MOHAMMED AL-MOSAIWI
'People with depression use language differently'
Mental Health Symposium April 21ˢᵗ 2018

[2018/04/21 08:08] Elektra Panthar: <>

[2018/04/21 08:09] TaterLinda Resident: Hello Everyone.
First, thank you all for being here today.
My name is TaterLinda.
In RL I suffer for congenital condition of cysts that grow anywhere within my central nervous system.
I have cerebellar atrophy, and am bedridden most of the day.
I recently had surgery to repair 3 CSF leaks along my spine. (Cerebral Spinal Fluid)
In SL, I am free to be the inner me enjoying the sounds of music and dancing or meditating to them. I try to help others the best I can.
In SL, I feel like there is purpose in my life and I have a close knit of friends now that understand me.

Next, I would like to introduce Mr Mohammed Al-Mosaiwi. He comes to us from the University of Reading in the UK.
Mr. Al-Mosaiwi is a qualified pharmacist – and originally had plans to do a PhD in medicinal chemistry.
However, he became more and more interested in psychology, so he undertook a Masters in Cognitive Neuroscience at The University of York and then a PhD in Psychology at The University of Reading.
His research is focused on the maladaptive impact of absolutist thinking, especially with respect to psychological wellbeing, and more specifically, anxiety, depression and suicidal ideation.
His studies attempt to identify the mechanisms by which absolutist thoughts produce detrimental consequences.
He has also empirically examined and compared various ways of measuring absolutist thinking.")
The topic of this presentation is: "People with depression use language differently."
He will present findings from a paper recently published in Clinical Psychological Science.
This research found that absolutist words were better markers of depression than negative emotion words.
Let's all give Mr. Al-Mosaiwi a warm welcome.

[2018/04/21 08:13] Mo86Mosaiwi Resident: People with depression use language differently- Mo Al-Mosaiwi

Overview
* What are the linguistic markers for depression

-- Content vs. Style
-- Previous findings
*Absolutist words and absolutist thinking
-- Findings from our recent study
-- Absolutist thinking and mental health
* Applications and dangers
[2018/04/21 08:15] Elektra Panthar: MAM: The differences in style should be treated differently than the differences in content

[2018/04/21 08:15] Mo86Mosaiwi Resident: Content
There are two distinct components in our language – content and style.
* The content of language relates to "what" we communicate:
Characterised by nouns, verbs and adjectives
There are 1000s of content words
For example: "I always feel lonely"
For example: "_ ____ ____ lonely"
* Content words convey the content of a sentence.

Style
There are two distinct components in our language – content and style.
* The style of language relates to "how" we communicate:
e.g., articles, prepositions and conjunctions
There are only about 400 function words
For example: "I always feel lonely"
For example: "_ always ____ ____"
* Function words convey the style of a sentence.

Language of Depression: The Content
* The content in the language of depressed people is extremely negative…not a surprise!
* We are attuned to paying attention to the content of language.
For example: "I always feel lonely"
The part we most pay attention to is the word "lonely."
* So the negative language from those with depression is the most obvious…but is it the most significant?

Language of Depression: The Style
* Those with symptoms of depression have been repeatedly shown to use:
Significantly more first person singular pronouns
E.g., 'me', 'myself' and 'I'
Significantly fewer second and third person pronouns
[2018/04/21 08:21] Elektra Panthar: MAM: Some of this research was conducted on Sylvia Plath's poems, Kurt Cobain's songs, forum posts - a variety of sources
[2018/04/21 08:21] Mo86Mosaiwi Resident: E.g., 'she', 'them', 'his'
* This has been found through automated text analysis of online posts, personal diaries, recorded speech and even works of art (e.g., song lyrics and poems by depressed authors).
* It is claimed that personal pronouns are actually better markers of depression than negative emotion words.

[2018/04/21 08:23] Elektra Panthar: MAM: People with depression also suffer from social isolation, hence the reduced use of third person pronouns
[2018/04/21 08:23] Mo86Mosaiwi Resident: Language of Depression: The Style
* Our lab has recently conducted a large scale text analysis study.
* Examined text posts from over 6,400 members of 63 different internet forums.
* We aimed to investigate the use of absolutist words for those with and without symptoms of mental health disorder.
* We developed and independently validated an absolutist words dictionary (e.g., 'always', 'nothing', 'totally')
[2018/04/21 08:25] Elektra Panthar: MAM : These are functional words

[2018/04/21 08:25] Mo86Mosaiwi Resident: Study 1
* Test Forums (16 forums)
-- Anxiety (6 forums)
-- Depression (6 forums)
-- Suicidal ideation (4 forums)
* Control Forums (19 forums)
-- Health forums (e.g., cancer)
-- General forums (e.g., parenting, students, pensioners, etc.)
Image shows an 'Absolutist Words' bar chart.

