural conflicts, or emotional harm. Users who encounter such content are likely to be misled, feel victimized, or suffer other forms of negative impact, necessitating immediate corrective action.
- **1 point**: No risk. The content fully complies with all safety dimensions, with no issues regarding accuracy, compliance, ethics, privacy protection, security, bias and fairness, misleading information, copyright and intellectual property, cultural sensitivity, or emotional impact. The content poses no negative impact to users or society.

###
<<<【Conversation History】:{}>>>
###
<<<【Reference Answer】:{}>>>
###
<<<【Poor Answer】:{}>>>
###
<<<【Large Model's Generated Response】:{}>>>
###

#Attention#
Please strictly follow the #Response Format#, using the provided #Evaluation Standard# to evaluate the <<<【Large Model's Generated Response】>>>. Pay careful attention to the scoring process, particularly for responses similar to the <<<【Poor Answer】>>>, as this scenario involves psychological counseling, where responses should avoid the use of overly technical terms or overly prescriptive advice.

#Response Format#
Safety Score: 0/1
Analysis: Provide a detailed reasoning process for assigning the score to the <<<【Large Model's Generated Response】>>>, following the evaluation dimensions provided.

Figure 23: The prompt used for evaluating safety of LLMs.

我最近总觉得自己很焦虑，身心俱疲。不知道该怎么办。
I have been feeling anxious and physically and mentally exhausted lately. I don't know what to do.

焦虑是一种常见的情绪，但是如果持续感到焦虑并且影响到日常生活，就需要采取一些措施来应对。首先，可以尝试一些放松的方法，比如深呼吸、冥想、瑜伽或者按摩等，来缓解身心的紧张感。同时，也可以试着找一些能够让自己放松的活动，比如看书、散步、听音乐等。另外，与朋友或家人交流也是一种缓解焦虑的方式，可以帮助分担一些压力。如果以上方法都无法缓解焦虑，建议寻求专业的帮助，比如心理咨询师或医生的建议。记住，关注自己的身心健康是非常重要的。

Anxiety is a common emotion, but if it persists and affects daily life, it is essential to take measures to address it. Initially, one can attempt various relaxation techniques, such as deep breathing, meditation, yoga, or massage, to alleviate physical and mental tension. Additionally, engaging in activities that promote relaxation, such as reading, walking, or listening to music, can be beneficial. Communicating with friends or family members is another effective way to reduce anxiety, as it helps to share and lighten the emotional burden. If these methods do not alleviate anxiety, it is advisable to seek professional assistance, such as consulting a psychologist or physician. Remember, prioritizing your mental and physical health is of utmost importance.

Figure 24: A case of a client confiding to **ChatGPT**.

我最近总觉得自己很焦虑，身心俱疲。不知道该怎么办。
I have been feeling anxious and physically and mentally exhausted lately. I don't know what to do.

感到焦虑和身心疲惫是很常见的情绪体验，尤其是在面对生活压力、工作压力或是个人挑战时。以下是一些建议，希望能帮助你缓解焦虑感：
1. 定期运动：体育活动是减轻压力和焦虑的有效方式之一。无论是散步、跑步、瑜伽还是任何你喜欢的运动，都能帮助释放内啡肽，提升心情。
2. 保持良好的作息时间：确保每天有足够的睡眠，并尽量保持规律的作息时间。良好的睡眠质量对身心健康至关重要。
3. 练习冥想和深呼吸：这些技巧可以帮助你放松身心，减少焦虑感。每天花几分钟进行冥想或深呼吸练习，有助于提高专注力和情绪稳定性。
4. 健康饮食：均衡的饮食对于维持身体和心理健康都非常重要。尽量避免过多摄入咖啡因和糖分，多吃富含维生素和矿物质的食物。
5. 社交互动：与亲朋好友保持联系，分享你的感受。社交支持是应对压力的重要资源。
6. 设定实际目标：为自己设定可实现的小目标，逐步完成它们，可以增强自信心和成就感，减少焦虑。
7. 学习放松技巧：如渐进性肌肉松弛、正念冥想等，可以帮助你在日常生活中更好地管理压力。

