

Social Rank in a Small, Distributed Group
Stephanie K. Ananth
Carnegie Mellon University

Abstract

Because I thought it would be interesting to see how social power dynamics happen within my own friend groups, to calculate each members' page-rank, and see if there are any correlations between dimensions or over time, I collected data from 14 different people about each other in 5 different dimensions by sending each member a survey two years ago and then once again recently. I found out who has the most social power and prestige, and I found some correlation and some surprises between the dimensions and over time. This means that power is unequally distributed to certain individuals and groups, and there are objective ways of determining to whom power is being allocated.

Keywords: page-rank, social prestige, social power, privilege, distributed groups

Theme

In this paper, I will be exploring the applications of page-rank (or social rank/hierarchy) and social power/prestige in small-scale distributed groups over time. I will be utilizing data I collected almost exactly two years ago about distributed groups, and I will be looking at the following five dimensions:

- familiarity (how well one knows/is known by others in the group)
- favor (how much someone likes/is liked by others in the group)
- communication (how often communication happens [in both directions] between members of the group)
- trust (how much someone trusts/is trusted by others in the group)
- support (likelihood of asking/being asked by others in the group for advice or emotional support)

Just as hens abide by a defined “pecking-order”, humans abide by learned rules of social behavior. Social rank and hierarchy are aspects of every human community. Rarely written down or documented, these social guidelines are passed along through communities as tacit knowledge or as unspoken rules.

My goal is to define an explicit “pecking-order” for a small, distributed, former high school friend group comprised of 7 males and 7 females, all among the ages of 21-22 and to analyze possible interactions, connections, and explanations between each of the five dimensions I listed.

Issues & Questions

The issues and questions in play are primarily related to social dynamics and subjective, tacit knowledge. (The challenge is to draw out this knowledge without introducing biases.) Three characteristics of social prestige that I will account for and take into consideration are:

- That it is *distributed*: one has power/prestige if others think they have power/prestige; the power is in the perception.

- That it is *subjective*: a person does not have inherent social power; societies determine the distribution of social power. (This distribution can and likely will change and will never be “wrong.”)
- That it is *objectively knowable*: this is the crux/backbone of my research; that it is possible to determine popularity/power/prestige.

Due to the distributive and subjective nature of social power, it is important to recognize that social power is also recursive (as the more power you have, the more power you can bestow upon others, but you must be given power first to give power). This is why I will be using PageRank to determine social status and hierarchy, to account for its recursive nature.

Domain & Approach

My approach was from a technical/computational, data-science focused angle. I wanted to compile past social rank data and collect updated ranks and values to make a series of matrices that I could compute means, page-rank, and correlation data from. Because of the abundance of numerical data I collected, I was able to utilize a plethora of different data analytics techniques and find possible connections.

Relevance to Theme

I decided to compute page-rank to determine social rank/hierarchy, the crux of my paper, means to use a less “processed” metric for differences and correlation, and correlations to see possible connections, similarities, and differences between dimensions and metrics. Each of these gives me more insight into the way my small, distributed group functions and values its members.

Each of the questions I asked correlates to an important characteristic:

- How well do you know this person? (familiarity; allows me to find the most well-known person)
- How much do you like this person? (favor; allows me to find the most popular person)
- How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? (contact/communication; allows me to find the most connected person)
- How much do you trust this person? (trust; allows me to find the most trusted person)
- How likely are you to go to this person for advice or emotional support? (help/support; allows me to find the most helpful/possibly influential person)

Each dimension specifically points to an important person or important people in the community, but also may point to or correlate with one another. It is possible that every dimension is relevant to the others and may have some interaction with it. While this may be confusing and confounding, it may also provide some very interesting analysis.

Method

In order to collect the data and metrics needed to properly analyze the data and determine a social hierarchy in this group, I sent out an exhaustive (16 page) survey for each member of the group to complete. All 14 members of the group filled out the survey for the first time two years ago, between November 30, 2017 and December 6, 2017. 12 out of the 14 original participants filled out the survey for the second time between the dates of December 7, 2019 and December

9, 2019. The survey asked each participant to rate all 14 participants prompted by the following questions, and every question was required (their scores for themselves were ignored):

- How well do you know this person? (1 = not at all to 5 = very well)
- How much do you like this person? (1 = not at all to 5 = very much)
- How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? (1 = never to 5 = very often)
- How much do you trust this person? (1 = not at all to 5 = very much)
- How likely are you to go to this person for advice or emotional support? (1 = very unlikely to 5 = very likely)

