DOES METAPHOR FRAMING AFFECT THE STIGMA ON MENTAL HEALTH?

by

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Abstract

Does using terms that refer to mental illness, such as *crazy* or *insane*, to describe negative events contribute to the stigma surrounding mental illness? To test this question, participants in this study first read either a metaphorical or non-metaphorical passage describing either a positive or negative context. The negative passages were about rising food prices at a grocery store, and the positive passages were about falling prices at the grocery store. In the metaphorical condition, prices were described using terms like "crazy" or "insane," and in the non-metaphorical condition they were described as "unbelievable" or "unreasonable." Next, participants completed a desire for social distance measure and mental illness stigma questionnaire to assess the effects of the passage they read. The use of metaphor did not affect attitudes toward mental illness on either measure, nor did it interact with the context of the story. More research is needed to better understand the relationship between metaphor and mental illness stigma.

Keywords: Mental illness stigma, metaphor framing, context effects, mental health.

Does metaphor framing affect the stigma on mental health?

In language we use metaphors all the time to describe complex contexts. For example, we might say we are feeling "low" to mean that we are feeling sad, even though sadness does not have a literal spatial component. Do these metaphors in language shape the way we think about these complex ideas, and, if so, can they be applied to the context of mental health stigma to shape the way we think about the topic? Metaphor framing is a rhetorical technique that uses metaphors to help people understand complicated ideas by connecting them to familiar concepts. Research has shown that metaphor frames can shape the way people think about a broad range of topics, from crime (Thibodeau & Boroditsky, 2013), to climate change (Flusberg, Matlock, & Thibodeau, 2017), to depression (Reali, Soriano, & Rodriguez, 2016). The mechanism that researchers have proposed to explain the way that metaphor framing works is called structure mapping (Gentner, 1983).When people say "depression is darkness", they are invoking the structure of the source domain, in this case darkness (e.g., the idea that it is difficult to find your way in the dark), and inviting the audience to use that structure to better understand the target domain, in this case depression. In relation to stigma surrounding mental health, metaphor can be used to shape how people understand and interpret mental health, therefore either amplifying or diminishing stigma.

Another way that metaphor framing is used in the context of mental health is to use terms for mental illness to describe situations that actually have nothing to do with mental health issues in a metaphorical way. For example, people often describe the price of gas or groceries as "crazy" or "insane." This use of mental health terms to describe negative events or outcomes in the world may contribute to stigma on mental illness. Using mental illness terms as metaphors is common in everyday speech and in the media. In a study of U.S. newspapers, researchers found that the media uses the term schizophrenia in a metaphorical way 28% of the time, but they use

the term cancer in a metaphorical way only 1% of the time (Duckworth, 2003). There is a general imbalance in the way we use terms related to physical health vs mental health. When we talk about mental health, we use negative terms to describe it whereas when we talk about physical health, we use more uplifting terms when talking about it. One study on this topic looked at magazines, news and articles that investigated the use of metaphors about disabilities. The study identified many instances where disability was described as a hindrance to one's life. For example, the articles described disability as a lurking monster, as a heavy burden, or as a helpless victim to name a few. By contrast, instances where people with disabilities were described as different but not abnormal were largely absent in these media sources. The results of the study show that the media reinforces a narrative about disability that disadvantages the people who have the disability and perpetuates stereotypes (Goethals, 2019). This paper will examine the consequences of using mental health terms in a metaphorical sense on mental health stigma.

Effects of Language on Reasoning

The way we talk about illness can also affect the way we perceive it. One study showed that participants who were presented with a description of a person who displayed symptoms of schizophrenia that included the disease label "schizophrenia" rated the person in the vignette as more dangerous and unpredictable than when the vignette did not appear with a label (Angermeyer et al., 2003). Previous work has shown that metaphors in language can shape reasoning in ways that are consistent with the metaphors. In one study, participants read a crime report that either described crime as a "beast ravaging" a city or "virus plaguing" the city (Thibodeau & Boroditsky, 2011). Then participants were asked how city officials should address the crime problem. Participants were more likely to recommend more jails and other enforcement-based solutions if they read the beast metaphor, and they were more likely to

recommend better schools and other reform-based solutions if they read the virus metaphor. A follow up study investigated whether participants were aware of the metaphor and if they believed that the metaphor played an important part in their decisions (Thibodeau & Boroditsky, 2013). Results of the study found that the effects of metaphor happened covertly, even in people who could not remember which metaphor they read, and even when people were given a variety of crime solutions to consider.

