

The background of the slide is a light gray, semi-transparent image of musical notation, including several staves with notes and clefs, arranged in a slightly curved, overlapping pattern.

SOCIABILITY OF MUSICAL INSTRUMENTS

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Musical Instruments

A Facebook Application that lets users list which instruments they play.

Users can also see which instruments their friends play.

Musical Instruments + Invite Friends!

Home Add/Remove Instruments Friends' Instruments Statistics

Welcome to Musical Instruments!

Currently you play 5 instruments. [Add more](#), or [see what instruments your friends play](#).

Your Instruments

-  **French Horn**
I played this for concert band in high school.
-  **Pianica**
I got this to be like Nodame!
-  **Soprano Trombone**
This was something of a gag instrument. I can play it pretty well, though.

▼ Musical Instruments x

Hung Truong's Instruments

-  **French Horn**
I played this for concert band in high school.
-  **Pianica**
I got this to be like Nodame!

A box also shows up in the user's profile, alerting their friends to the fact that they play obscure musical instruments.

Facebook Data!

Add an Instrument

Instrument Name:

Comments (Optional):

Trumpet
B-flat Trumpet
Bass Trumpet
Bb Trumpet
C Trumpet
Eb Trumpet or Cancel
Piccolo Trumpet
Pocket Trumpet
Some Trumpet
Trumpet

Remove an Instrument

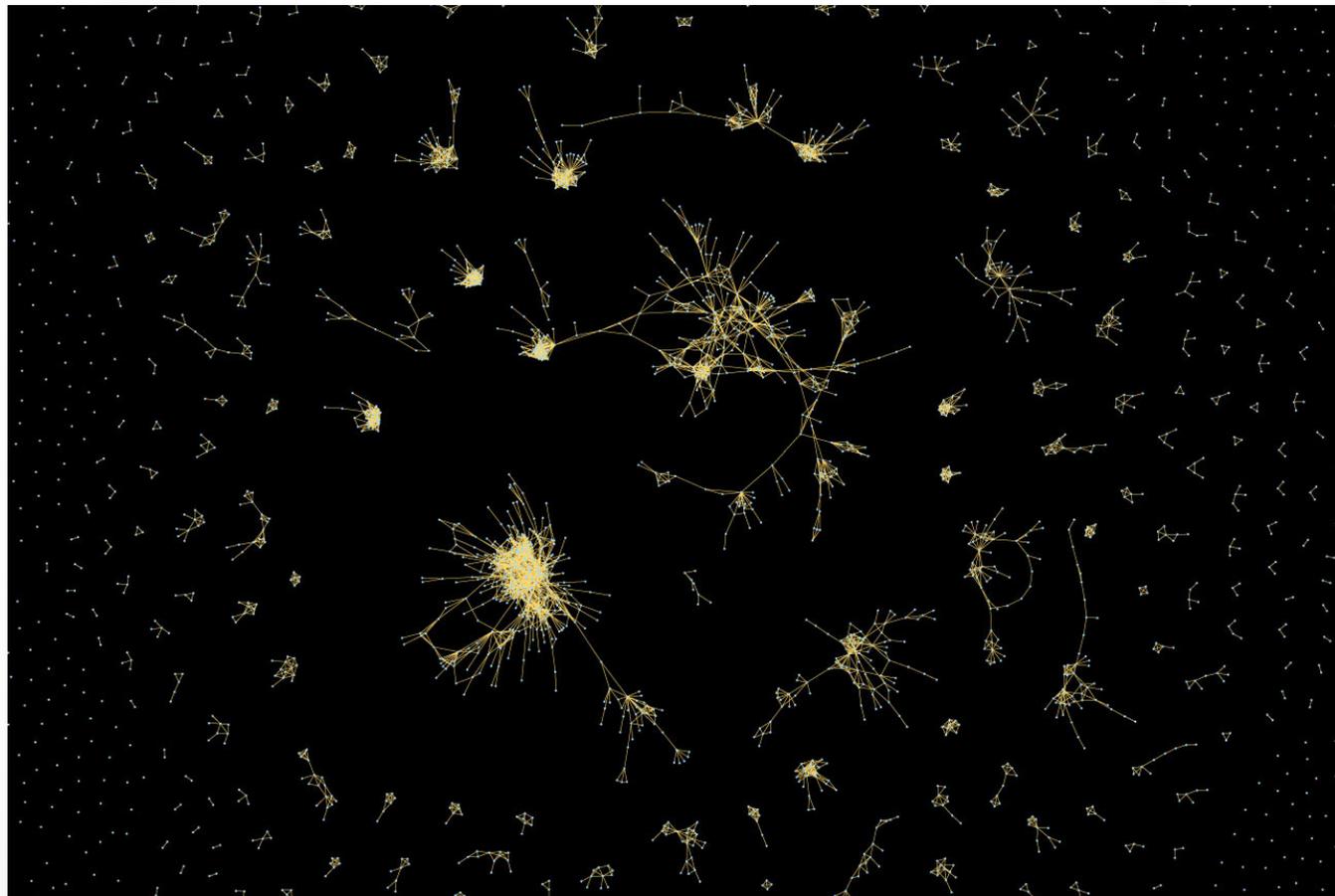
French Horn	Remove
Pianica	Remove
Soprano Trombone	Remove
Trumpet	Remove
Voice	Remove