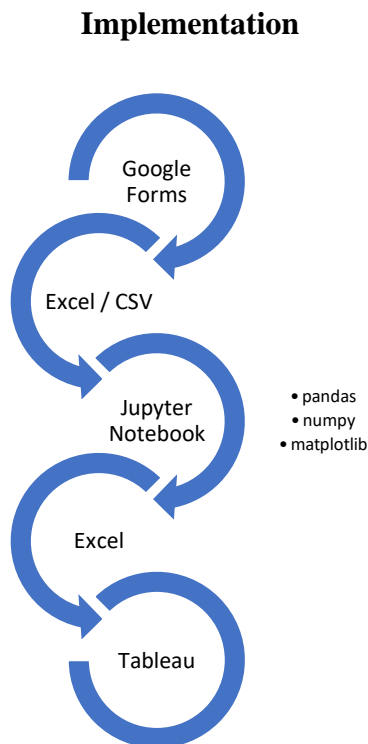
The full survey text can be found in the Appendix (1.1).

Limitations & Capabilities

While it was truly fortunate that I had such relevant data lying around, ready for use and analysis, when I first created the survey, I was unaware that demographic data should be collected at the end of the survey (not at the beginning) to avoid priming subjects, so I asked about demographic data at the beginning. For the sake of consistency, I kept the survey and its order the same, including keeping the order of the people being evaluated in the survey the same, but that may have introduced some unwanted error into the data. In addition, some of the questions are not worded as clearly as I would like, and the scale is incredibly relative. (But having two sets of data does allow me to look at the difference and not just the raw values.) There are no open-ended questions, which might have allowed me to understand and analyze the data more holistically. In addition, I am a member of the group I surveyed, and these people are my friends. They knew I would be analyzing this data when taking the survey, and even though I asked them numerous times to be as honest as possible, they may have not wanted to be completely honest in scoring/ranking me or others in the group. These are some of the limitations of the collection method.

However, having two sets of data for the same friend group allows me to see and analyze the changes over time. The questions I had originally asked are very much relevant to the questions I am trying to answer and the problems I am trying to solve, as they are directly related to community, asking for help, popularity, familiarity, and trust—all important aspects of every community and social system. In addition, I had a willing set of participants (even though I have not talked to them recently, as you will see in the results!). Collecting data among five dimensions allows for so many different combinations and possible interactions/correlations. I see this as both a limitation and a great benefit. While I am not able to perform every possible computation and may be missing certain insights embedded deep within the data and this does complicate and lengthen the analysis I will be doing, it also provides me with a more robust data set, especially given the small group/sample size.

Figure 1: The Technical Journey



Once a sufficient amount of data had been collected, I began the process of analyzing it. I collected a total of over 1,600 relevant, usable data points (not including demographic data or self-scores), and compiled all this data into 9 different Jupyter Notebooks, each focused on a different angle or of the data:

1. PageRank for 2017 Data*
2. PageRank for 2019 Data*
3. Differences Between PageRank Data*
4. Means for 2017 Data*
5. Means for 2019 Data*
6. Differences Between Means*
7. PageRank for Outward Data*
8. Means for Outward Data*
9. Cleaning & Compiling Data for Export to Excel

* includes rankings, charts, gender differences, correlations, heatmaps

Doing analysis and creating visualizations in python were fast and simple, and they were incredibly helpful for uncovering and revealing the insights the data held. I used tables to display simple values and data, bar plots to show values and rank, and heatmaps to show possible correlations more clearly.

In Tableau, I was able to make more sophisticated visualizations, such as matrices of scatterplots with trendlines to quickly scan for interesting correlations.

All data, notebooks, and analysis can be found at <https://github.com/stephkananth/bubbles> for more details.

