Moral Framing of Mental Health Discourse and Its Relationship to Stigma: A Comparison of Social Media and News

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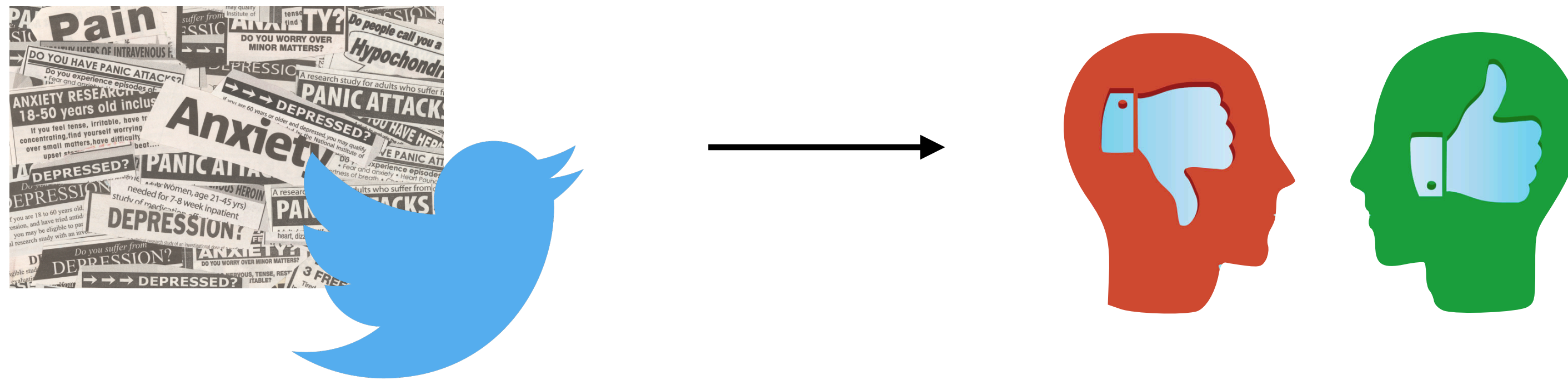
CHI 2023

Content Warning

Motivation

Increased reliance on print and social media
for mental health discourse [1, 2]

[1] Jonathan Michel Metzl, Arthur L Caplan, Joseph Turow, and Otto F Wahl. 2004. Cultural sutures: Medicine and media. Duke University Press
[2] J. A. Naslund, K. A. Aschbrenner, L. A. Marsch, and S. J. Bartels. 2016. The future of mental health care: peer-to-peer support and social media. Epidemiology and Psychiatric Sciences (April 2016).

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Increased reliance on print and social media in the context of mental health [1, 2]

Content framing can shape perception — Entman's Framing Theory [3]

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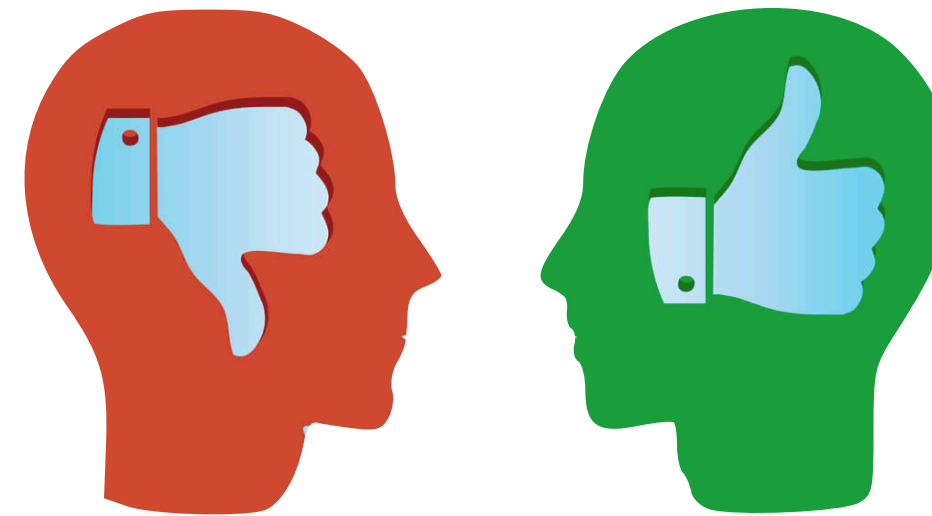[2] J. A. Naslund, K. A. Aschbrenner, L. A. Marsch, and S. J. Bartels. 2016. The future of mental health care: peer-to-peer support and social media. Epidemiology and Psychiatric Sciences (April 2016).
[3] Robert M Entman. 1993. Framing: Towards Clarification of Fractured Paradigm (Journal of Communication). PP/S (1993).
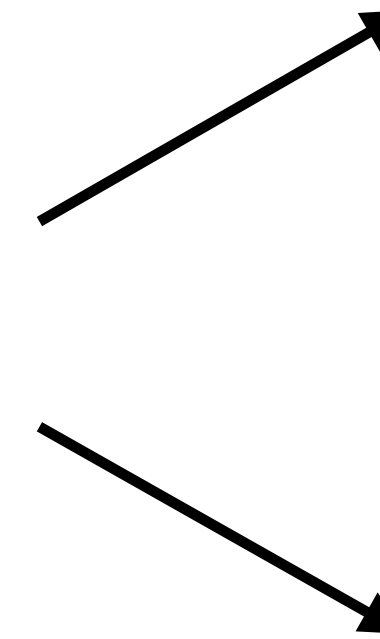
Motivation

