

## Motivations & Background

**Online lives of users** have a **major influence on their self-definition**. People look at **online forums** either as a **primary or secondary source of counseling services**.

### Objective

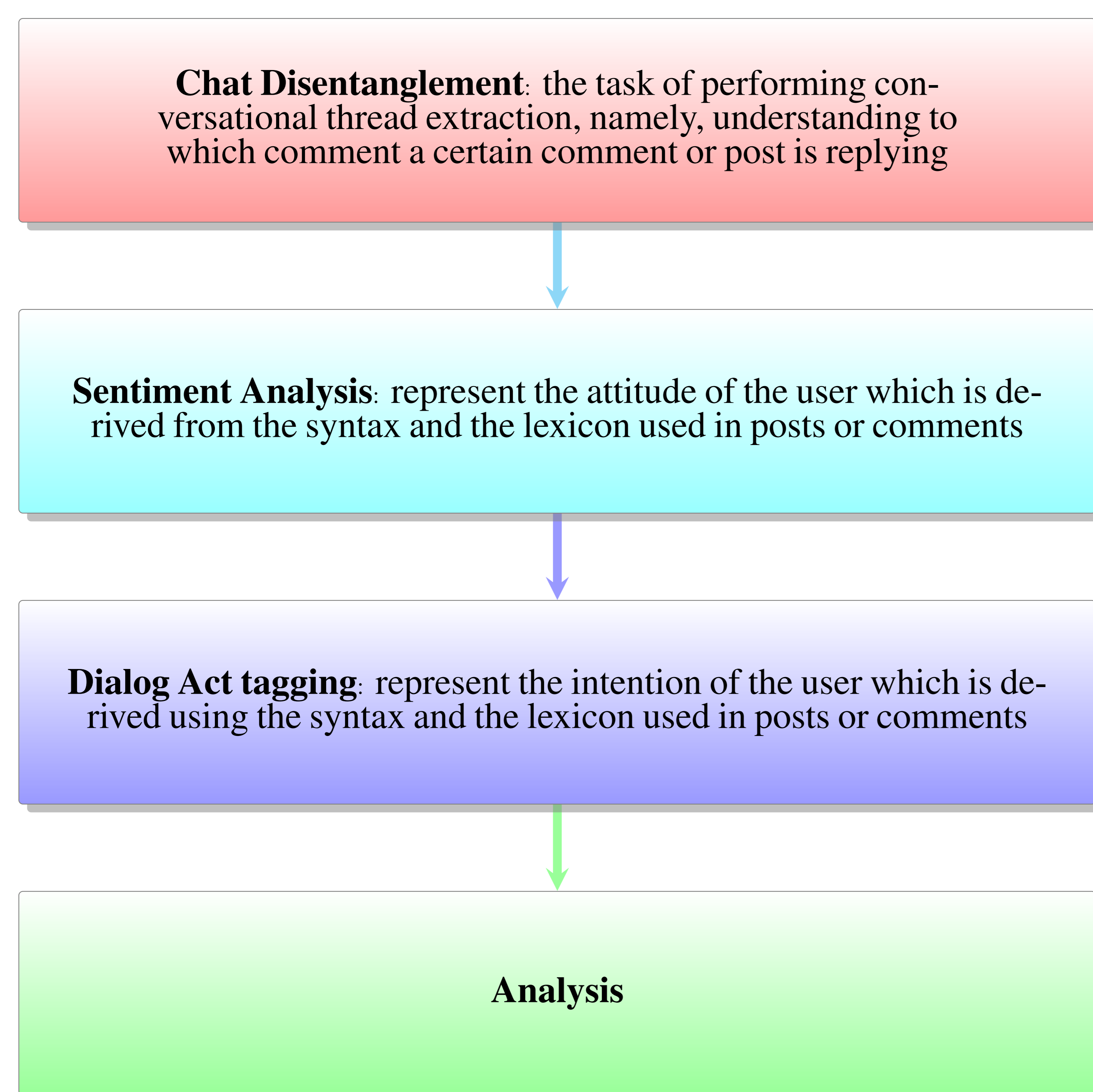
Verify the **presence of therapeutic factors of group therapy** in **online mental health groups forums** with respect to the **attitudes and intentions** of authors and responders

### Results

- The **observations support** the view that in **online group forums users** experience **at least some therapeutic factors** of Group therapy
- The attitude of the respondents is influenced by the attitude of the authors.
- Authors may significantly change their attitudes and intentions by following the ones of responders
- Emotional states of users replying to a positive post are significantly different from those replying to a negative post

## Methodology

Natural Language Processing techniques used to automatically identify users emotional attitudes and intentions.



## Attitude Change as Sentiment Polarity

Initial Author Attitude				Final Author Attitude			
Post Polarity	Reply Polarity			Reply Polarity	Final Post Polarity		
	Neg	Neu	Pos		Neg	Neu	Pos
Neg	27.25%	14.87%	57.88%	Neg	28.98%	18.27%	52.75%
Neu	21.37%	23.49%	55.14%	Neu	25.20%	25.70%	49.10%
Pos	18.79%	16.04%	65.17%	Pos	22.60%	18.01%	59.38%

## Therapeutic Factors and Conditions

### Altruism

Initial Author Attitude	Responder Attitude	Final Author Attitude
Negative	Positive Intended Emotional Communication	Improved

### Instillation of Hope

Initial Author Attitude	Responder Attitude	Final Author Attitude
Negative	Positive	Improved

### Universality

Initial Author Attitude	Responder Attitude	Final Author Attitude
Negative	Negative	Improved

Statistically significant differences between the attitudes at the beginning and at the end of a conversation.

## Attitudes and Intentions

### Attitude and Sentiment

Sentiment analysis aims to determine the attitude of a speaker or a writer with respect to the overall contextual polarity of a document. The attitude may be either his or her affective state or the intended emotional communication.

Sentiment	Example
Positive	"I'm happy to day", "Don't give up, you'll get better soon"
Negative	"I feel depressed"
Neutral	"I read there is a clinic in the neighborhoods"

### Intentions and Dialog Acts

Dialog Act: represents the meaning of an utterance at the level of illocutionary force. The illocutionary force is the speaker's intention in producing an utterance.

Class	Percent	Example
Statement	73.0%	"I felt the same", "You're not alone"
Emphasis	6.3%	"Ok I'm gonna put it up ONE MORE TIME"
ynQuestion	4.7%	"Are you feeling better?"
Continuer	4.3%	"and thought I'd share"
whQuestion	3.66%	"What makes you feel depressed?"
Reject	2.87%	"You are not on meds"
Accept	1.26%	"It's true"
Greet	0.75%	"Hello"

## Attitude Change: Summary