Alternate Explanations & Confounds

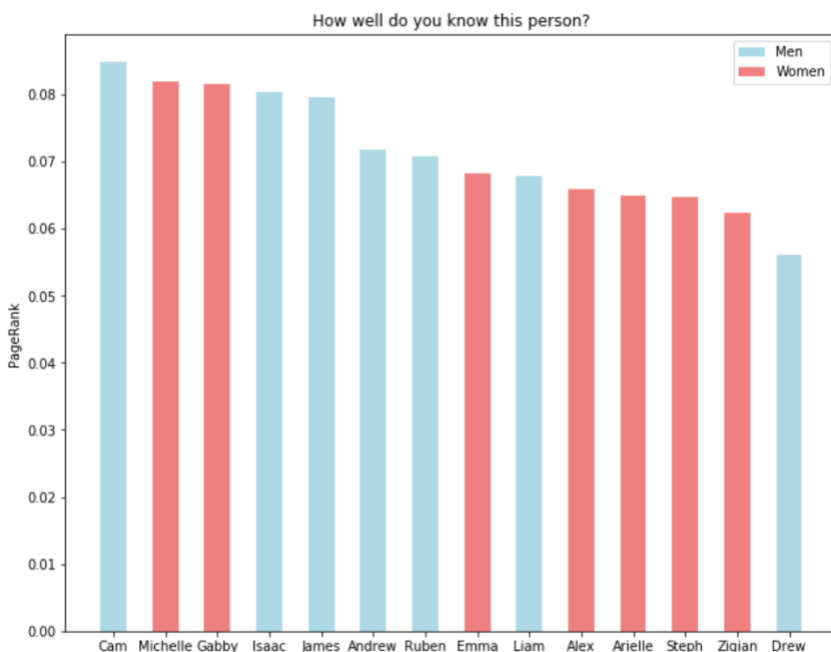
One thing that is important to remember in doing the analysis was that correlation does not equal causation, even if a 2017 dimension is highly correlated with a different 2019 dimension. There are many possible confounding variables that I did not take into great consideration including college/location/proximity, initial friendship level, and significant events that may have occurred. In addition, every member of this friend group voluntarily chose to be part of the group, so there are common experiences and interests members of the group have that are not taken into account by the survey. Others may have been forced into more “leadership” type roles in the group due to having a car or nice backyard.

Due to the nature of the group (small and distributed), being the most liked or connected does not mean much and might not even be a good thing, as it may be an indication of a lack of depth in college community and post-high school friendships.

Results, Analysis, & Significance

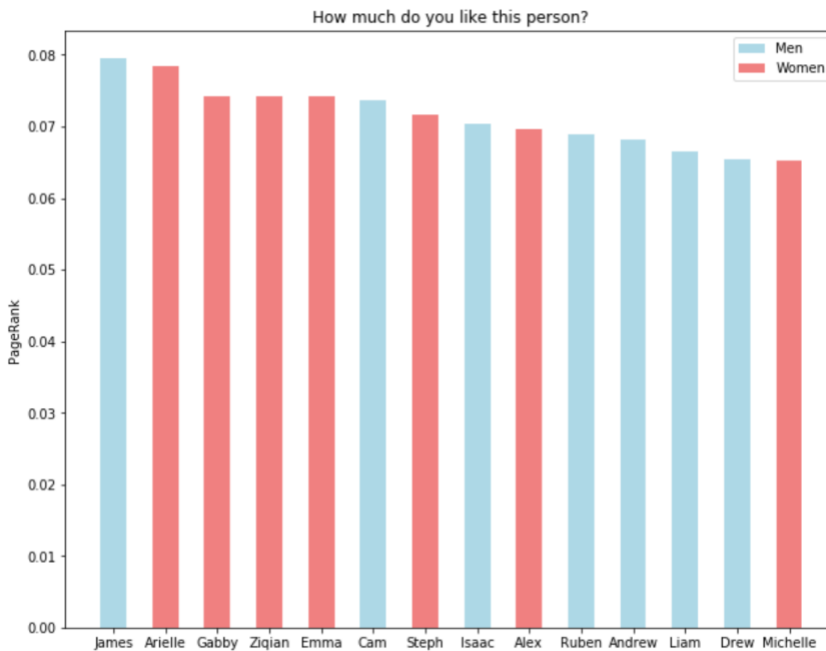
Here are the significant results of the survey—the current notable members of the group: (Note: This is not nearly all of the analysis, see jupyter notebooks for more depth and variety.)

Figure 2: The Most Well-Known (2019)



In this group, the men are slightly better known than the women; Cam is the most well-known member of the group. This is consistent with what I would have assumed. Cam initiated most of our formal and informal gatherings, and we always hung out at his house, so he was the literal gatekeeper of the friend group.

Figure 3: The Most Popular / Liked (2019)



However, the women are more liked on average. This is surprising because two years prior, James was only the 5th most popular (see below).

