The Relationship of Emotional and Informational Support to Commitment in Online Health Support Groups

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CS 224C
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Agenda

1. Brief takeaway (RQ + Data + Methods + Results)
2. Discussion of methods
    a. Group activity: review methods
    b. Coding statements for emotional support messages and for informational support messages
3. Extensions
    a. How would you write the paper / extend the paper?
4. Applications
    a. Data/sites to apply these methods?
    b. Methods to apply to similar data?

Summary

1. Data
    a. 66 popular and active online breast cancer support groups from October 2001 to January 2011.
        i. 90242 unique members/users and more than 1.5 million messages over 68158 threads.
2. Methods
    a. 3-pronged approach: 1 qualitative (coding) and 2 quantitative (NLP + regression)
3. Results
    a. More exposure to emotional support drives engagement, more exposure to informational support drives dropout.
    b. When receiving a lot of messages, emotional support more likely to drive engagement than informational support, but receiving few messages is support-agnostic.

Methods: Group Activity 1

Summary of research methods

1. Hand-code 1000 messages from MTurk respondents. 10 MTurkers code each message, mean of ratings taken. Low correlation with experts (0.7-0.76), high MTurk correlation (0.9)
2. ML algorithms trained using LIWC, linguistic features (word/sentence count), LDA
3. ML model trained and applied to 1.5 million messages from breastcancer.org
4. Regression model: User left group (no post since 12 weeks of post), exposure to information or encouragement, and other control variables

Methods: Group Activity 1

In small groups of 2-3, discuss the following questions:

1. Is the MTurk coding + NLP methods a convincing approach to answer the authors' research question?
2. Discuss the final regression analysis in the paper? What were pros or cons? What might you change (hint: causal model, dependent variable)

Methods: Group Activity 1

Some interesting thoughts from discussion board/ from us:

1. ML methods used are outdated, LLMs today are very powerful
2. Dependent variable definition is questionable/ why this dependent variable?
    a. Survival analysis: people who want information will leave, while people looking for encouragement will stay
3. Is MTurk coding reliable?
4. How are cultural differences in messages handled during coding? E.g., what does support look like?
5. *Do we expect this NLP model to give better results than simple platform interaction metrics - number of replies to question, time in getting a response, etc.*

Methods activity: PollEv

Let’s do a small replication of MTurk coding. Go to the pollev page below

PollEv Question #1: Rate from 1 to 7

For me, this was a good choice. I thought about going through reconstruction but decided against it. I didn't want to risk complications and knew it would also mean additional surgeries. I use a breast form. I was 50 when I was diagnosed. If I had been in my 20's or 30's, I probably would have tried reconstruction.

There are no right or wrong decisions - and you can always change your mind. Blessings and prayers for you. So sorry for your loss and diagnosis.

Source: Cancer Survivors Network, Breast Cancer Discussion Board

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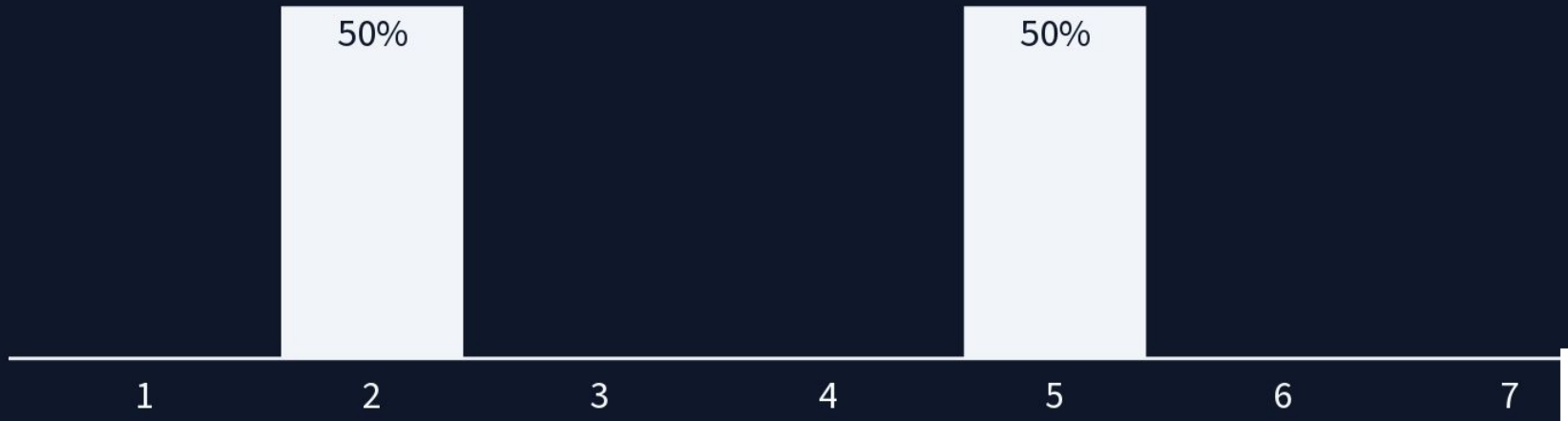
Q1: Rate the previous message on the amount of emotional support it contains, with 1 meaning "none" and 7 meaning "a great deal."