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Content framing can shape perception — Entman's Framing Theory [3]

"Depression has nothing to do with being weak or lazy"

"[…] BPD threatened it all. [...] catastrophize and snap."

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Motivation

Explains roots of
specific framings [1]

Role of Morality
in framing of Mental
Health discourse

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Role of Morality
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Explains roots of
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Impacts transmission
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[2] Arthur Kleinman and Rachel Hall-Cliford. 2009. Stigma: a social, cultural and moral process. Journal of Epidemiology & Community Health 63, 6 (2009), 418–419

Motivation

Explains roots of specific framings [1]

Role of Morality in framing of Mental Health discourse

Impacts transmission of Stigma [2]

"In terms of mental illness, **stigmas** represent **invalidating and poorly justified knowledge structures that lead to discrimination**." — Corrigan and Penn [3]

[1] Susan L Morrow, Donna M Hawxhurst, AY Montes de Vega, Tamara M Abousleman, Carrie L Castañeda, RL Toporek, LH Gerstein, NA Fouad, G Roysircar, and T Israel. 2006. Toward a radical feminist multicultural therapy. Handbook for social justice in counseling psychology: Leadership, vision, and action (2006), 231–247.
[2] Arthur Kleinman and Rachel Hall-Cliford. 2009. Stigma: a social, cultural and moral process. Journal of Epidemiology & Community Health 63, 6 (2009), 418–419
[3] P W Corrigan and D L Penn. 1999. Lessons from social psychology on discrediting psychiatric stigma. Am Psychol 54, 9 (Sept. 1999), 765–776

Research Questions

RQ1: What are the *moral framings of mental health* discussions on Twitter and News?

RQ2: How *stigmatized* are these discussions?

RQ3: How do *moral foundations and stigma relate to each other* in these two types of mental health discourse?

Contributions

- Explored ***human moral values*** in the context of mental health

    - Using the lens of Moral Foundation Theory (MFT) [1]