Figure 3.1: The Most Popular / Liked (2017)

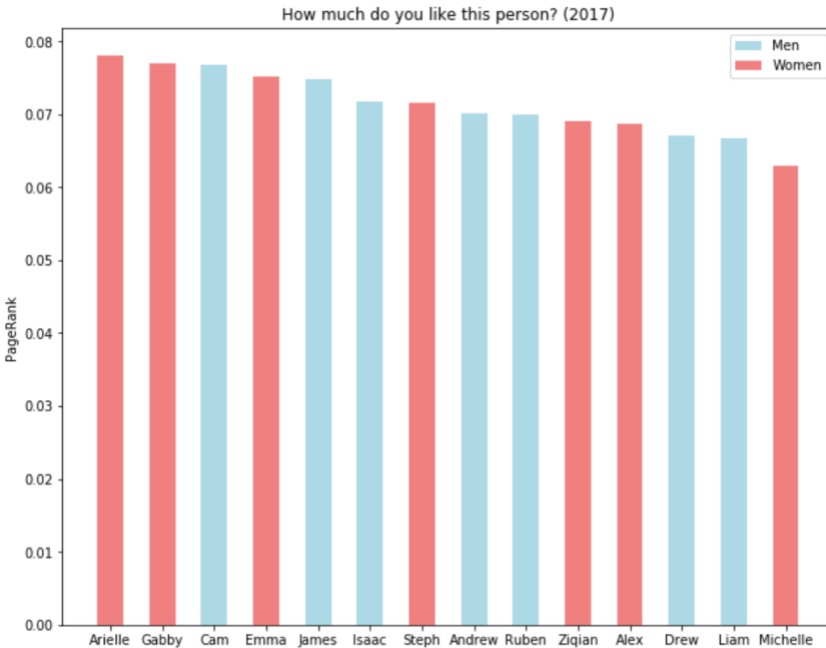
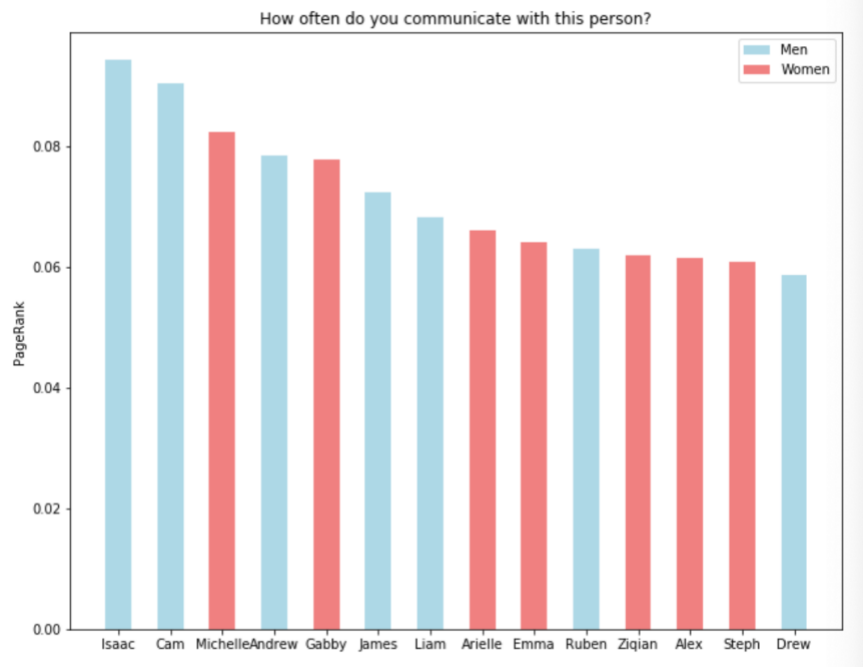
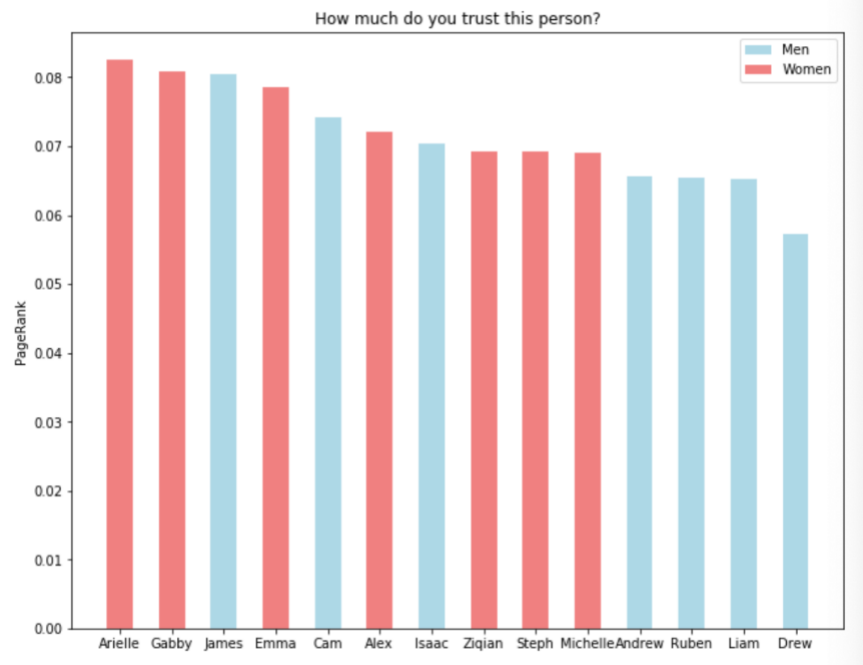