Extending metaphors can also affect how coherent and complex a solution to a problem seems (Reijnierse et al., 2015; Thibodeau, 2017). In one study participants were asked to evaluate the effectiveness of policy measures (Reijnierse et al., 2015). One described crime as being a virus and the other called crime a beast. The number of metaphorical framing sentences was manipulated experimentally. Participants with more metaphorical framing sentences found the text less complex and more vivid than participants who read one metaphorical framing sentence, and the results of one experiment (but not the other) showed stronger effects of the metaphor on crime solutions when the metaphor was more extended. In addition to crime metaphors, another study examined the effects of police metaphors on attitudes toward police (Thibodeau et al., 2017). Researchers presented participants with questions about what they believe are qualities of a warrior and a guardian. They were also asked to complete four different tasks. They were instructed to list words and concepts associated with guardian and warrior, answer target questions about their attitudes towards policing in the US, and to explain why they chose one of the metaphors. Results showed that people had more positive attitudes towards police when the term guardian was used compared to the term warrior. In the same study, they randomly presented participants with either the guardian or warrior metaphor for police and then measured peoples' attitudes towards policing. They found that people who read the guardian metaphor had a more positive view on police and the work that they do.

In a similar article, studies show that participants who have more conservative views politically were more likely to credit individual responsibility towards addiction and less likely to recognize stigma associated with addiction when reading about addiction as a "demon" compared to a "disease" (Flusberg et al., 2023). Previous work has shown that using metaphors in relation to physical and mental health affects the way people view those illnesses.

For example, one study has shown that framing physical ailments such as cancer using a "journey" metaphor compared to a "battle" metaphor makes people feel that the person with the diagnosis will feel more at peace with it (Hendricks & Boroditsky, 2019). The same pattern of results was found when the person in the story was described as having depression instead of cancer. Another study showed that using "killer" metaphors in relation to the SARS disease impacted the way people looked at the disease and if they thought the patients could move past it and heal from it (Wallis, & Nerlich. 2005). Another showed that participants who read text about fake news in relation to Covid-19 were more likely to ignore their personal beliefs and trust the government in what they say about Covid (Panzeri, Paola, & Domaneschi, 2021). In this study they used a war metaphor vs a no war metaphor to sway the opinions of people that relate to the results of the study. Therefore, these studies suggest that metaphor is shaping the way people think about health-related issues in a way that is consistent with the war metaphor.

An analysis of large databases of language have revealed several common metaphors for mental illness: one is *disease* (e.g., something you have to cure) another is an *opponent* (e.g., something you have to fight against), and another is a *place in space* (e.g., state that you fall into) (Reali et al., 2015). Experimentally framing, mental illness as a disease as opposed to a place in space elicited a lower rating on average about how at fault the person with mental illness was, suggesting that perception of the patient's responsibility decreased by using this frame.

In another study of the effects of metaphor on depression, participants were primed with the idea that depression is a state of being *down* or they were given no metaphor about depression. People who were in the metaphorical condition later felt that a medication called "Liftix" would perform better than a medication called "Effectrix" at treating depression (Keefer et al., 2014). However, the participants who read about depression being a dark period showed that Effectrix was rated better than Liftix.

Overview of present study Does the use of mental illness terms as metaphors cause a stigma against mental illness? Previous work in this paper has looked at how using a metaphor to talk about mental illness can affect the way you think about mental health and harbor stigma on it. Some studies have documented that people use these terms as metaphors in newspapers and in everyday language. However, no one has experimentally manipulated their use to measure the consequences directly. The study examined the effects of mental health terms used metaphorically in both negative and positive contexts to see if it can have an effect on mental health stigma. It was hypothesized that using mental health terms as metaphors in a negative context will increase stigma surrounding mental illness but using them in a positive context will not increase stigma. Participants in the study read a vignette that either used mental health terms metaphorically or contained no metaphors. For half of participants the vignette described a positive scenario, and for the other half it described a negative scenario. Participants then completed a social distance scale about a person who displayed symptoms of schizophrenia as well as a mental illness stigma questionnaire.