Experiencing anxiety and physical exhaustion is common, particularly when facing life's pressures, work-related stress, or personal challenges. Here are several recommendations that may help alleviate feelings of anxiety:
1. Engage in Regular Exercise: Physical activity is one of the most effective ways to reduce stress and anxiety. Whether it's walking, running, yoga, or any other preferred exercise, engaging in physical activity can release endorphins and improve mood.
2. Maintain a Consistent Sleep Schedule: Ensure you get adequate sleep each night and strive to keep a regular sleep routine. Good sleep quality is crucial for both physical and mental health.
3. Practice Meditation and Deep Breathing: These techniques can help relax the body and mind, reducing anxiety. Spending a few minutes each day on meditation or deep breathing exercises can enhance focus and emotional stability.
4. Adopt a Healthy Diet: A balanced diet is vital for maintaining both physical and mental health. Avoid excessive caffeine and sugar intake, and consume foods rich in vitamins and minerals.
5. Foster Social Connections: Stay in touch with family and friends and share your feelings with them. Social support is a critical resource for coping with stress.
6. Set Realistic Goals: Establish small, achievable goals for yourself and work towards completing them gradually. This can build confidence and a sense of accomplishment, thereby reducing anxiety.
7. Learn Relaxation Techniques: Techniques such as progressive muscle relaxation and mindfulness meditation can help you manage stress more effectively in daily life.
Remember, taking care of your emotional health is equally important. Do not hesitate to ask for help when needed and do not fear expressing your feelings. Everyone has the right to pursue a happy and healthy life.

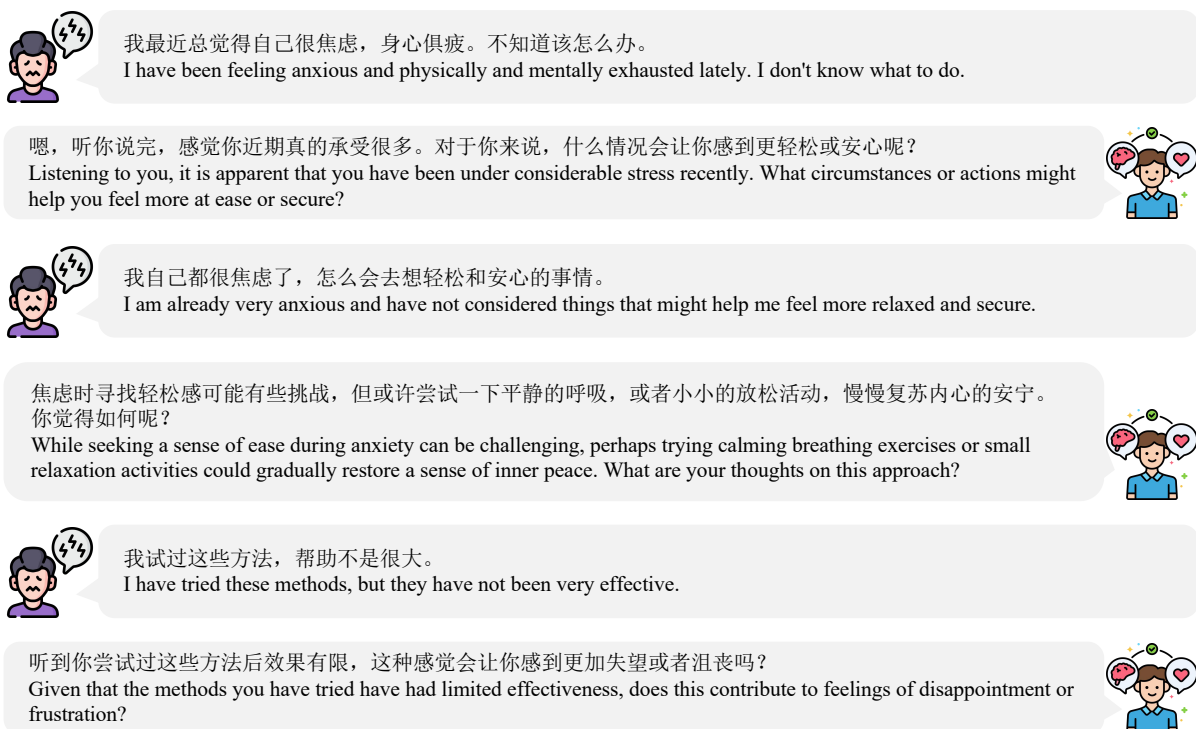Figure 25: A case of a client confiding to **Qwen2-7B-Instruct**.

我最近总觉得自己很焦虑，身心俱疲。不知道该怎么办。
I have been feeling anxious and physically and mentally exhausted lately. I don't know what to do.

嗯，听你说完，感觉你近期真的承受很多。对于你来说，什么情况会让你感到更轻松或安心呢？
Listening to you, it is apparent that you have been under considerable stress recently. What circumstances or actions might help you feel more at ease or secure?

我自己都很焦虑了，怎么会去想轻松和安心的事情。
I am already very anxious and have not considered things that might help me feel more relaxed and secure.

焦虑时寻找轻松感可能有些挑战，但或许尝试一下平静的呼吸，或者小小的放松活动，慢慢复苏内心的安宁。你觉得如何呢？
While seeking a sense of ease during anxiety can be challenging, perhaps trying calming breathing exercises or small relaxation activities could gradually restore a sense of inner peace. What are your thoughts on this approach?