Figure 4: The Most Connected (2019)



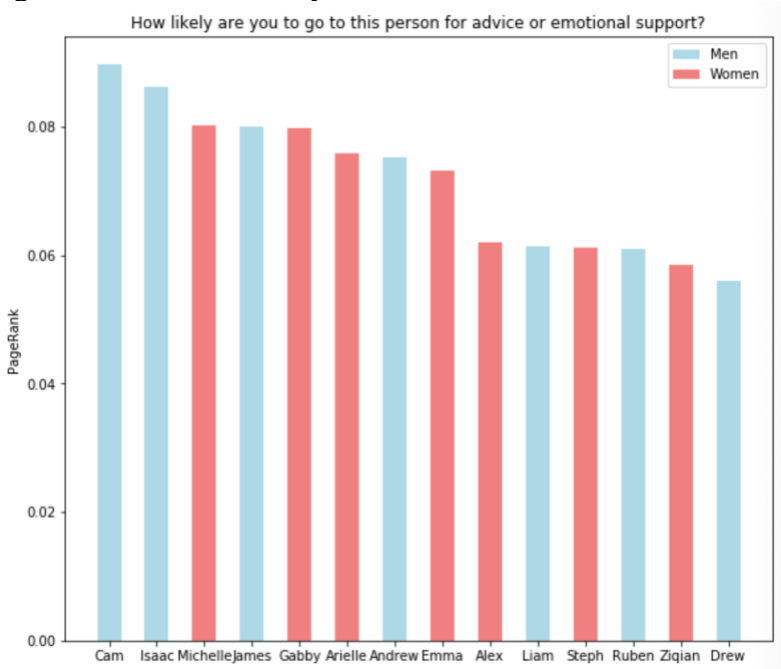
Communication is about equal between women and men. Isaac is communicated with the most by the group.

Figure 5: The Most Trusted (2019)



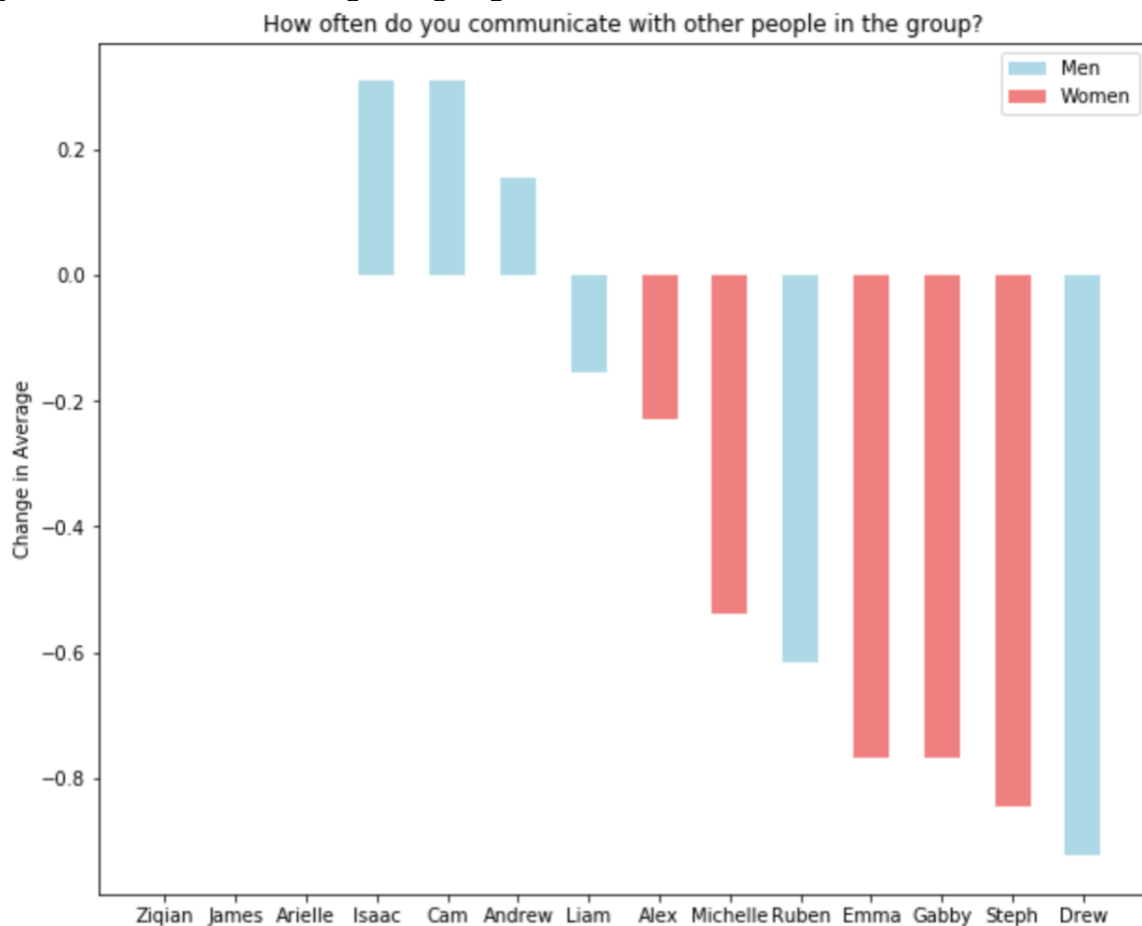
Women are more trusted in this group. Arielle is the most trusted person and scored very highly in popularity, despite being not as relatively well-known.