It was predicted that people will display the most desire for social distance and highest levels of mental illness stigma after having read the metaphors in the negative context compared to having read the metaphors in the positive context. It was also predicted that having read the

metaphors in the negative context will lead to a greater desire for social and higher levels of mental illness stigma then reading the non-metaphorical vignettes.

Method

Participants

For this study, 400 participants were recruited. Participants were recruited through CloudResearch Connect. Data from 387 participants were analyzed. Participants ranged from 18 to 77 years old (M = 39.06). In regard to race, 75.97% identified as White, 9.3% identified as Asian/Native Hawaiian/Pacific Islander, 8.3% identified as Black/African American, 4.9% identified as Hispanic/Latino and 0.258% identified with American Indian or Alaska Native. For gender, 50.6% identified as Male, and 49.1% identified as Female.

Materials

Metaphor frames. Participants read one of four vignettes that varied in terms of whether (1) mental illness terms were used metaphorically or whether there were no metaphors in the paragraph, and (2) whether the vignette described a positive or negative scenario. In the positive vignettes, grocery prices were described as decreasing, and in the negative vignettes, they were described as increasing.

<u>Metaphorical passage, negative context.</u> *Mary was at the grocery store casually shopping while on her cell phone talking to a friend. While Mary was browsing through the dairy aisle of the store, she went to pick up some eggs. She stopped short as soon as she saw the price. A package of a dozen eggs now costs $8.00, when it used to be $4.25. Shocked, Mary told her friend on the phone, "prices of eggs are insane now." Mary started to look more carefully at different products. She told her friend, "Milk prices have doubled, too! This is crazy! If yogurt has gone up too, I will lose my mind. I cannot afford this." Her friend commiserated, pointing out that prices are nuts these days.*

Non metaphorical passage, negative context. Mary was at the grocery store casually shopping while on her cell phone talking to a friend. While Mary was browsing through the dairy aisle of the store, she went to pick up some eggs. She stopped short as soon as she saw the price. A package of a dozen eggs now costs $8.00, when it used to be $4.25. Shocked, Mary told her friend on the phone, "prices of eggs are unbelievable now." Mary started to look more carefully at different products. She told her friend, "Milk prices have doubled, too! This is bewildering! If yogurt has gone up too, I will have to rethink everything. I cannot afford this." Her friend commiserated, pointing out that prices are odd these days.

Metaphorical passage, positive context. Mary was at the grocery store casually shopping while on her cell phone talking to a friend. While Mary was browsing through the dairy aisle of the store, she went to pick up some eggs. She stopped short as soon as she saw the price. A package of a dozen eggs now costs $4.25 when it used to be $8.00. Shocked, Mary told her friend on the phone, "prices of eggs are insane now." Mary started to look more carefully at different products. She told her friend, "Milk prices have halved, too! This is crazy! If yogurt has gone down too, I will lose my mind. I can now afford this." Her friend rejoiced, pointing out that prices are nuts these days.

Non metaphorical passage, positive context. Mary was at the grocery store casually shopping while on her cell phone talking to a friend. While Mary was browsing through the dairy aisle of the store, she went to pick up some eggs. She stopped short as soon as she saw the price. A package of a dozen eggs now costs $8.00, when it used to be $4.25. Shocked, Mary told her friend on the phone, "prices of eggs are unbelievable now." Mary started to look more carefully at different products. She told her friend, "Milk prices have doubled, too! This is bewildering! If yogurt has gone up too, I will have to rethink everything. I cannot afford this." Her friend commiserated, pointing out that prices are odd these days.

Social distance measure. Participants read the following vignette about a man named John who suffers from schizophrenia (adapted from Jorm et al., 2007).

