

People's diction can display their true feelings. We took a look at the trends of anti-Semitic search trends, to try and gauge the public's feelings on Jewish people over time. Specifically, we looked at the use of Jewish slurs.

Gathering the Data

With a list of slurs considered to be anti-Semitic, we can see the trends of these words in searches over time. The data was obtained using *Google Trends*, a free service provided by Google where one can see how often a term has been searched over time. The search interest is relative to the highest search rate for the time interval of interest. Let's look at the word 'Olympics' for example.

≡ GoogleTrends Explore <						
	Olympics Search term	+ Compare				
United States 💌 2004 - present 💌 All categories 💌 Web Search 💌						
	Interest over time 💿	*	↔ <			
	100 75 50 25 Jan 1, 2004 Jun 1, 2009	Nov 1, 2014 Apr 1, 2020	M			

As the image above shows, there are spikes in interest with the Olympics every 2 years. We can also obtain related queries from the searched term, The related queries are the suggested options that Google would offer when a term is typed in the search bar.

Related queries ②	Rising 💌 📥 <> <
1 olympics 2021	Breakout
2 rio olympics	Breakout
3 sochi olympics	Breakout
4 olympics 2022	Breakout
5 2016 summer olympics	Breakout

When looking at the slur's related queries, it was difficult to tell a searcher's intentions. For example, take the slur Shiksa, we saw the related query 'Shiksa' in the Kitchen', which with further investigation was a cooking blog, and the word wasn't being used in the context of a slur. Another example was 'What is a Shiksa', which is someone trying to figure out what the word means, so their intentions can't be anti-Semitic.

This meant that we couldn't analyze the queries all together, because they had different contexts behind them. We had to find out how to distinguish the queries into different contexts. Queries with similar contexts had similar search interests over time, which is to say they are correlated. The next image shows the lines that are near each other have similar contexts.

Quantifying the Reclamation of Jewish Slurs



The correlation is measured not by how much the trends directly follow each other, but by their patterns. All the blue/green lines had a large spike in 2013, which makes them correlated with each other. The purple/red lines don't share any spikes with the blue/green lines, so those queries are less correlated.

With these correlations between the queries, we can group queries together by their contexts. We can identify these contexts by using hierarchical clustering.



The picture above is a dendrogram, which visually shows us the clustered group. The groups can be seen below, the 'Understood theme' is the theme that the queries seem to have in common.

Group	Related Queries	Understood Theme
Group0	shiksa goddess lyrics what is a shiksa	Unknown
Group1	shiksa shiksa goddess shiksha shiksa definition say anything shiksa meaning goy define shiksa shiska mensch the last five years shiksa madness goyim what does shiksa mean shiksa blog shika	Miscellaneous jewish and music
Group2	shiksa lyrics say anything shiksa shiksa godess say anything shiksa lyrics	The song 'Shiksa' by Say Anything
Group3	the shiksa shiksa kitchen the shiksa in the kitchen shiksa in the kitchen	Cooking blog 'The Shiksa in the Kitchen'

When we graph the interest over time, averaging by the 'Understood theme' for 'Shiksa', we get the following plot. Average search for Shiksa Term by Heirarchical Grouping



There are spikes in interest usually when something related to the word 'Shiksa' is released. For example, Tori Avery started a food blog in 2010 called 'The Shiksa in the Kitchen'. Avery is a converted jewish woman who started the blog with a focus on jewish cuisine. We can see the spike that aligns with the beginning of Avery's blog.

In a different example, there is a spike in 2007 that correlates with the release of the song 'Shiksa' by Say Anything. The lead singer for the band, Max Bemis, was raised Jewish and his grandparents are survivors of the holocaust.

Words actually related to Judaism, the orange line, is relatively constant over time. What was most notable in this study, is that while 'Shiksa' is a slur, the spikes of interest associated with it seem to be when **Jewish** individuals reclaim the word for themselves.

Understanding Jewboy

We see this with slurs other than just 'Shiksa'. Another slur we can see this trend with is 'Jewboy'. This slur is a derogatory way to say a 'Jewish man'.

While there are only 2 groups, neither are referencing the slur in a derogatory way. One is referencing a restaurant chain, and the other is the name of a musician.

With 'Shiksa', we also didn't see any negative connotation, and for both words we see this pattern of reclamation.



This research showed a way that **hierarchical** clustering can be used to reveal people's intentions when we did the groupings. Without the clustering, it would've been impossible to know which words were to be correlated with each other, revealing their contexts.

The clustering can be applied to all sorts of topics via Google Trends. The pattern seems to be that Google is a space for people to ask clarifying questions and learn more about a topic. It doesn't seem to be a place where people express racism or use slurs in a derogatory way.

The pattern of reclamation is a success story, Jewish groups reclaiming slurs that were once used to oppress them. We think it would be interesting to see if this pattern continues in other minority groups.



Hierarchical Grouping



Conclusions