

Network Formation Homophily

Race, Gender, and Community Income in the US

Key Takeaways

- **Members are significantly more likely to send and receive invitations to connect on LinkedIn from their own racial/ethnic groups:** This example of homophily—a tendency for people to “flock” to people in the same group as themselves—is strongest for historically and systematically marginalized racial groups, with Black members 88% more likely to send invitations to other Black members than the national average rate sent to Black members. Asian (53% above national average) and Latino (47% above) members are also high, with White members 23% more likely.
- **While not as strong, there is still strong homophily by community income and by gender.** Members living in the lowest income communities (lowest quartile of ZIP Code median income) are 44% more likely to send invitations to other members in the same quartile of community income compared to the national average rate sent out to members in low-income communities. Members in the highest quartile of community income are 19% more likely to send to other members in the top community income quartile, while women are 13% more likely to send to other women and men are 6% more likely to send to other men, relative to the national average rates for each group.
- **While homophily occurs across all dimensions, there is still evidence of advantage. White members, men, and members living in high income communities have a higher rate of invitations received from almost all other groups.** For example, despite comprising 25% of the population, members living in the top quartile of community income receive more than 25% of all invitations overall (40.8%), while still receiving the majority of their invitations from members in the same community income quartile.
- **Acceptance rate gaps are smaller than invitation rate gaps, but still show evidence of homophily.** The relative differences for acceptance rates are small (e.g., the acceptance rate of women sending invitations to other women is 2% higher than the national average acceptance

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rate). For all groups, the highest rate of acceptance is when they send invitations to members of their own group, with for example Latino members' acceptance rate when sending to other Latino members being 1.2% above the national norm.

Background

One of the primary features of LinkedIn is to serve as a professional networking platform. Members can connect to other people by sending an invitation. The recipient of that invitation then can choose whether to accept that invitation or not. This report describes our new findings looking at invitation and acceptance rates for network formation, considering the demographics of both the sender and the receiver. In a previously published white paper¹, we evaluated differences in network size and growth rate, including invitations and acceptance rates. However, in that report we only considered the demographics of the sender or the receiver. By considering both at the same time here, we are able to examine the extent to which there is evidence for homophily (preferences for people in your own demographic group—“birds of a feather flock together”) as well as privilege (preference for the more advantaged group, regardless of which group the member is in).

We examine two outcomes (1) number of invitations, and (2) acceptance rate of invitations. We also cut the data in two ways: with respect to the sender, or with respect to the receiver. They tell similar stories, and we focus on findings with respect to the sender in the discussion, but the appendix has the receiver version of the results.

In terms of standardization to obfuscate proprietary details, for number of invitations and new connections, we report the share going out to each group. For example, looking at men, we examine the percentage of invitations they send out to other men versus out to women. This does not allow us to directly examine gaps in the total number of invitations each group receives given the within-group normalization to shares, but the total number of invitations sent and received (normalized to a national norm) can be found in the white paper cited above. For acceptance rates, we follow the same approach as our prior white paper¹ and divide the acceptance rate by the national average acceptance rate.

Before reviewing the results, it is critical to remind the reader of a few considerations. Any disparities shown in this report should not be interpreted as being because of the platform. In fact, racial, gender, and community income gaps in economic conditions are pervasive and well-documented in the United States (US), and disparities in network formation features are likely due to reasons outside of LinkedIn's control. We are unable to measure and observe the alternative of what networks look like or would look like without LinkedIn; however, we speculate that gaps in network formation would be even more deficient without LinkedIn as workers try to navigate historical networking structures that benefit privileged members of society.

¹ Baird, M., D. Kavanagh-Smith, O. Osoba, and Y. Wu (2023). “Disparities in U.S. Economic Network Formation: Gender, Race, and Community Income.” Economic Graph White Paper.

<https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/PDF/disparities-in-us-economic-network-formation.pdf>

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Additionally, invitation and acceptance rates are complex functions of several factors not considered in this report, including occupation, industry, geography, seniority, cultural nuances, and personal experiences. Thus, the calculated disparities and gaps are likely due in part—if not entirely—to these correlated factors. Higher within-group rates than across group rates also may reflect not only homophily, but different rates of exposure to groups given existing networks off-site, as well as geographic and occupational sorting. Finally, the race/ethnicity analysis is based on self-identification of LinkedIn members and may not be representative of the overall US LinkedIn membership or the US economy.

Number of connection invitations

We first examine the numbers of invitations sent. We start by looking at gender, and then ZIP Code median income quartile, and finally race/ethnicity.