- Performed a ***cross-media analysis*** of mental health framings

- Curated a human- and empirically-validated ***dictionary to study stigma***

[1] Jonathan Haidt. 2013. Moral psychology for the twenty-first century. Journal of Moral Education 42, 3 (2013), 281–297.
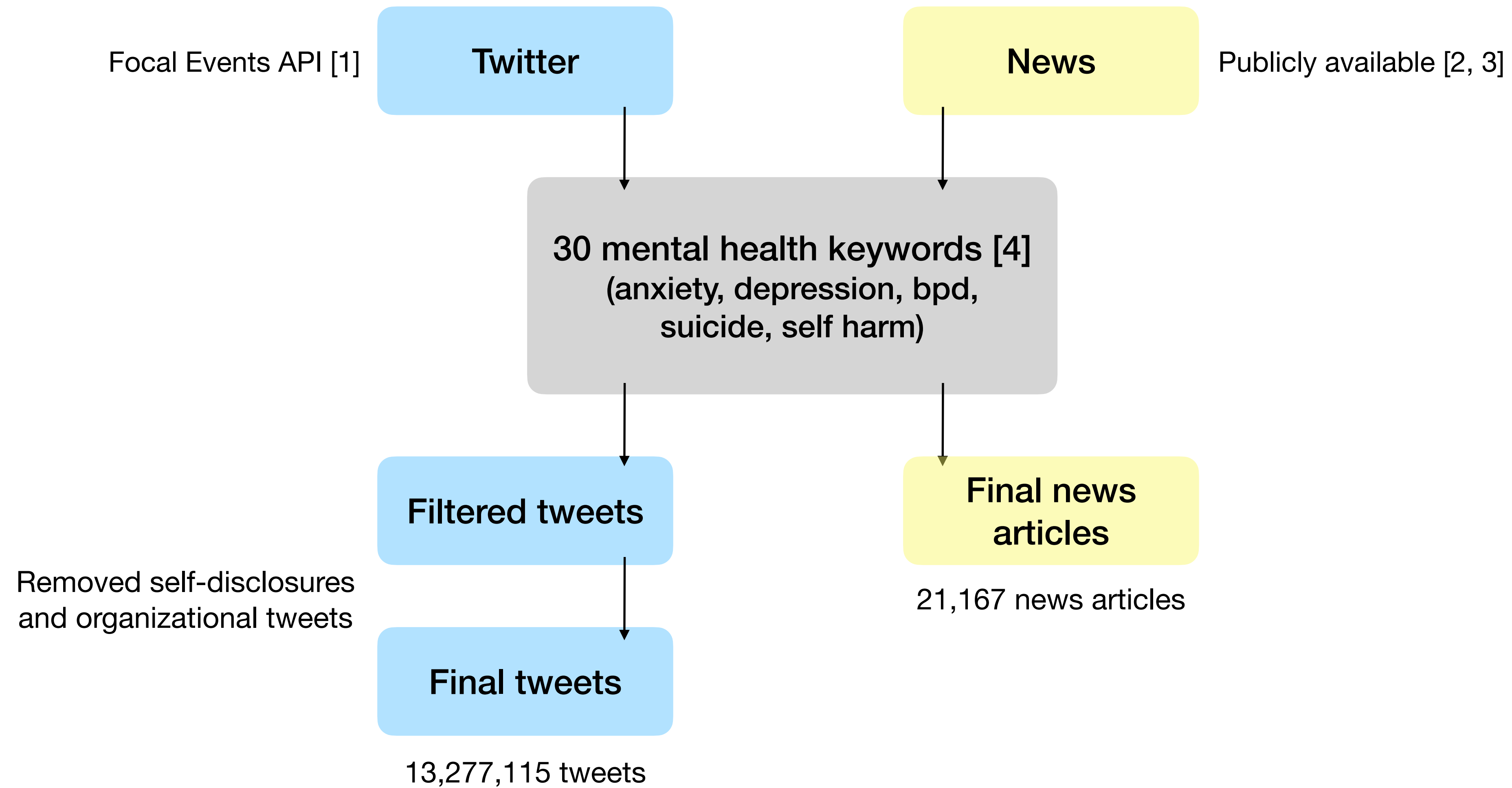
Data

Twitter

News

Shares attributes of news media [1]
Platform used to raise awareness [2]

To compare discussions initiated by
journalists and the general public

[1] Haewoon Kwak, Changhyun Lee, Hosung Park, and Sue Moon. 2010. What is Twitter, a social network or a news media?. In Proceedings of the 19th international conference on World Wide Web. 591–600.
[2] Munmun De Choudhury and Sushovan De. 2014. Mental health discourse on reddit: Self-disclosure, social support, and anonymity. In ICWSM.

Data

Focal Events API [1]

Twitter

News

Publicly available [2, 3]

30 mental health keywords [4]
(anxiety, depression, bpd,
suicide, self harm)

Filtered tweets

Final news articles

Removed self-disclosures
and organizational tweets

21,167 news articles

Final tweets

13,277,115 tweets

[1] https://github.com/ryanjgallagher/focalevents
[2] Andrew Thompson. 2020. https://components.one/datasets/all-the-news-2-news-articles-dataset
[3] Rohit Kulkarni. 2018. A Million News Headlines. (2018). https://doi.org/10.7910/DVN/SYBGZL
[4] Daejin Choi, Steven A Sumner, Kristin M Holland, John Draper, Sean Murphy, Daniel A Bowen, Marissa Zwald, Jing Wang, Royal Law, Jordan Taylor, et al. 2020. Development of a machine learning model using multiple, heterogeneous data sources to estimate weekly US suicide fatalities. JAMA network open 3, 12 (2020).

Method
Moral framing: Moral Foundations Theory [1]

Care/Harm
(Virtues of kindness)

Fairness/Cheating
(Ideas of justice, rights)

Loyalty/Betrayal
(Patriotism)

Authority/Subversion
(Leadership)

Sanctity/Degradation
(Religious notions)

[1] Jonathan Haidt. 2013. Moral psychology for the twenty-first century. Journal of Moral Education 42, 3 (2013), 281–297.