Figure 6: The Most Likely to be Asked for Advice or Emotional Support (2019)



Women are slightly more likely to be asked for help, but this is really about equal. It is interesting that Cam is the most likely to be asked for advice since he is only 5th most trusted, but he is well-known, well-liked, and highly ranked in communication.

Figure 7: Difference in Average Outgoing Communication Rank

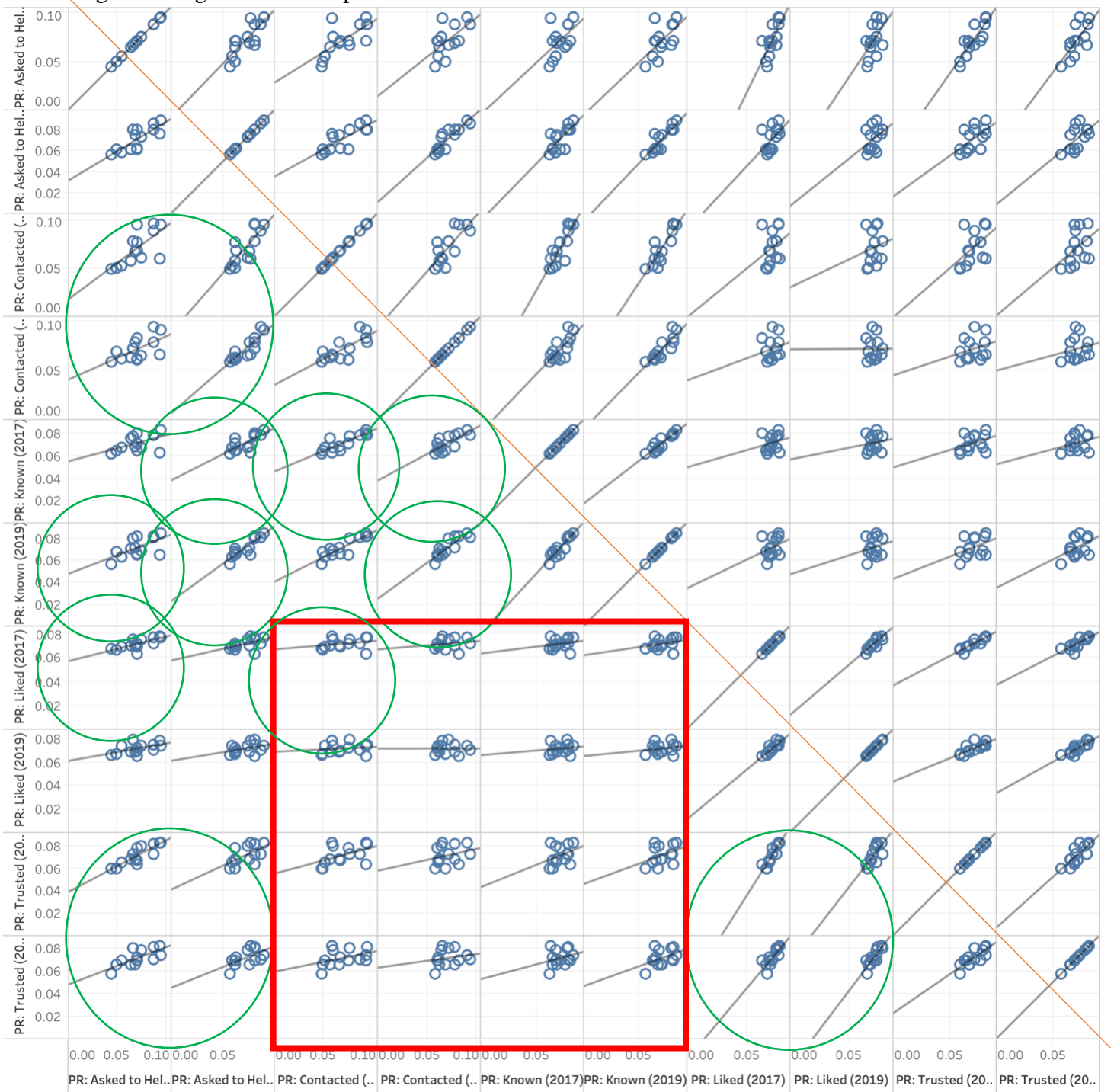


The men's overall contact barely drops, but contact for women plummets between 2017 and 2019.