- FBID – Unique Facebook User ID
- Instruments Played
- Number of Friends

Instrument is a free text field; users can enter whatever they want.
8603 rows total – one for each user/instrument combo.

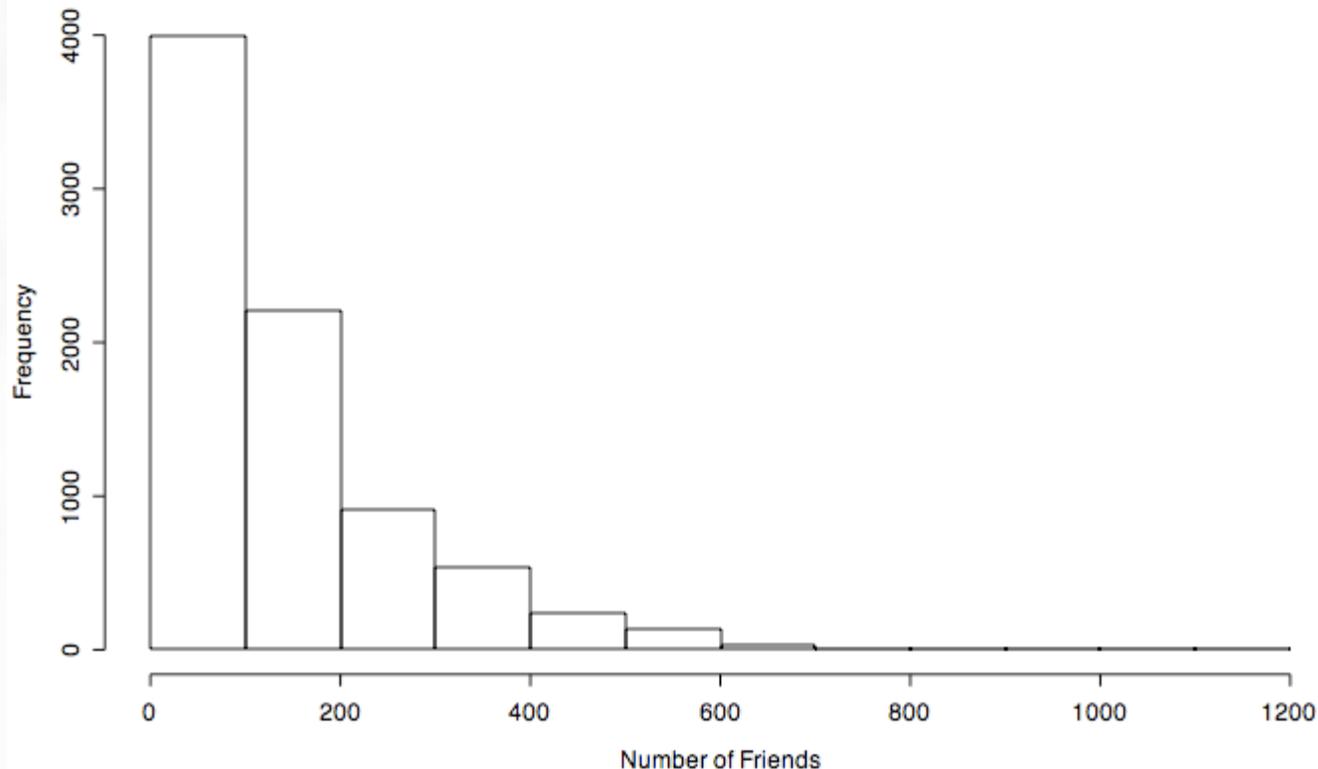
Sidenote

Neat network visualizations also possible using the data:



Visualizing the Data

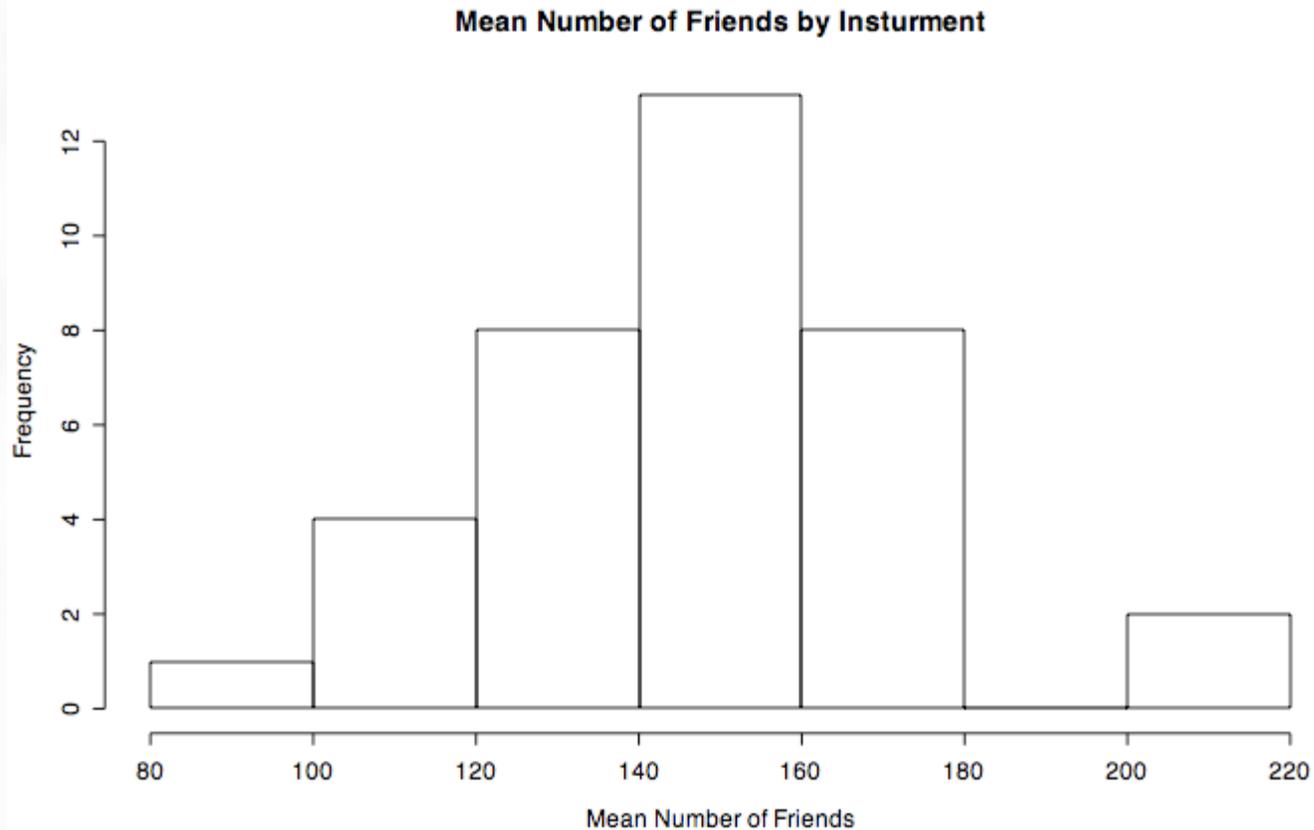
Raw Number of Friends by Person



Nothing too special here, the number of friends follows a power law curve.