John is a 21-year-old who lives at home with his parents. He has been attending his classes irregularly over the past year and has recently stopped attending altogether. Over the past 6 months he has stopped seeing his friends and has begun locking himself in his bedroom and refusing to eat with the family or to have a bath. His parents also hear him walking about in his bedroom at night while they are in bed. Even though they know he is alone, they have heard him shouting and arguing as if someone else is there. When they try to encourage him to do more things, he whispers that he won't leave home because he is being spied upon by the neighbor. They realize he is not taking drugs because he never sees anyone or goes anywhere.

Participants' attitudes towards John were then measured using a scale known as the social distance scale. The social distance questions ask the participants whether they would be willing to move next door to the person described in the vignette, how they would feel spending time with the person, how they would feel becoming friends with the person, how would they feel if this person were to marry into their family, and how would they feel working closely with this person. Participants responded on a 4-point scale ranging from Definitely not willing to Definitely willing.

Depression stigma measure. In order to gather information on the stigma towards mental illness, this study used the Depression Stigma Scale (Griffiths, K.M. 2008). The scale has nine items that cover an assortment of stigmatizing topics by investigating the participants personal opinions on mental health. The items for the personal stigma measure ask participants the following questions and have them rate it from strongly disagree (1) to strongly agree (5). Example questions asked are as follows: "People with depression could snap out of it if they

wanted", "People with depression are unpredictable", and "If I had depression I would not tell anyone."

Procedure

Participants were told that they were going to read a series of unrelated stories that they will have to remember and answer questions about. First participants were assigned to read either the metaphorical or non-metaphorical version with either positive or negative context of the short story about Mary being shocked while looking at food prices in the store. Afterwards, participants read the vignette about John, who displayed symptoms of schizophrenia. They then completed the social distance scale, followed by the depression stigma scale. Participants were then asked a comprehension question about the vignette about Mary (how did Mary feel about the dairy prices at the grocery store? She felt that they were too high, she felt that they were too low, she felt that they were fair). Following the comprehension question participants were asked on a 4 point scale about the intensity of the story about Mary (How strongly did Mary feel about the prices at the grocery store? She was ambivalent, she felt somewhat strongly, she felt very strongly, she felt extremely strongly). Lastly participants filled out a demographic survey asking about their age, race/ethnicity, gender identity, if they are a native English speaker, political affiliation, and political ideology.

Results

The social distance and depression stigma scales that the participants of the study responded to were coded in Qualtrics. For the social distance scale, responses were awarded 4 points for answering with definitely not willing, 3 points for probably not willing, 2 points for probably willing, and 1 point for definitely willing. The higher the numbers showed a greater liking for social distance.

For the depression stigma scale, responses were scored ascending for strongly agreeing with a stigmatized statement about depression. Respondents were given 1 point if they answered the statements that they strongly disagreed, 2 points for somewhat disagree, 3 points for neither agree nor disagree, 4 points for somewhat agree, and 5 points for strongly agree. The higher the number score of the respondents the more that they agreed with the depression stigma statements. On Microsoft Excel, the scores were averaged to acquire a single mean value per participant. Participants who did not answer the dependent variable questions were filtered out as well as participants who were non native English speakers.

A one- way ANOVA was performed to test the effects of metaphor and story context on social distance scores. The results were non significant. For the metaphor condition the results were the following $F(1,381) = 1.16$, $p = .282$, $n_p^2 = .003$. The mean for the metaphor condition is 3.13 ($SD = 0.64$). The mean for the no metaphor condition is 3.16 ($SD = 0.63$). For the story context condition the results were $F(1,38) = 0.99$, $p = .319$, $n_p^2 = .003$. For the negative story context, the mean is 3.15 and the standard deviation is 0.67. For the positive story context, the mean is 3.08 and the standard deviation is 0.67. Lastly the interaction between metaphor and story valence was not significant, $F(1,381) = 1.82$, $p = .179$, $n_p^2 = .005$. See figure 1 for graphs of the means.