Method
Moral framing: Moral Foundations Dictionary

Virtue component

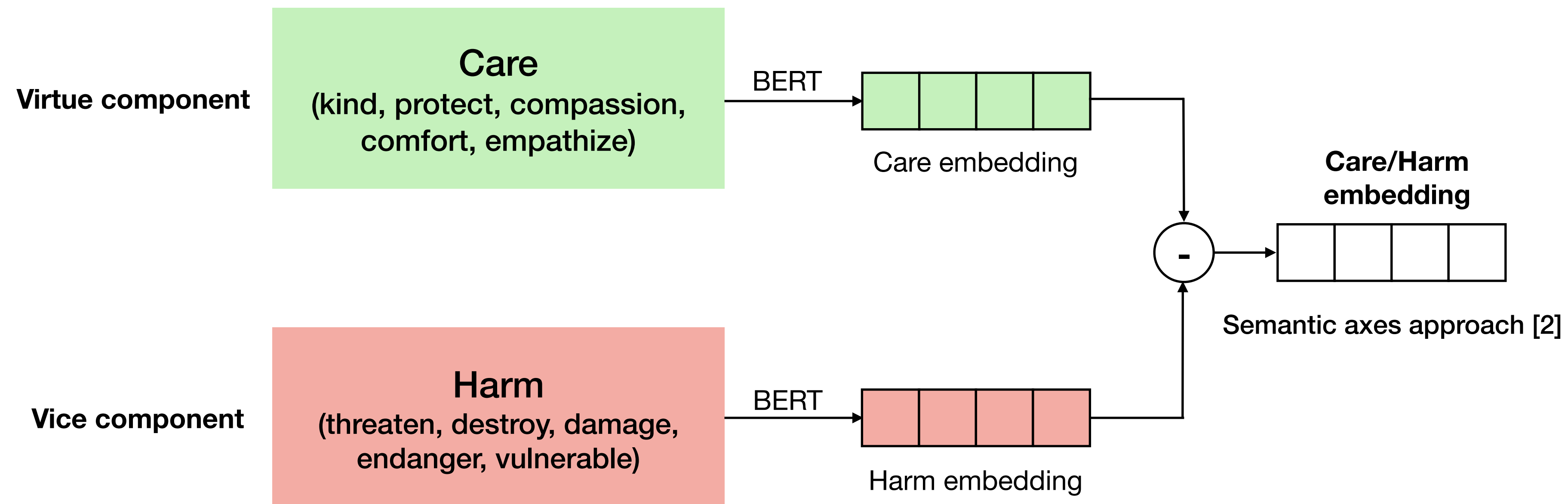Care
(kind, protect, compassion,
comfort, empathize)

Vice component

Harm
(threaten, destroy, damage,
endanger, vulnerable)

[1] Jeremy A Frimer. 2019. Moral Foundations Dictionary 2.0. https://doi.org/10.17605/OSF.IO/EZN37
[2] Jisun An, Haewoon Kwak, and Yong-Yeol Ahn. 2018. SemAxis: A Lightweight Framework to Characterize Domain-Specifc Word Semantics Beyond Sentiment. https://doi.org/10.48550/ARXIV.1806.05521

Method
Moral framing: Moral Foundations Dictionary [1] + Representation learning (BERT)

Virtue component

Care
(kind, protect, compassion, comfort, empathize)

BERT → Care embedding

Vice component

Harm
(threaten, destroy, damage, endanger, vulnerable)

BERT → Harm embedding

-

Care/Harm embedding

Semantic axes approach [2]