On first glance, it seems intriguing that the most trusted people are not the ones most likely to be asked for advice or emotional support, so I created a scatterplot matrix to compare page-ranks more intuitively. Upon further inspection, there is significant interaction between most dimensions other than being contacted/known and liked/trusted (other than contacted/known in 2017). (See below.)

As the friend group has drifted apart and people have not kept in touch or stayed updated on each other's lives, it seems that members of the group still like and trust one another.

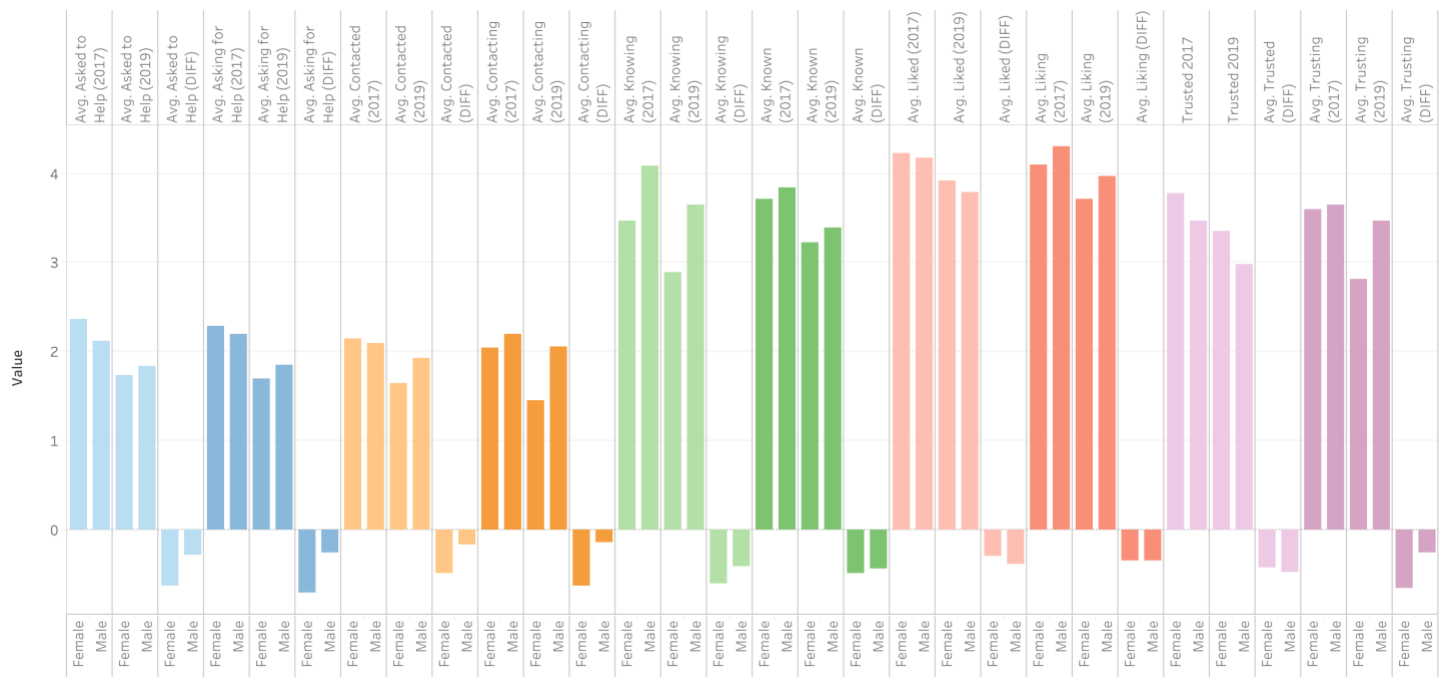
Figure 8: PageRank Scatterplot Correlation Matrix