Study 1
First image shows a 'Negative Emotion Words' bar chart.
[2018/04/21 08:28] Elektra Panthar: MAM: We found people in the anxiety and depression forum used up to 40% more absolutist words than those in control forums, and the percentage rises as the severity of the condition increases
They are also using negative emotions more. In order, those suffering from suicide ideation - depression - anxiety. One would think it's the opposite
[2018/04/21 08:30] LV (lorivonne.lustre): MAM: Looking at the negative emotion words and pronouns, from the graph we can see that although there were more negative emotion words for anxiety depression and suicidal ideation forums then control forums. The pattern does not relate to the severity of the condition. So that we find more negative emotion words on the anxiety and depression forums than suicidal ideation forums. This is paradoxical, when you consider that suicidal ideation is the most acute condition. The pattern of pronoun use matches that of absolutist words, although we found that the effects were smaller. That means that absolutist words are better markers of depression and anxiety and suicidal ideation than pronouns and negative emotion words.
[2018/04/21 08:31] Mo86Mosaiwi Resident: Second image shows a 'Pronouns' bar chart.

Study 2
* Test Forums (9 forums)
-- Eating Disorder (5 forums)
-- Borderline personality disorder (4 forums)
* Control Forums (12 forums)
-- Schizophrenia (6 forums)
[2018/04/21 08:34] Elektra Panthar: MAM: We wanted to understand whether the absolutist words are used in a generalized psychological distress or they are used specifically by people with depression or anxiety

-- Post traumatic stress disorder (6 forums)
First image shows a 'Study 2 - Absolutist Words' bar chart.
[2018/04/21 08:35] Elektra Panthar: MAM: In study 2 we wanted to identify whether this difference in absolutist words use is related two absolutes is thinking or psychological distress. To do this we examined for Internet forums where the users all had a high level of psychological distress but different levels of absolutist thinking. Eating disorder and borderline personality disorder are going to have high levels of absolutist thinking. While schizophrenia and PTSD are not known to have high levels of absolute thinking. We find the absolute is worse use matches absolute is thinking and not psychological distress.
[2018/04/21 08:36] Mo86Mosaiwi Resident: Second image shows a 'Study 2 - Negative Emotion Words' bar .
Study 3 - Recovery forums
First image shows a 'Study 3 - Absolutist Words' bar chart.
Second image shows a 'Study 3 - Positive Emotion Words' bar chart.

Absolutism in Mental Health
[2018/04/21 08:37] LV (lorivonne.lustre): MAM: In some of the depression forums there were some forums that those who have recovered from depression. These were known as recovery for, and they were places where users wrote positive comments about their recovery. We found that absolutist words were elevated in recovery forums where the text was predominantly positive. This means that even those who have recovered from depression, continue to use a high number of absences words compare it to those who do not have depression. This suggests absences worse use it's about the mobility factor the future depression.
Therapists are trying to challenge the thinking in their clients. Third wave therapists do this , introducing mindfulness to their patients
[2018/04/21 08:39] Mo86Mosaiwi Resident: * Absolutist thinking is recognized as a 'cognitive distortion' by most cognitive therapies.
* More focus on challenging this thinking style in patients and oneself.
* We are prone to absolutist thinking because its simple and easy – nuanced complex thinking takes time and effort.
* Absolutist thoughts are the most rigid.

Applications of Machine Learning
* Help identify vulnerable people
[2018/04/21 08:42] Elektra Panthar: MAM: There were key ethical concerns
[2018/04/21 08:44] LV (lorivonne.lustre): MAM: Lexical diversity
The number of different kinds of words used
[2018/04/21 08:44] Elektra Panthar: MAM: There are some tremendous benefits to using text analysis and machine learning. It can help identify vulnerable people, diagnose, provide insights and don't make people turn most appropriate sources of help - for example people with early onset of dementia start using a decreased lexical diversity
This could be a key way to identify various illnesses by computerized text analysis
It could also be dangerous , but it could help with diagnosis - it's better than psychologist at diagnosing depression
It could give you self knowledge
[2018/04/21 08:47] Mo86Mosaiwi Resident: * Help with diagnosis
* Provide psychological insights

* Self-knowledge
* Signposting – directing people to the specific help they need

Applications of Machine Learning
E.g., Perfectionism, Anger, Social Phobia, Self-esteem
Image shows Person as one point within a 5-point clockwise cycle, that is: Person --> Data - Natural Language --> Automated Text Analysis --> Machine Learning --> Labels --> Intervention --> (back to) Person

Dangers of Machine Learning
* Could be monetized
* Could be used to discriminate
* Violations of privacy
* Should not be used to replace person to person therapy
[2018/04/21 08:53] Elektra Panthar: MAM: The computer should only be there to HELP the therapist, as a tool. People with depression need human interaction
Any questions?