Very few people with an insane amount of friends, more people with a modest number (0-100).

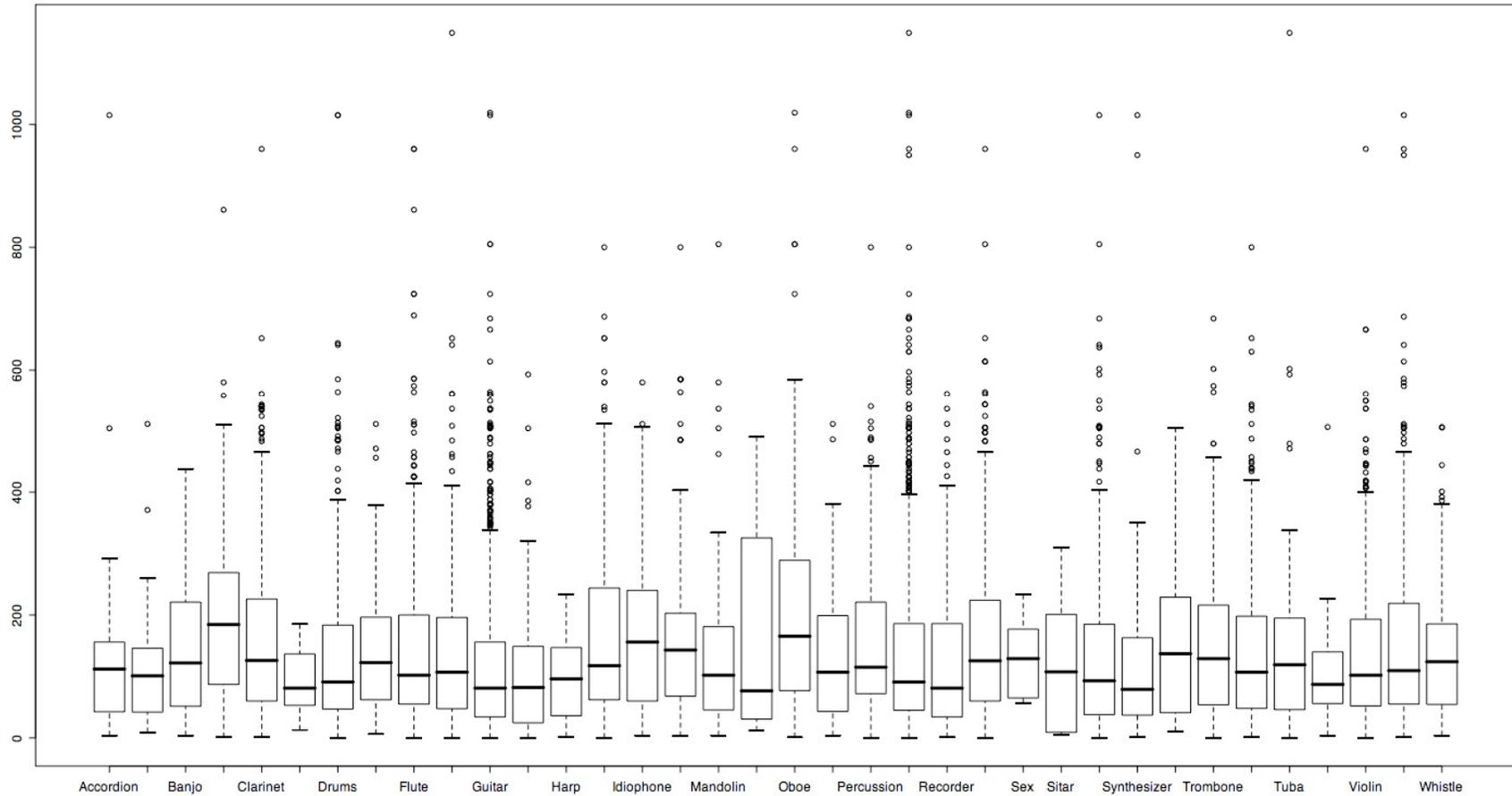
Visualizing the Data



The mean number of friends by instrument is a normal distribution.

It's the central limit theorem in all its glory!