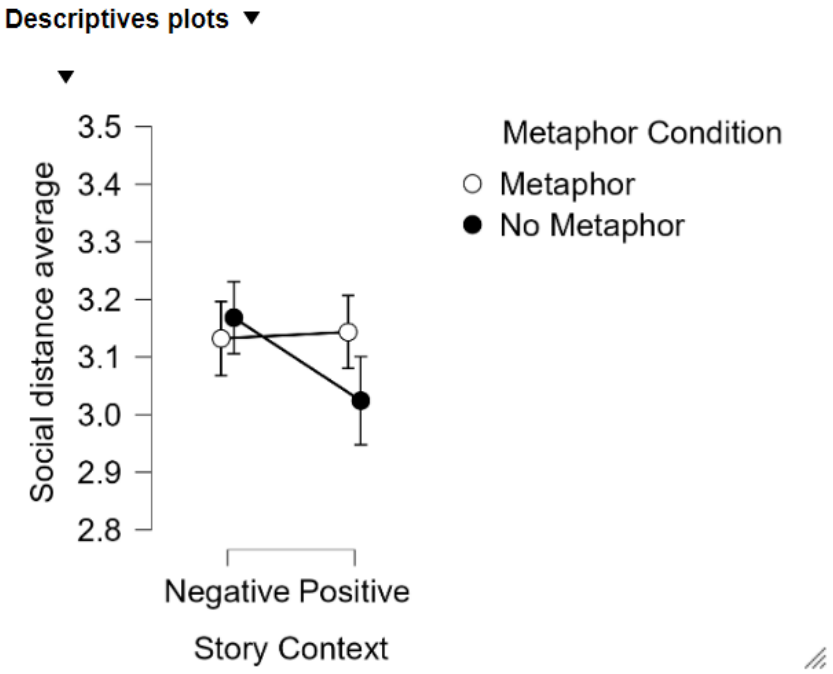

Figure 1. Effect of metaphor condition and story context on social distance scores. A higher number mean a stronger desire for social distance. Error bars reflect one standard error of the mean.

A one- way ANOVA was performed to test the effects of metaphor and story context on depression stigma scores. The results were non significant. For the metaphor condition the results were the following $F(1,381) = 2.35$, $p = .126$, $n_p^2 = .006$. The mean for the metaphor condition is 2.39 ($SD = 0.77$). The mean for the no metaphor condition is 2.31 ($SD = 0.76$). For the story context condition the results were $F(1,381) = 0.81$, $p = .368$, $n_p^2 = .002$. For the negative story context, the mean is 2.37 and the standard deviation is 0.77. For the positive story context, the mean is 2.32 and the standard deviation is 0.77. Lastly the interaction between metaphor and story valence was not significant, $F(1,381) = 1.86$, $p = .174$, $n_p^2 = .005$. See Figure 2 for graphs of the means.