Gender

As we will see in all of the cases, these charts examining gender show both higher rates for advantaged groups (in this case, for men) as well as evidence for homophily (people being more likely to send to their own group).

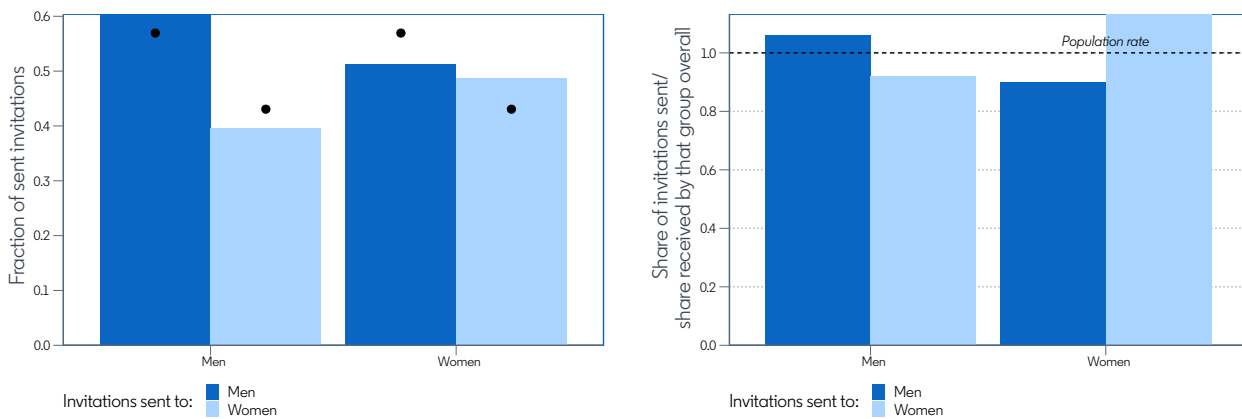
As we will show these charts repeatedly and for sent and received invitations, for Figure 1 (examining invitations sent by gender) we walk through the explanation. Table 1 presents the underlying numbers in Figure 1. The left chart in Figure 1 shows, for both men and women, the fraction of invitations that they send to men and to women. Men (the left cluster of bars) send 60.4% of their invitations to other men, but only 39.6% of their invitations to women. Women on the other hand send 51.2% of their invitations to men, and 48.8% of their invitations to other women. This first hints at the advantage that men hold in terms of network growth that was examined in our prior report, as not only do men send more invitations to other men, but even women send more invitations to men.

However, there is also evidence for homophily. Homophily in the following charts is represented by members sending and receiving invitations to their own groups (e.g., men to other men, Latino members to other Latino members) at a higher rate than the overall average rate across groups. The within-group rate is shown by the height of the bars, while the rate across groups is represented by the black dots. In other words, homophily is seen when the bar is higher than the dot for a person's own group. Re-examining, the left chart shows that men send 60.4% of their invitations to other men. This exceeds the average share of invitations across all groups which are sent to men, the black dot at 56.9%. In other words, men are more likely to send invitations to other men than people (men and women combined) are to send invitations to men in general. We see the same trend for women. While women are sent 43.1% of all invitations on average (black dot), women send 48.8% of their invitations to other women (bar height), thus showing a higher rate.

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The right chart of Figure 1 combines the bars and dots from the left figure, by dividing the bar (within-group probability of sharing with a given target) by the dot (the overall probability of it being sent to a target). Thus, values above 1 represent higher-than-typical probabilities for sending to a given group. In fact, we can interpret it directly. The ratio of 1.06 for men sending to men implies that men are 6% more likely to send invitations to other men than the overall probability of people sending invitations to men. Women are 13% more likely to send to other women than the overall probability of people sending to women. Thus, we see clear evidence of homophily, which is stronger for the disadvantaged group.

Figure 1: Invitations sent, by gender



Note: black dots represent the sample average. For example, the first set of bars denote that men send invitations out to other men (height of dark blue bar) at a rate exceeding the average rate sent to men (across men and women), but send to women (light blue bar) at a rate below the average fraction sent to women.

Note: bars are the ratio of the probability the group sends to the target (height of the bar in the left chart) divided by the overall share sent to that target group (black dot in the left chart). Values above 1 imply a group sends to the target at a rate above the normal rate.