[1] Jeremy A Frimer. 2019. Moral Foundations Dictionary 2.0. https://doi.org/10.17605/OSF.IO/EZN37
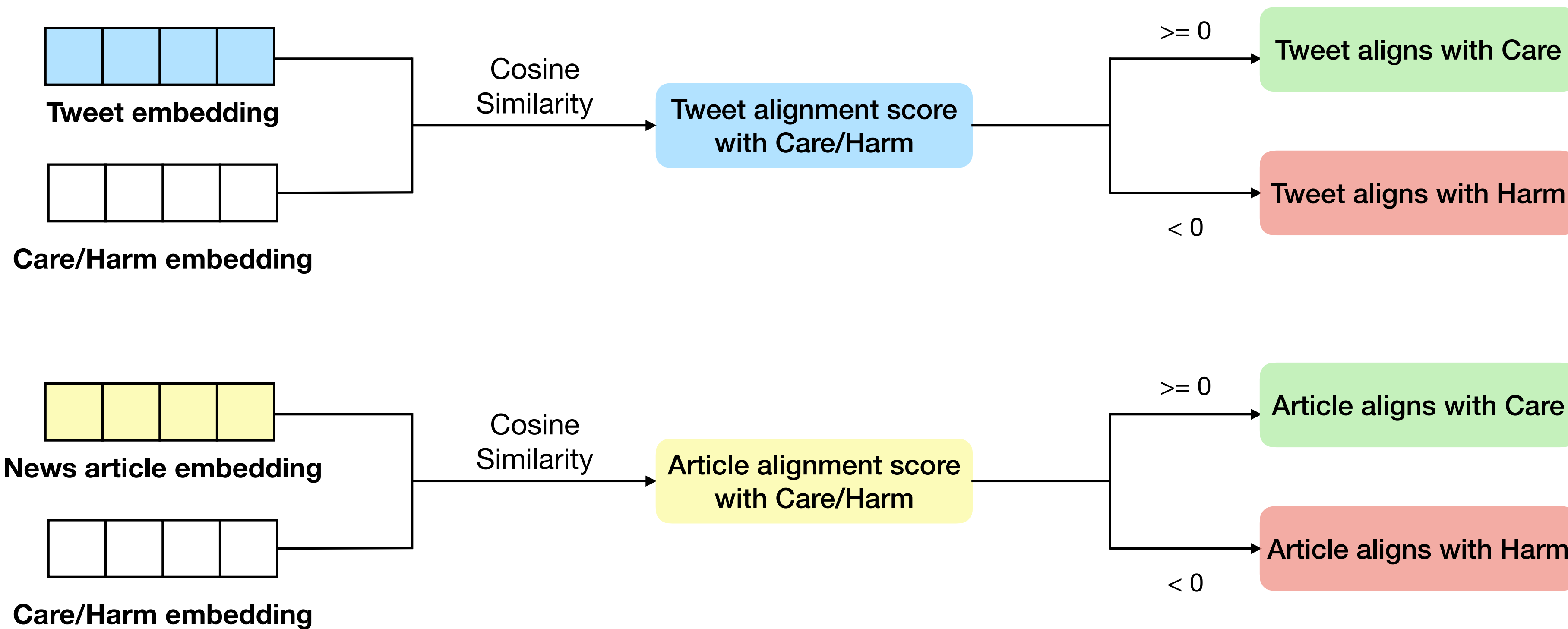[2] Jisun An, Haewoon Kwak, and Yong-Yeol Ahn. 2018. SemAxis: A Lightweight Framework to Characterize Domain-Specifc Word Semantics Beyond Sentiment. https://doi.org/10.48550/ARXIV.1806.05521

Method
Representation of Tweets and News articles

Tweet → Sentence-level BERT → **Tweet embedding**

News article → Sentence-level BERT → **News article embedding**
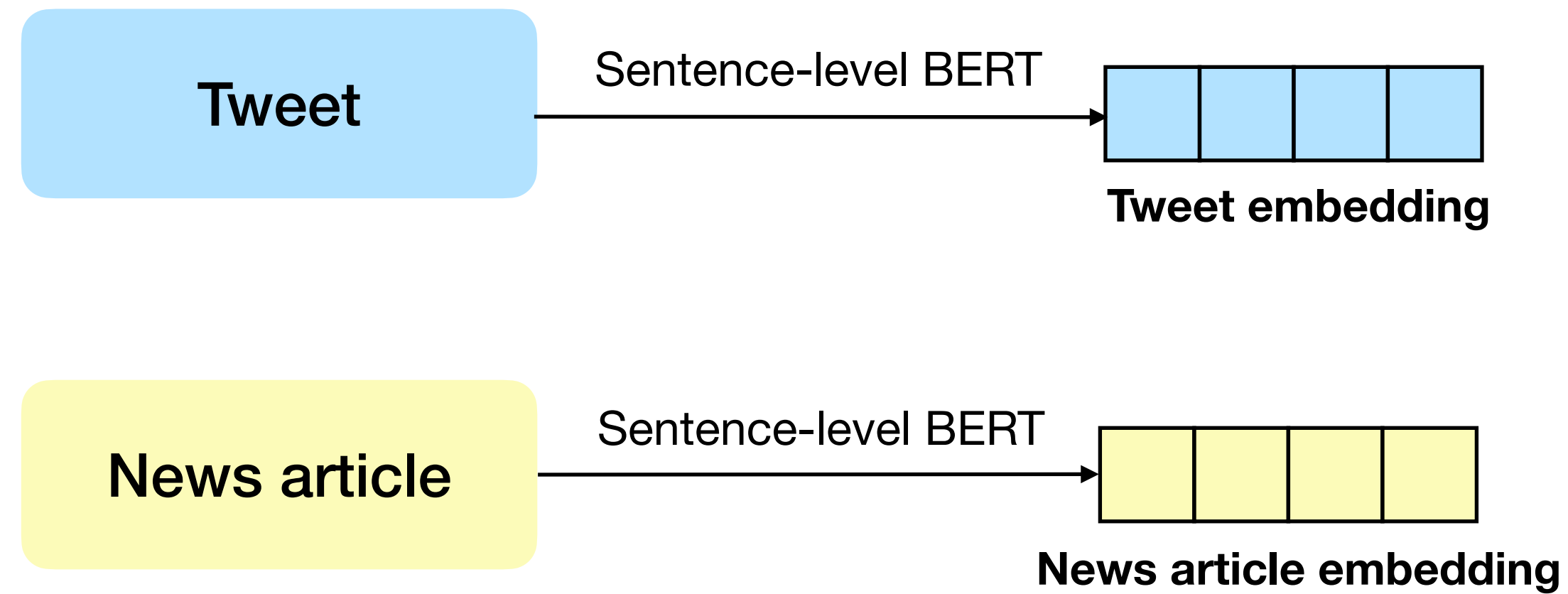
Method