Visualizing the Data



The box plots of the number of friends by instrument look fairly similar, apart from the outliers in a few sections.

Instrument Survey

Use the following matrix to rank the instruments in increasing order of sociability. A rank of 1 means the instrument is very social and would never be played alone. A rank of 16 means the instrument is not very social and is likely to always be played alone.*

1]	Percussion	↓	
2]	Violin	↓	↑
3]	Trumpet	↓	↑
4]	Drums	↓	↑
5]	Flute	↓	↑
6]	Piano/Keyboard	↓	↑
7]	Vocals	↓	↑
8]	Bass Guitar	↓	↑
9]	Electric Guitar	↓	↑
10]	Acoustic Guitar	↓	↑
11]	Guitar Hero	↓	↑
12]	Alto Saxophone	↓	↑
13]	Trombone	↓	↑
14]	Recorder	↓	↑
15]	Guitar	↓	↑
16]	Clarinet		↑

We sent out a survey (thanks if you filled it out!) to determine the perceived sociability of certain instrument types.

People ranked the instrument types from most social to least.

Hypothesis

There is a correlation between the type(s) of instrument a user plays and the number of friends they have.

People who play perceived “social” instruments will have more friends.



Analysis

Trumpet



Classification

- Wind
- Brass
- Aerophone

Playing range

Written range:



Related instruments

Flugelhorn, Cornet, Bugle, Natural trumpet, Bass trumpet, Post horn, Roman tuba, Bucina, Shofar, Conch, Lur, Didgeridoo, Piccolo trumpet

- Cleaned up instrument types (which were free text)
- Normalized spelling on different “same” instruments
- Categorized instruments into types and sub-types
- Used Wikipedia to assist in classification
- Ended up with 8126 rows of data