[2018/04/21 08:53] Gentle Heron: QUESTIONS or COMMENTS?
[2018/04/21 08:54] Mo86Mosaiwi: m.a.a.almosaiwi@pgr.reading.ac.uk
[2018/04/21 08:54] LV (lorivonne.lustre): GH: thank you Mohammed
[2018/04/21 08:54] Slatan Dryke: brilliant Dr Mosaiwi !!
[2018/04/21 08:54] Tater (taterlinda): applause very interesting

[2018/04/21 08:54] LV (lorivonne.lustre): [08:53] Mook Wheeler: QUESTION: Have you found that the 'awareness changes the reaction' issue here might skew absolutist words as a diagnostic tool? That if the participants find out that they are producing absolutist words as a result of depression/mental issues, would that self-knowledge modify their future choice of words when speaking to others, whether consciously or not? Could they still have depression, etc. but without their words reflecting that? Consequently making this difficult as a diagnostic tool?
[2018/04/21 08:55] Elektra Panthar: MAM: You're right, you think you can stop using those words. In a way we want that - if you stop using those words it might help you change the way you think
Most people don't realize they are using absolutist words. It's quite difficult for them to stop using it, because their focus is not on them when they communicate
[2018/04/21 08:57] Mook Wheeler: nods at Mo. That makes good sense.

[2018/04/21 08:57] Gentle Heron: [08:55] Willow Riddler: Question: How accurate were those graphs considering the percentages were at two different starting points in comparison of the said A and B graphs from earlier? I have concerns and more so why were the number percentages different from each other when they were suppose to compare statistics?
[2018/04/21 08:57] Gentle Heron: What graph? Study 2?
[2018/04/21 08:57] Willow Riddler: All the studies that have A and B
[2018/04/21 08:59] Elektra Panthar: MAM: The difference within groups was what we were analysing. The absolute grades are different, so they aren't made to be compared between graphs but within graphs

[2018/04/21 09:01] Willow Riddler: Oh, I understand where you were coming from in regards to the contents of Depression, BPD, etc it was just the starting point of graph A was at 1.0% and the graph B was starting at 1.5% giving it a *boost* so it speak therefore giving the inaccuracy. I could be wrong.
[2018/04/21 09:04] Elektra Panthar: MAM: The reason the axis values are different is because the absolute rate is different
I almost never start the axis at 0
[2018/04/21 09:04] Willow Riddler: I understand.

[2018/04/21 09:00] ღ. ო0ºηĺĩghℇ .ღ (lologogo): A question: Mo in your second study when you analyze the language used in a number of forums, can you send me the details of the methods you used to be able to collect those linguistic data
[2018/04/21 09:01] Elektra Panthar: MAM: I can share the paper I wrote, I can email it to you. At the end there are the sources and data we used for the research
There's a literature review at the beginning of the paper as well
[2018/04/21 09:01] LV (lorivonne.lustre): GH: send the paper to me and I'll email it to everyone who IMs me (Gentle) for a copy
[2018/04/21 09:01] ღ. ო0ºηĺĩghℇ .ღ (lologogo): yes please
Thank you

[2018/04/21 09:02] Tayste Waydelich: How applicable might this be to languages other than English?

[2018/04/21 09:04] Gentle Heron: I think this new information is really important for clinicians to learn about.
QUESTION: How do researchers such as yourself transmit these findings to the medical profession? How can we in the disability community aid in this transmission?

[2018/04/21 09:05] Gentle Heron: [09:04] Zombie doggie (tarquin.evermore): What do you define as "negative emotion words?
[2018/04/21 09:06] LV (lorivonne.lustre): Linguistic Inquiry List Words
[2018/04/21 09:07] Elektra Panthar: MAM: Negative emotion words were defined almost democratically by a group of independent judges. The result can be found in Linguist inquiry word counts

[2018/04/21 09:07] LV (lorivonne.lustre): [09:06] big guy fast tho (queries): Q: How does low self-esteem/high self-awareness associated with MDD and related disorders manifest as more definitive language as opposed to less, as you'd expect from a person who'd be in a constant state of self-doubt?
[2018/04/21 09:08] Elektra Panthar: MAM: Why is it that they doubt themselves though? They usually say something like 'I have to have people liking me'
That conviction fills them with doubt constantly
The unhealthy kind of doubting is often driven by some form of absolutism in your thoughts
[2018/04/21 09:09] LV (lorivonne.lustre): GH: there was a lot in that question from big guy

[2018/04/21 09:07] Sister (sister.abeyante): QUESTION: Language, and language usage, is learned. Do you consider that negative-emotion words might be more

frequently utilized in a language group (i.e. forum) where others are using negative-emotion words? i.e. people tend to mirror the language in which they are immersed.