Quantify moral framing of tweets and news articles

Tweet embedding

Care/Harm embedding

Cosine Similarity

Tweet alignment score with Care/Harm

>= 0

< 0

Tweet aligns with Care

Tweet aligns with Harm

News article embedding

Care/Harm embedding

Cosine Similarity

Article alignment score with Care/Harm

>= 0

< 0

Article aligns with Care

Article aligns with Harm

Method
Measure stigma

We measured levels of stigma using a novel **Approval/Stigma frame**

Referred to existing literature on stigma to get seed keywords for stigma (approval) dimensions [1, 2, 3]

Expanded by adding relevant synonyms using WordNet

Approval
(support, consent, accept, regard, admission)

Stigma
(humiliation, disgrace, outlaw, taboo, hatred)

[1] Erving Gofman. 2014. Stigma. In Classic and Contemporary Readings in Sociology. Routledge, 108–113.
[2] Bruce G. Link and Jo C. Phelan. 2001. Conceptualizing Stigma. Annual Review of Sociology 27 (2001), 363–385. http://www.jstor.org/stable/2678626
[3] Alina Pavlova and Pauwke Berkers. 2020. "Mental Health" as Defined by Twitter: Frames, Emotions, Stigma. Health Communication (Dec. 2020).

Results

RQ1: Moral framings of mental health on Twitter vs. News

Moral Foundation	Twitter Ratio (+ve/-ve)	News Ratio (+ve/-ve)
Care/Harm	11.674	0.536
Fairness/Cheating	3.121	0.289
Loyalty/Betrayal	3.847	0.137

+ve (-ve) represents the number of tweets or news articles that align with the virtue (vice) facet of the moral foundation.