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1 2 3 4 5 6 7

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PollEv Question #2: Rate from 1 to 7

I'm so sorry about your husband. I'll be sending you healing prayers on all fronts. I'm 69 years young and had a double mastectomy in April 2021 with reconstruction. I'm glad I did have both. My mother had breast cancer at 45. I now do not need to do semi-annual MRI's of my remaining breast. I was HR+PR+ and H2 negative. I suggest you continue to talk to your oncologist surgeon and PCP about what your options are. There are also cancer support services available. If you are not being supported by your oncologist surgeon, then I recommend you look elsewhere. Be comfortable with your caretaker staff. And talk to as many people that you need to be comfortable with your decision. I met a friend of a friend that had a double mastectomy 15 years ago and was so supportive of me and discussed her situation in detail. We are now BB's (Bosom Buddies for life). I am happy with my decision to have both breasts removed. God bless you with your decision and with grieving the loss of your husband. Big Hugs - MEK P.S. My mantra during my surgery and recovery with the BeeGee's 70's song "Stayin' Alive". I'm happy to be alive and cancer free. Do surround yourself with positive people. It certainly helps.

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PollEv Question #3: Rate from 1 to 7

I feel the same way. I have only told a handful of friends/ family/ coworkers. Telling someone new feels like the first time each time I do it. So I took a break from letting people know. I have decided not to post anything on social media (at least for now). I don’t want the constant questions and comments. Maybe it’s somewhat the denial part of me but I chose not to tell everyone. You do what feels right for you!

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The first two responses were for a question asking for information

Thread title	Question	Responses
Needing to decide on single vs bilateral mastectomy and doing reconstruction.	I was diagnosed with…I have to get a mastectomy due to how extensive it is….I really have no idea what to do. I’m overwhelmed right now. My husband died in an accident within 2 hours of my diagnosis…Who else had these choices and watch can you tell me about your experience?	Response 1: There are no right or wrong decisions - and you can always change your mind. Blessings and prayers for you. So sorry for your loss and diagnosis.
		Response 2: I'm so sorry about your husband. I'll be sending you healing prayers on all fronts.

The research study also doesn’t consider the questions asked

The third response was for a question asking for information and encouragement

Thread title	Question	Responses
Telling people you have cancer ... How do you do it?	One of the hardest things since my diagnosis two months ago has been telling everyone I have cancer. Has anyone else found this to be true? What was your experience? I am taking a leave of absence from my job and my co-workers don't know why. Only administration knows. I don't know what to say to them. Telling my children, my friends, my mom ... Was so hard. I have only told the people who really need to know. I know some people post all about their cancer on social media, but not me. Maybe I am a private person. And I don't like to appear vulnerable or weak.	Response 3: I feel the same way. I have only told a handful of friends/ family/ coworkers. …

Extensions: Group Activity

In small groups of 2-3, discuss how you might extend this paper if you had access to the same dataset? Think about:

1. Research questions/ applications you would consider

As you consider this, some interesting thoughts from discussion board/ from us:

1. The two themes (information + encouragement) might be mixed
2. Study asks a causal question that is answered with a correlation analysis - can a causal study be designed?
3. *What research question if answered will be helpful for the people on the message board?*

Applications

Key takeaways: Emotional support increases commitment to online support groups. Increased informational support is weakly associated with commitment.

In which other avenues (either positive or nefarious) can this finding be used for effective product design?

- Social movements?
- Prebunking strategies?