Significant correlation as spreadsheet (circled):

<https://docs.google.com/spreadsheets/d/1tPGx8qVpHitUNm-y8QAdbAD8JIMd99WhDH7xdxqe1gA/edit?usp=sharing>.

Figure 9: Averages for Different Categories & Changes Over Time by Gender



It is interesting to see the ways these values and rankings change over time. For example, women decrease more than men in every category except being liked, liking others, and being trusted. Why is this? It may just be this particular group, but it sounds reasonable that it may come back down to the way women are raised—to be warm, friendly, nurturing, and trustworthy. Even though the women in the group may not be as close to the group anymore, these characteristics may last because of the way they've been taught to act.

Conclusion

In conclusions, I was able to determine the most popular / influential people in the friend group and see how individuals and the group has evolved over time. I was also able to look more deeply at some of the data and find some correlations. Understanding how people view themselves and how that compares to how others view them is a necessary skill for communication and healthy friendships and relationships. In this group of half men, half women, the women are seen as more popular and trustworthy even though they are not as close to the group, and this affects the social power they have. And while I do not know how best to respond to this discrepancy in power, I think it is important for individuals and groups to recognize the social privilege they have and use it for good. Understanding who has power and why is a critical step for this to occur.

Appendix

1.1 Survey

Distributed Groups

Please be as honest as possible!

* Required

1. First Name: *

2. Last Name: *

3. Gender: *

Mark only one oval.

☐

Male

☐

Female

4. Ethnicity: *

Check all that apply.

☐

American Indian or Alaska Native

☐

Asian

☐

Black or African American

☐

Native Hawaiian or Other Pacific Islander

☐

Hispanic or Latino

☐

White

☐

Other:

5. Current/College City: *

6. Current/College State: *

7. College:

8. Major(s) and Minor(s):

Please be as honest as possible!

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

Mark only one oval.

1 2 3 4 5

Not at All ☐ ☐ ☐ ☐ ☐ Very Much

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

Mark only one oval.

1 2 3 4 5

Not at All ☐ ☐ ☐ ☐ ☐ Very Much

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

Please be as honest as possible!

Mark only one oval.

1 2 3 4 5

Not at All ☐ ☐ ☐ ☐ ☐ Very Well

15. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

16. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

17. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

18. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Gabby Bodet

Please be as honest as possible!

19. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

20. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

21. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

22. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

23. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Cameron Hudson

Please be as honest as possible!

24. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

25. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

26. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

27. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

28. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Andrew Jeon

Please be as honest as possible!

29. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

30. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

31. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

32. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

33. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Isaac McGonagle

Please be as honest as possible!

34. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

35. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

36. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

37. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

38. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Alexandra Minasian

Please be as honest as possible!

39. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

40. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

41. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

42. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

43. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Arielle Moreira

Please be as honest as possible!

44. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

45. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

46. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

47. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

48. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Liam O'Toole

Please be as honest as possible!

49. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

50. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

51. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

52. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

53. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About James Palmer

Please be as honest as possible!

54. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

55. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

56. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

57. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

58. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Drew Pelusi

Please be as honest as possible!

59. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

60. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

61. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

62. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

63. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Ruben Walter

Please be as honest as possible!

64. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

65. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

66. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

67. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

68. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Ziqian Zhang

Please be as honest as possible!

69. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

70. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

71. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

72. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

73. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

About Michelle Zhou

Please be as honest as possible!

74. How well do you know this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Well

75. How much do you like this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

76. How often do you communicate with this person (via text, Snapchat, Facebook, in person, etc.)? *

Mark only one oval.

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Often

77. How much do you trust this person? *

Mark only one oval.

	1	2	3	4	5	
Not at All	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Much

78. How likely are you to go to this person for advice or emotional support? *

Mark only one oval.

	1	2	3	4	5	
Very Unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Likely

You're done!

Thanks so much, I really appreciate it!

79. What is your favorite type of cookie? *

Powered by

 Google Forms