An Epistemic Network Analysis on Change the Museum Discourse

EdPsych 551
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How did you do your analysis?

In this study, I applied Epistemic Network Analysis to the Change the Museum data set using an online epistemic network platform (ENA1.7.0 Web Tool). I defined the units of analysis as all lines of data associated with a single value of the year, either 2020 or 2021, subsetted by Implicit Microaggression, Interpersonal, Institutional, Systemic, and the month of June for either year. For example, one unit consisted of all the lines associated with the four aforementioned codes in the month of June in 2020. Then I defined conversations as time segments, showing both the month and year, to see whether there was a significant difference in the subject material presented in June, 2020, at the height of Black Lives Matter protests, and a year later in June, 2021. The ENA model included the following four codes: Implicit Microaggression, Interpersonal, Institutional and Systemic. I made sure to show unique and binary values to help scaffold this selection. I chose the default moving stanza window size of 4 lines due to the nature of the data showing a one-year difference. This was also to see whether any of my lines, defined as utterances posted anonymously to the Change the Museum platform, co-occurred with lines that contained or didn't contain the four identified codes and whether they showed a significant relationship after being placed within a 'recent temporal context' (Siebert-Evenstone et al., 2017). Lastly, my comparison consisted of the meta-data that included the month and year of the post-date.

What did your analysis show? Describe this in a narrative, paragraph form (i.e., not bullet points).

I was interested in looking at different patterns of connections between the subject material that anonymous posts to Change the Museum included in June, 2020 and June, 2021. I did not find any statistically significant differences between the years in terms of the subject material reflected by the individuals who posted anonymously that fell into each of the four codes. I did, however, find the edges, which reflect the relative frequency of co-occurrence between two codes, to show varying strengths depending on the plot I focused on (see graphic representation below). If I were to have gotten significant results, I would have interpreted this as individuals who were more exposed to microaggressions in institutional spaces (i.e., within museums) during June, 2020, as the nodes Institution and Implicit Microaggressions had the strongest edge between them. June, 2021, showed more spread out accounts or witnesses of each of the four codes, which may indicate 1) since the peak of BLM protests a year prior, more groups within the museum workspace are contributing and sharing their own experiences to the Change the Museum account and/or 2) the type and level of racist attitudes and behaviors has become more distributed between June, 2020 and June, 2021.

Provide a qualitative example that illustrates your finding.

I wanted to highlight the different connections between nodes and their most prominent edge strength based on the year in which it the utterance was posted:

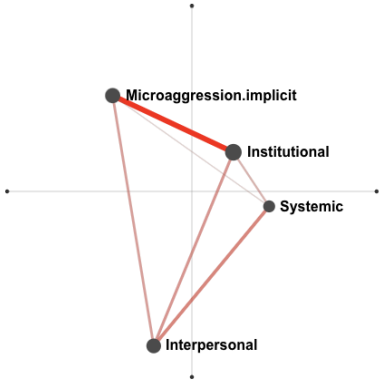
June	2020	“I am a collections manager at a museum in New York. At a committee meeting I was approached by a white male member who asked me to give him a hug after making an inappropriate comment on my appearance. I refused, and he grabbed my hand and kissed it. In the same meeting, while taking credit for a project that I had worked on I was called a ‘lovely assistant’ by the white male curator. Let me be clear that my job title is not to assist the curator. The director, who is a white male, was present for all this and said nothing. I informed HR and demanded an apology. Nothing has happened.”	Represents the co-occurrence between racist attitudes and behaviors at the Institutional and Implicit Microaggressive levels
June	2021	“I wrote three paragraphs about racism at a former place of employment... but decided not to share because, when I left the institution, I was basically paid off to not discuss my time there. I constantly	Represents intersecting connections between codes that illustrates embedded and structured racism (from Implicit Microaggressions to Systemic racism)

		heard disparaging remarks about Native American populations, microaggressions against NA and Black individuals, and after experiencing difficulties to get these groups showcased, I was ostracized. Comments of racism, diversity, inclusion, decolonization, etc., were seen as personal attacks and a complaint was made because someone took offense. They hired outside mediators and ignored recommendations to fix the workplace culture. I don't feel comfortable revealing any more than that.”	

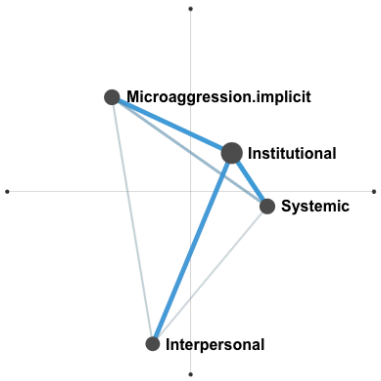
Provide a graphic representation of your findings.

Taking the average network across both years, I represented the connections between my units and codes with two different plots. My primary plot, shown in red, shows a stronger connection between recounted instances of implicit microaggressions and institutional forms of racism, either experienced, witnessed, or both, by the sample who posted anonymously to Change the Museum. My secondary plot, shown in blue, shows a more spread representation between the codes and their connections to one another. I also chose to equally space my unit circles.

2020



2021



Provide a statistical result that supports your finding.

Since variances between groups were unequal (larger sample size in June of 2020 than in June of 2021) I decided to run both the parametric and nonparametric tests. However, the differences in sample sizes between years was the only violation of the assumption of normality that went against the decision to solely run a parametric t-test. Neither test showed any significance and the plot itself showed large overlap between the two means.

Parametric write-up example: A two sample t-test assuming unequal variance showed that subject matter within anonymous posts in the month and year of June, 2020 (mean=-0.28, SD=0.41, N=6 was **not statistically significantly different** at the alpha=0.05 level from the subject matter discussed in the anonymous posts in the month and year of June, 2021 to the Change the Museum page on Instagram (mean=0.17, SD=0.55, N=10; t(13.14)= -1.84, p=0.09, Cohen's d=0.88).

Non-parametric write-up example: A Mann-Whitney test showed that subject matter within anonymous posts in the month and year of June, 2020 (Mdn=-0.30, N=6) was **not statistically significantly different** at the alpha=0.05 level from subject matter discussed in the anonymous posts in the month and year of June, 2021 to the Change the Museum page on Instagram (Mdn=0.18, N=10 U=15.50, p=0.13, r=0.48).
In terms of interpretive validity of the model, the Y-axis of the comparison plot shows a high Goodness of Fit (Spearman = .99, Pearson = .99) meaning that the plotted points and their averages are interpretable in terms of the nodes and edges layout. Basically, what I am seeing on the plot is an accurate representation of the correlations between my codes and their connections.

Explain why someone might care about this finding.

Someone should care about this finding because ENA enables researchers to both visualize and statistically compare connections between coded data. Change the Museum incorporates both meta-data and single lines that demonstrate how racism in public spaces, specifically in museums, remains a problem that must be addressed. Honing in on the specific problems can be made possible with this tool by looking at prevalent issues (i.e., microaggressions towards staff members and BIPOC employees) and their connection to larger-scale policies and embedded structure (i.e., certain institutions disallowing BIPOC members the right to leave on Juneteenth). Visualizations in the form of plots, nodes, and edges help to specify certain racial injustices, while statistics represent the weighted structure of the connections. With more data and a larger sample size in June of both years, I believe someone would be able to find statistically significant results that show differences in the content being posted. Additionally, this may provide more insight as to where these injustices are mostly taking place, which would help to make a call to action in these areas and whether the data representing a year apart would show any significant policy changes.