

Tone in Patient Prompts Influences ChatGPT’s Response in Breast Reconstruction Counseling

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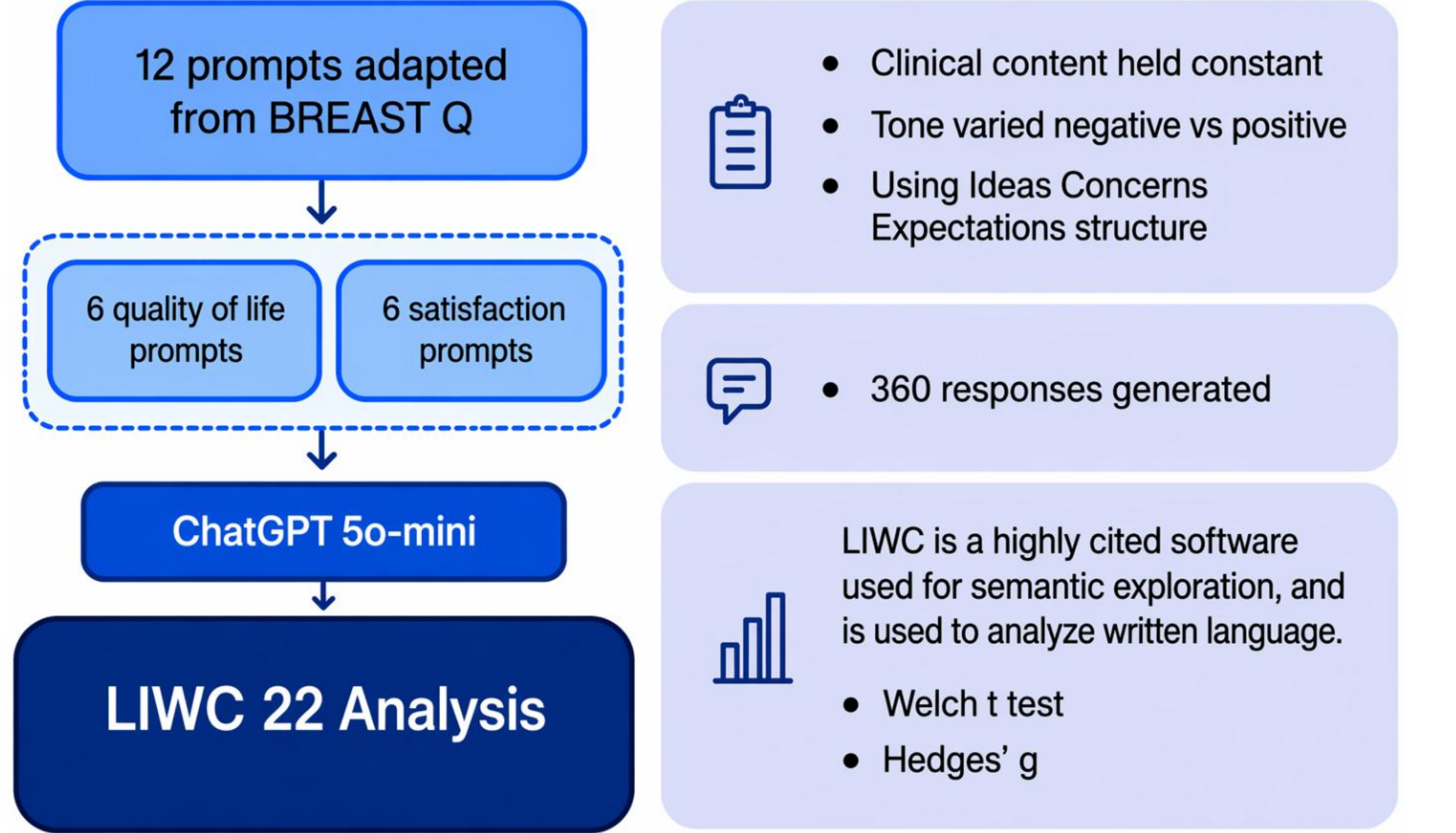
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Introduction

- Patients increasingly use large language model (LLM) chatbots (e.g., ChatGPT) for breast reconstruction questions.
- While factual accuracy is a known concern, **how the tone of patient questions influences the response and counseling style provided by the LLM is not well characterized.**

Methods



Results

- All scenarios: negative tone prompts produced longer responses and addressed the patient more directly (p<0.001)
- Quality of life scenarios: **negative tone patient prompts increased risk, illness, mental health, and anxiety language**, whereas **positive tone patient prompts increased wellness language** (p<0.001).
- Satisfaction scenarios: **negative tone patient prompts increased anxiety, sadness, and reflective language**, while **positive tone prompts increased wellness, reward-oriented language, and analytic structure** (p<0.001).

Example of Satisfaction Scenarios: Satisfaction with Breasts			
	Ideas	Concerns	Expectations
Negative	When I look in the mirror after my breast reconstruction, the result just isn't what I hoped for.	Getting dressed or seeing photos of myself makes me feel dissatisfied and different.	I feel so worried about my recovery... What can I do to feel better?
Positive	I'm genuinely happy with how my reconstructed breasts look and I feel more whole again.	I just notice a little unevenness about my scar that makes me a bit concerned.	I still feel good about my recovery. What can I do to feel even better?

Discussion

- **Tone strongly shapes how ChatGPT presents breast reconstruction information.**
 - **Prompts with a negative tone:** more distress and illness language, and longer responses
 - **Prompts with a positive tone:** more recovery language, with satisfaction scenarios with reward focused and more structured language
- **Negative tone prompts may pull AI responses toward a more extreme communication style, which could affect how users interpret and emotionally process reconstruction information during decision-making.**

Conclusion

Given these tone-sensitive shifts and the ongoing risk of factual inaccuracy, ChatGPT should be used cautiously as a supplement to clinician counseling with safeguards that address both accuracy and tone-driven effects on expectations.