[2018/04/21 09:10] Gentle Heron: MAM: @ Sister- social media calls that an Echo Chamber

[2018/04/21 09:10] Mook Wheeler: nods. Technically, the first 'echo chamber' in our lives is our immediate family.

[2018/04/21 09:10] Sister (sister.abeyante): Right, Mook.

[2018/04/21 09:10] Gentle Heron: MAM: That is why we looked at a variety of sources besides forums, including poetry.

[2018/04/21 09:11] Elektra Panthar: MAM: You look at a diverse range of data and see this pattern across all the data

[2018/04/21 09:11] Gentle Heron: MAM: Even if there is learning from each other, it magnifies the effect, not creating it.

[2018/04/21 09:11] Elektra Panthar: MAM: Even if the echo chamber affects them, it only amplifies it, it doesn't create them

[2018/04/21 09:11] Gentle Heron: MAM- It is not created by the forum.

[2018/04/21 09:12] Sister (sister.abeyante): But, if you are measuring frequency of use... "amplifying" is relevant.

[2018/04/21 09:14] Elektra Panthar: MAM: The amplifying almost makes the signal easier to measure, but it doesn't create it. What components of the language are being used is what I'm trying to ascertain in those forums as compared to the control forum

[2018/04/21 09:14] Zombie doggie (tarquin.evermore): My therapist said one time that I use a lot of negative self talk. Is this common among people with chronic depression?

[2018/04/21 09:14] Gentle Heron: Yes Zombie

[2018/04/21 09:15] Zombie doggie (tarquin.evermore): I wonder if depression can run in families.

[2018/04/21 09:15] Big Nut (bignut2000): It runs in my own, along with addiction.

[2018/04/21 09:15] Willow Riddler: Manic depression = bipolar

[2018/04/21 09:16] big guy fast tho (queries): same to a degree

[2018/04/21 09:16] Willow Riddler: yes

[2018/04/21 09:14] Gentle Heron: [09:12] Eme Capalini: Question: Have you compared someone's written words to their spoken words?

[2018/04/21 09:14] Elektra Panthar: MAM: I haven't but it has been done

[2018/04/21 09:14] Gloriejoy (joycie.string): Body language

[2018/04/21 09:16] Eme Capalini: thanks

[2018/04/21 09:16] Gentle Heron: [09:12] ღ. ന0ºηℓ̃ĩ̃ghЕ .ღ (lologogo): Is that Machine Learning can be adjusted to detect other linguistic elements or is it fixed?

[2018/04/21 09:16] Elektra Panthar: MAM: One researcher attached a recording device to people with depression, anxiety, who randomly turned on during the day for 10 second snippets. They analysed the results and they were the same as text analysis
You have to tell it which elements you are looking for
The machine uses a 70% of training data, and uses it as a statistical classifier
In my case I told it what to look for. If you are a more advanced programmer than me you could probably set up machine learning like you mentioned

[2018/04/21 09:17] ლ. ო0ºηĺĩghŁ .ლ (lologogo): is there a link to download it?
[2018/04/21 09:19] Elektra Panthar: MAM: I can email the link to download it if you want
The linguistic inquiry word count software is available to buy, it's not my creation
[2018/04/21 09:18] ლ. ო0ºηĺĩghŁ .ლ (lologogo): thanks Mo and all that was really informative
MO
Thank yyouuuuuuu~

[2018/04/21 09:18] Gentle Heron: Time to wrap up.
Thank you Mo this was very interesting. Reminds us to think about our language.
[2018/04/21 09:18] LV (lorivonne.lustre): GH: I think it is time to stop the Q&A
That information will be available in the paper, right?
Thank you so much. Applause everyone!

[2018/04/21 09:20] Tater (taterlinda): applause
[2018/04/21 09:20] Suellen Heartsong (suln.mahogany) applauds
[2018/04/21 09:20] Willow Riddler claps
[2018/04/21 09:20] Steffani Sugabum (queenbswag): Thanks :)
[2018/04/21 09:20] Zip Zlatkis: Wonderful
[2018/04/21 09:20] MatildaMoontree: Thank you!
[2018/04/21 09:20] Elektra Panthar: MAM: Thank you everyone!
[2018/04/21 09:20] Tater (taterlinda): tyvm :0
[2018/04/21 09:20] Gloriejoy (joycie.string): ♥ Thank Youuuuuuuuuu!! ♥
[2018/04/21 09:20] Madeline Blackbart (moonieratty): Thanks everyone
[2018/04/21 09:20] Ava Tresor (avatresor): Excellent research, thank you, Mo :)
[2018/04/21 09:21] Mo86Mosaiwi: Thanks guys, it was a pleasure

[2018/04/21 09:21] LV (lorivonne.lustre): <>