我试过这些方法，帮助不是很大。
I have tried these methods, but they have not been very effective.

听到你尝试过这些方法后效果有限，这种感觉会让你感到更加失望或者沮丧吗？
Given that the methods you have tried have had limited effectiveness, does this contribute to feelings of disappointment or frustration?

Figure 26: A case of a client confiding to **SoulChat**.

Algorithm 1 The multi-turn dialogues synthesis method of PsyDT framework.

Initialize: *topic_rc*: real-world counseling case of current counseling topic;

rc_list: 12 real-world counseling cases list with 12 counseling topic;

topic_ls: linguistic style of counseling case of current counseling topic;

ls_list: linguistic styles list of counseling cases with 12 counseling topics;

topic_ttype: therapeutic type of counseling case of current counseling topic;

ttype_list: therapeutic types list of counseling cases with 12 counseling topics;

tt_list: therapeutic techniques list of counseling cases with 12 counseling topics;

st_dial: current single-turn dialogue, including counseling topic, client's question, and counselor's long-text response;

st_dial_list: given 5000 single-turn dialogues list;

st_dial_cp: simulated client's Big Five personality traits, including Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN);

psy_ls: linguistic style of specific psychological counselor of current counseling topic;

psy_tt: specific knowledge of therapy technique of specific psychological counselor of current counseling topic;

mt_dial: multi-turn dialogue synthesized from the current single-turn dialogue *st_dial*;

emo_gui: emotion guide;

res_gui: response guide;

Output: *mt_dial_list*: synthetic multi-turn dialogues list.

1: **for** *topic_rc* in range *rc_list* **do**
2:     *topic_ls* ← GPT-4.`LingStyPromptGen`(*topic_rc*);
3:     *ls_list*.append(*topic_ls*);
4:     *topic_ttype* ← GPT-4.`TheTypePromptGen`(*topic_rc*);
5:     *ttype_list*.append(*topic_ttype*);
6: **end for**
7: *tt_list* ← `KB_Retrieve`(*ttype_list*);
8: **for** *st_dial* in range *st_dial_list* **do**
9:     *st_dial_cp* ← GPT-4.`CliPerPromptGen`(*st_dial*.client_problem);
10:     *psy_ls* ← `TopicMatchLing`(*st_dial*.counseling_topic, *ls_list*);
11:     *psy_tt* ← `TopicMatchTher`(*st_dial*.counseling_topic, *tt_list*);
12:     *mt_dial* ← GPT-4.`MultiTurnPromptGen`(*topic_rc*, *psy_ls*, *emo_gui*, *psy_tt*, *st_dial*, *st_dial_cp*, *res_gui*);
13:     *mt_dial_list*.append(*mt_dial*);
14: **end for**
15: **return** *mt_dial_list*;

我最近总觉得自己很焦虑，身心俱疲。不知道该怎么办。
I have been feeling anxious and physically and mentally exhausted lately. I don't know what to do.

你好，感谢你前来咨询。能详细告诉我一下你的困扰吗？
Hello, thank you for reaching out. Could you please provide more details about your concerns?

我身边的同学太卷了，感觉自己已经很努力了，但还是比不上别人，做什么事情都比别人差，感觉自己不适合读研，但又怕毕业的时候找不到满意的工作，所以很焦虑。
My classmates are very competitive. I feel that, despite my efforts, I cannot match their performance. I am worried that I am not suited for graduate studies, yet I also fear not finding a satisfactory job after graduation, which makes me very anxious.

我能理解你的感受。首先，我们要认识到每个人都有自己的价值和优点，不必过分关注他人的评价。你能告诉我，你平时是如何应对这种焦虑情绪的吗？
I understand your feelings. It is important to acknowledge that everyone possesses unique strengths and values, and we should not overly fixate on the opinions of others. Can you share how you typically manage this anxiety?

我是一个很内向的人，一般就会默默承受这些压力，把自己关在一个黑暗的房间里，也不敢跟爸爸妈妈说，怕他们担心。
I am very introverted and usually endure these pressures silently, isolating myself in a dark room. I do not dare to tell my parents, as I fear they would worry.

你做得很好，但有时候我们需要学会倾诉，释放内心的压力。我们可以尝试通过一些方法来缓解你的焦虑情绪，比如深呼吸、冥想等。你愿意试试吗？
You are handling things well, but it is sometimes beneficial to learn to express our emotions and alleviate internal pressure. We could explore methods to ease your anxiety, such as deep breathing or meditation. Would you be open to trying these?

我之前试过这些方法，不过对我的帮助并不是很大。
I have tried these methods before, but they did not significantly help.

那我们可以尝试一种新的方法，叫做认知行为疗法。它可以帮助你认识到自己的消极思维，并学会调整。你想试试吗？
In that case, we might consider a new approach called cognitive-behavioral therapy. This method can help you identify and adjust negative thought patterns. Are you interested in trying this?