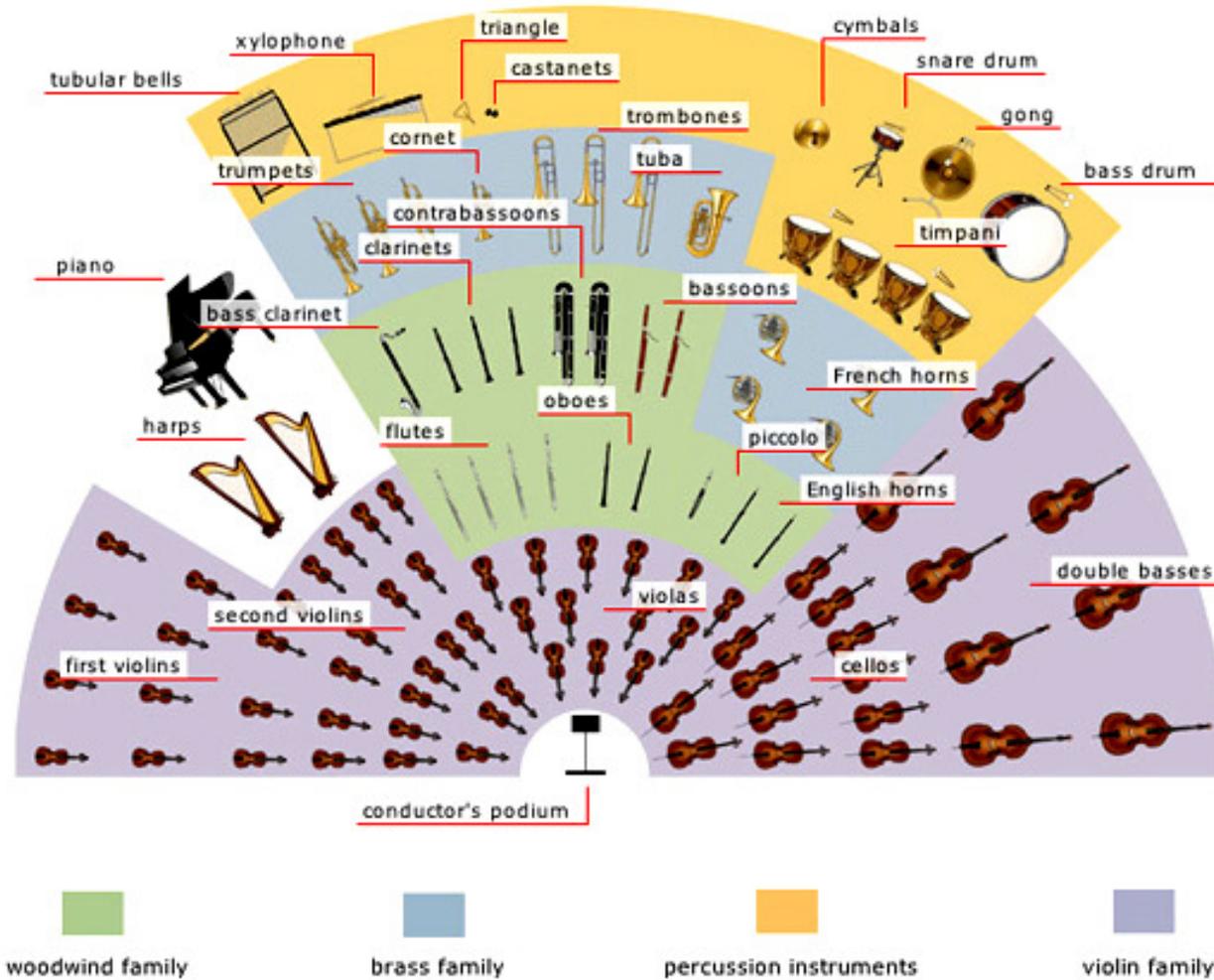
Tests

	Bassoon	Clarinet	Drums	Flute	Guitar	Harmonica	Oboe	Piano
Guitar	0.00278	1.10E-05	1	0.00569	-	-	-	-
Harmonica	0.03374	0.73672	1	1	1	-	-	-
Horn	1	1	0.07346	1	1.80E-05	0.1343	-	-
Idiophone	1	1	0.6273	1	0.004	0.3262	-	-
Mallet	1	1	1	1	0.00773	0.85867	-	-
Oboe	1	0.31308	3.00E-05	0.02031	2.70E-08	0.00012	-	-
Piano	0.1596	0.55602	1	1	0.67423	1	4.30E-05	-
Recorder	0.1252	1	1	1	1	1	0.00021	1
Saxophone	1	1	0.05529	1	6.70E-08	0.29976	0.54869	0.04352
StringBass	0.21148	1	1	1	1	1	0.00015	1
Trumpet	1	1	1	1	1	1	0.00558	1
Violin	0.50045	1	1	1	1	1	0.00062	1
Vocals	1	1	1	1	0.00069	1	0.07672	1

Instrument	Average Rank
Vocals	5.5
Guitar Hero	5.9
Guitar	6
Percussion	6.9
Drums	7
String Bass	7.3
Piano	7.6
Trumpet	10.2
Violin	10.5
Saxophone	10.7
Clarinet	11.1
Trombone	11.1
Flute	11.7
Recorder	12.4

- Ran pairwise t-tests on each set of simplified instruments
- Compared significant differences to survey data
- Guitar is perceived as a social instrument, but Oboe, Saxophone, have significantly higher mean # of friends, yet perceived to be anti-social
- Saxophonists have an average of 20 more friends than the sample mean; guitarists have 20 less on average
- Oboists are popular

Reality Check

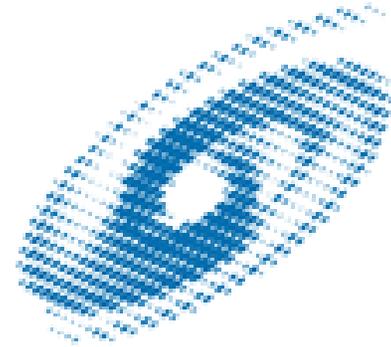


How many guitarists? How many oboists?

Biases?

The Facebook logo, consisting of the word "facebook" in white lowercase letters on a dark blue rectangular background.

facebook



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- Our data was limited to Facebook users but many types of instruments were represented
- Survey was sent to only SI students but they indicated high confidence in the rankings

Conclusion

- Some instruments typically perceived as “social” were actually statistically less social
- Some instruments actually perceived as and ended up being more social, like vocals
- Playing oboe will net you more Facebook friends!*

*maybe