Twitter demonstrates presence of virtue facets more in comparison to News

Results

RQ2: Stigmatized mental health discussions

Stigmatized framings were more pronounced on both Twitter and News

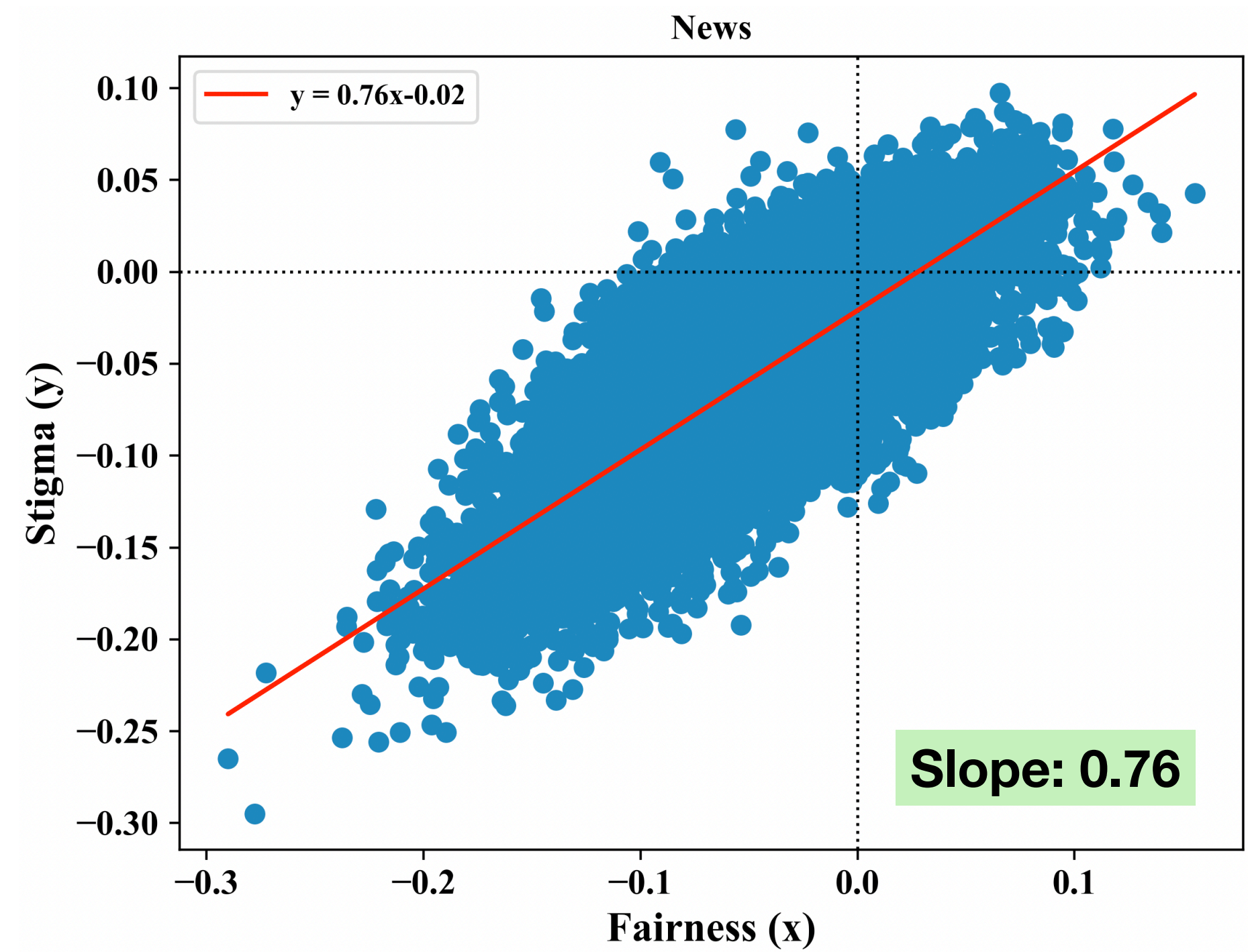Twitter uses more approval-based framings compared to News

Platform	#Approval	#Stigma	Ratio (+ve/-ve)
Twitter	5,528,120	7,748,995	0.713
News	3,011	18,156	0.166

'#' represents the number of tweets or news articles.

Results

RQ3: Relationship between moral frames and stigma

Virtue-oriented framings use an approving
tone and vice versa

Results

RQ3: Relationship between moral frames and stigma

"Is a Teen Depressed, or Just Moody?: [...] **Electronic media usage is not a cause of depression** [...] that's how they connect to their peer group, get support [...], the message to parents and pediatricians is that we should **not associate depression with adolescence** and **make them feel equal.**"