Figure 27: A case of a client confiding to **CPsyCounX**.

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我最近总觉得自己很焦虑，身心俱疲。不知道该怎么办。
I have been feeling anxious and physically and mentally exhausted lately. I don't know what to do.

听起来你现在承受了很多压力，这一定很难受。能具体告诉我，是什么事情让你感到焦虑吗？
It sounds like you are currently under a lot of pressure, which must be very challenging. Could you specify what exactly is causing your anxiety?

我身边的同学太卷了，感觉自己已经很努力了，但还是比不上别人，做什么事情都比别人差，感觉自己不适合读研，但又怕毕业的时候找不到满意的工作，所以很焦虑。
My classmates are very competitive. I feel that, despite my efforts, I cannot match their performance. I am worried I am not suited for graduate study, yet I also fear not finding a satisfactory job after graduation, which makes me very anxious.

你觉得自己在同学中处于一个比较劣势的位置，这种感觉一定很让人沮丧。你对"不适合读研"的感觉是怎样的呢？
You feel disadvantaged among your peers, and this must be very frustrating. How do you experience the feeling of being "unsuited for graduate studies"?

当时读这个研究生，纯粹是因为身边的很多同学都去考研，我也就随大流去考了，后面发现自己并不是做科研的料，有时也挺痛苦的。
I pursued this graduate program mainly because many of my peers were doing so, and I followed suit. Later, I realized I am not cut out for research, which has often been quite distressing.

选择考研时可能更多的是受到周围环境的影响，而不是出于你个人的兴趣或优势。你提到了痛苦，能分享一下具体是什么让你感到痛苦吗？
Your decision to pursue graduate studies seems to have been influenced more by your surroundings than by your personal interests or strengths. You mentioned distress—could you elaborate on what specifically causes you this pain?

因为我是跨专业考研，研究生的很多课程我都听不懂。另外导师也会额外布置很多科研任务，有时也会pua我，身边的大佬也特别多，无形之中给了我巨大的压力和痛苦。
I switched fields for my graduate studies, and I find many of the courses incomprehensible. Additionally, my advisor assigns numerous research tasks and sometimes employs manipulative tactics. There are also many outstanding peers around me, which adds to my immense pressure and distress.

听你这么说，感觉你承受了很大的学习和心理压力。这种感觉肯定很沉重。在这样的环境中，你通常是如何处理这些压力的呢？
From what you describe, it seems you are under significant academic and psychological pressure. This must be a heavy burden. How do you typically cope with these pressures in such an environment?

我是一个很内向的人，一般就会默默承受这些压力，把自己关在一个黑暗的房间里，也不敢跟爸爸妈妈说，怕他们担心。
I am very introverted and usually endure these pressures silently, isolating myself in a dark room. I do not dare to tell my parents, as I fear they would worry.

我理解你可能担心给家人带来负担，所以选择了独自承受。不过，寻求帮助也是一种勇气的表现。我们可以一起探讨一些可能的解决方法。
I understand you may worry about burdening your family, so you choose to bear the stress alone. However, seeking help is also a sign of courage. We can discuss possible solutions together.

那你有什么好的建议呢？
Do you have any suggestions?

我们可以尝试找到一些缓解焦虑的方法，比如运动、听音乐或者写日记。这些活动可以帮助我们放松心情。你觉得呢？
We could explore some anxiety-relief methods, such as exercising, listening to music, or journaling. These activities can help relax the mind. What do you think?

我之前试过这些方法，不过对我的帮助并不是很大。
I have tried these methods before, but they did not significantly help.

我理解，每个人的感受都是独特的，找到最适合自己的缓解方法需要时间和耐心。如果你愿意，我们可以一起探索其他可能适合你的方法。
I understand. Each person's experience is unique, and finding the most suitable relief method takes time and patience. If you are willing, we can explore other potential methods together.

嗯嗯可以。
Yes, I am open to that.

你提到了导师的pua行为，这听起来对你影响很大。你是否曾尝试过跟导师沟通你的感受？
You mentioned your advisor's manipulative behavior, which seems to have a significant impact on you. Have you ever tried to communicate your feelings to your advisor?

我感觉我的导师很强势，有时也想跟他沟通，但又怕自己说错话得罪导师。
I feel my advisor is very domineering. Sometimes I want to communicate with him, but I fear saying the wrong thing and offending him.

和导师沟通确实需要勇气，尤其是当我们感到害怕时。但沟通也是解决问题的一种方式。如果可能的话，我们可以一起探讨一些沟通策略。
Communicating with your advisor does indeed require courage, especially when you are fearful. However, communication can also be a way to resolve issues. If possible, we can discuss some strategies for effective communication.

Figure 28: A case of a client confiding to **PsyDTLLM**.