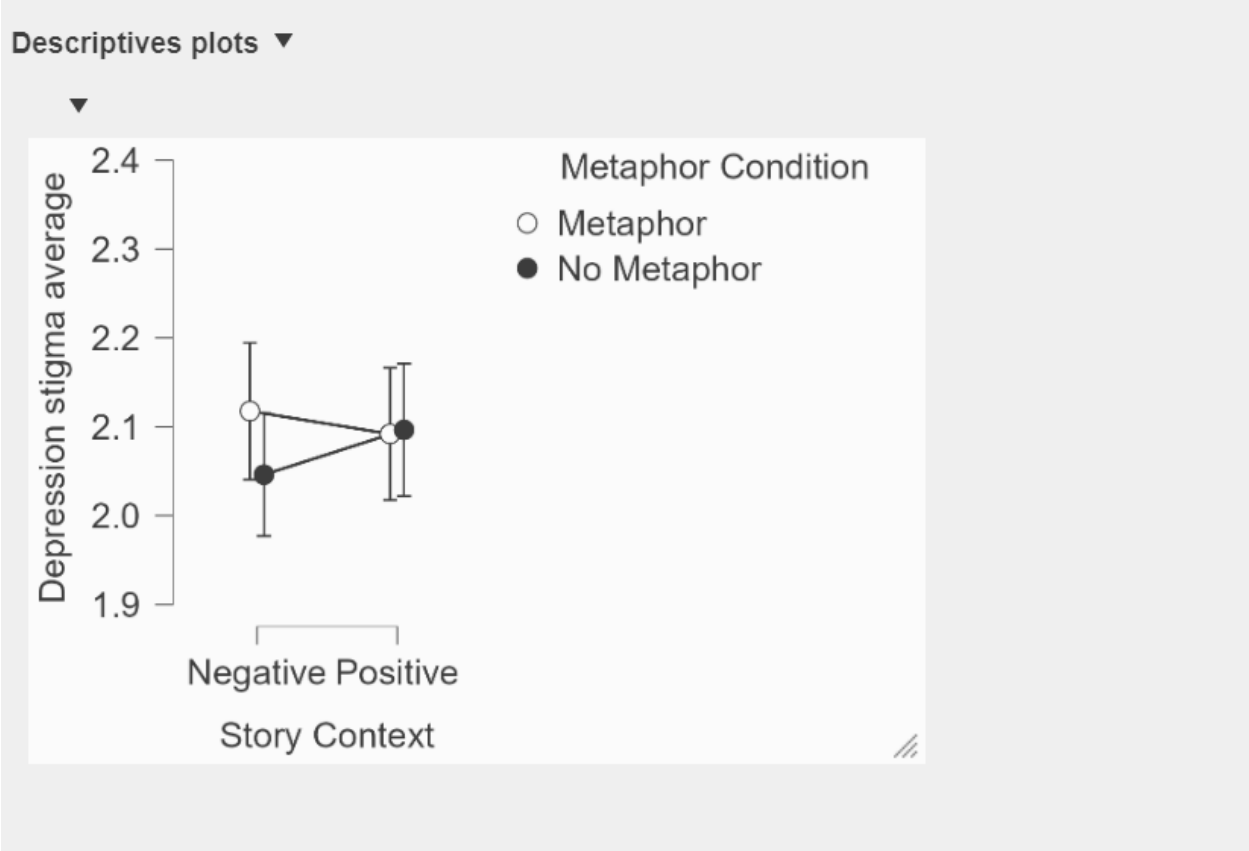

Figure 2. Effect of metaphor condition and story context on depression stigma scores. Higher number mean greater stigma against depression. Error bars represent one standard error of the mean.

Discussion

The present study was designed to measure the impact of using terms linked with mental illness (for example, crazy, psycho, schizo, insane) metaphorically to describe negative situations. I hypothesized that reading a paragraph about the increased price of food that used mental illness terminology would lead to more stigma on mental illness than would a non-metaphorical description or a description that described decreasing food prices. There was no influence of reading the passages on participants' responses to the social distance scale or the personal stigma scale. If anything, responses on the depression stigma scale trended in the

direction of the hypothesis, but responses on the social distance measure trended in the direction opposite the hypothesis.

In the present study, mental illness terms were used as the source domain to metaphorically describe changing prices at the grocery store. This is in contrast to previous studies that used other source domains, like darkness and space, as metaphors to describe mental illness (Florencia Reali, 2016). This may be why metaphor did not affect mental illness stigma in the present study even though it did in previous work. Another reason may be that the type of mental illness being considered makes a difference (e.g., depression, anxiety, bipolar disorder, borderline personality disorder, or schizophrenia). Stigma may be more malleable for some disorders than others.

There were several potential limitations to the present study. It may be that having one paragraph with a few metaphorical terms may not be a strong enough manipulation to influence the way people think about mental illness. Furthermore, the grocery prices context may not have been negative or positive enough to affect people's concepts of mental illness, especially given how frequently those terms are used as metaphors in everyday speech. Another consequence of the outcome could be that the story context that was used didnt trigger people emotions as much as a different context would. The short story on grocery prices rising matched reality whereas the short text about grocery prices falling did not match reality. Future work could use a more intense context that actually gets people "fired up" to test for the consequences of using mental illness as metaphor. Another limitation is that self report measures are not the most reliable because people reply to the self report scale with how they wish they were instead of how they actually are. In future work, researchers should redo the study with more objective measures for mental illness stigma. Future research in this area should examine further into the affects it has on mental health with changing the story context into a more triggering situation to have better

results. The results of this study can help in the future for mental health advocacy and psychology programs/ classes to teach about the effect that metaphors have on mental health.

The present study was designed to measure the impact of using terms linked with mental illness metaphorically to describe negative situations. The hypothesis was not supported because the results were inconclusive. Future work on how metaphors can affect mental illness stigma may help to fill in the nuances of how metaphor can affect thought.

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