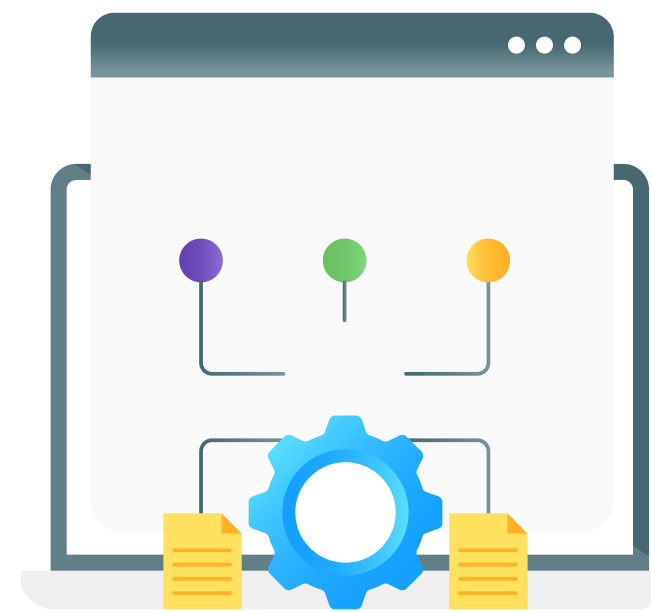De-stigmatize depression

Fairness virtue
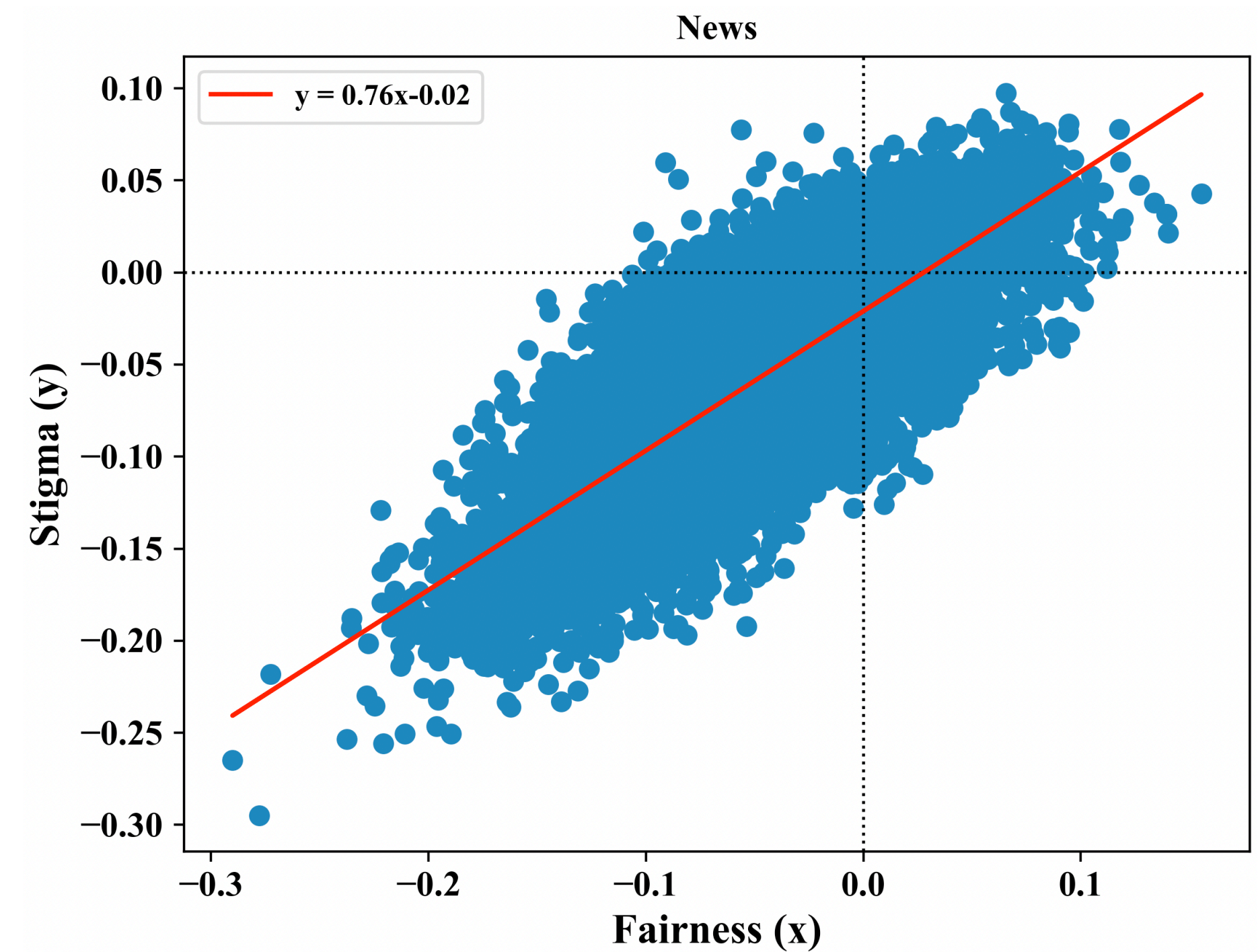
Key Takeaways

Recommendations to support improved framings

Strengthen journalistic
resource guides

Careful introduction of algorithmic
nudges and recommendations [1]

Introduce educational resources
and information campaigns [2]

[1] Ashish Sharma, Inna W Lin, Adam S Miner, David C Atkins, and Tim Althoff. 2021. Towards facilitating empathic conversations in online mental health sup- port: A reinforcement learning approach. In Proceedings of the Web Conference 2021. 194–205.
[2] Barbara Ricci and Lisa Dixon. 2015. What can we do about stigma? Psychiatric Services 66, 10 (2015), 1009–1009.

Summary

- Moral framings **quantified using Moral Foundation Theory**

- Introduced a new **lexical resource to study stigma**

- Tweets or news articles with **vicious moral framings tended to be stigmatizing**

- Limitations and Future work

  - Impact or influence of mental health framings on consumers

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