Table 1: Invitations sent, by gender

Sender group	Receiver group	Among sender group, fraction sent to each receiver group	Overall fraction sent to receiver group from all sender groups	Ratio
Women	Men	51.2%	56.9%	0.90
Women	Women	48.8%	43.1%	1.13
Men	Men	60.4%	56.9%	1.06
Men	Women	39.6%	43.1%	0.92

As noted, we also examine these trends with respect to the receiver (what fraction of their invitations came from different groups). This is highly related but not identical to the above presentation. The appendix Figure A1 contains these results; they are fairly similar, if not more pronounced. Men receive the majority of their invitations from other men (66.4%) while women receive the majority of their invitations from men (56.9%). This is due to men sending more invitations overall. However, women are 14% more likely to have received an invitation from another woman than members on average are likely

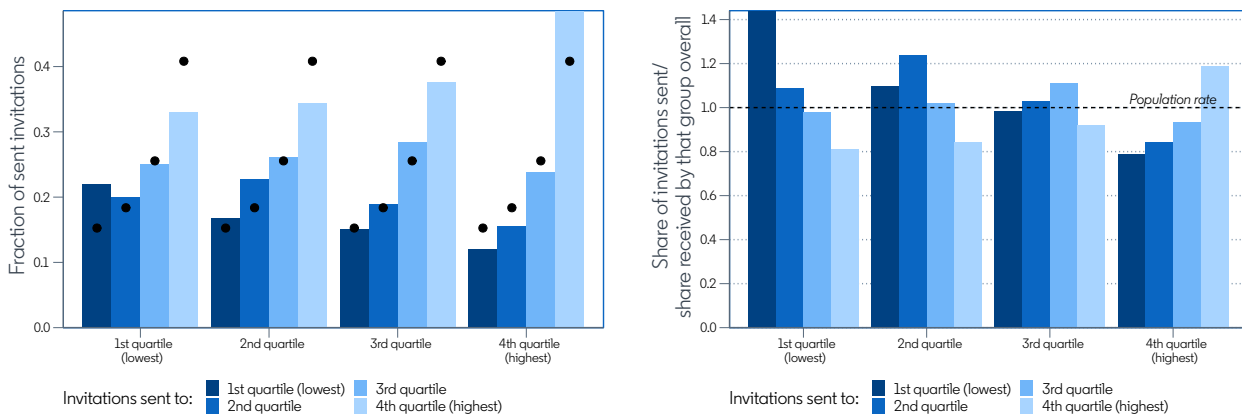
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to receive an invitation from a woman, while men are 7% more likely to receive an invitation from another man than the overall probability of receiving the invitation from a man.

ZIP Code Median Income

We next examine the proportions of invitations sent by ZIP Code median income quartile. For ZIP Code, we use the ZIP Code that members add to their profile, which may indicate their home or work ZIP Code. We then use the ZIP Code’s median income from the American Community Survey, and estimate which quartile each ZIP Code’s median income falls in within our data. Thus, for example, the lowest quartile would represent members in ZIP Codes whose median income falls below the 25th percentile of all the median incomes of ZIP Codes in the data. Figure 2 presents these results. We find both strong evidence of advantage for people living in higher income quartiles as well as evidence for homophily which is particularly strong among the lowest income quartile communities. For advantage, note that regardless of the level of an individual’s community income quartile, they are the most likely to send invitations to members in the highest income quartile communities. For individuals in the lowest income quartile, 33.1% of all their invitations are sent to members in the highest income quartile. However, among those in the highest income quartile communities, only 12.0% of their invitations are sent to those in the lowest quartile of ZIP Code median income. This pattern is consistent across income quartiles. Across all groups, 40.8% of all invitations are sent to the members in the highest income quartile, compared to only 15.3% being sent to members in the lowest income quartile.

Figure 2: Invitations sent, by ZIP Code median income quartile



Note: black dots represent the sample average. So for example, for the first set of bars, for lowest income quartile, denote that members in the lowest income communities send invitations out to other members in lowest income communities (height of dark blue bar) at a rate exceeding the average rate sent to members in the lowest income communities (across all income quartiles), but send to members in the highest income communities (lightest blue bar) at a rate below the average fraction sent to members in the highest income communities.

Note: bars are the ratio of the probability the group sends to the target (height of the bar in the left chart) divided by the overall share sent to that target group (black dot in the left chart). Values above 1 imply a group sends to the target at a rate above the normal rate.

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Table 2: Invitations sent by ZIP Code median income quartile

Sender group	Receiver group	Among sender group, fraction sent to each receiver group	Overall fraction sent to receiver group from all sender groups	Ratio
1st quartile (lowest)	1st quartile (lowest)	22.0%	15.3%	1.44
1st quartile (lowest)	2nd quartile	20.0%	18.4%	1.09
1st quartile (lowest)	3rd quartile	25.0%	25.6%	0.98
1st quartile (lowest)	4th quartile (highest)	33.1%	40.8%	0.81
2nd quartile	1st quartile (lowest)	16.8%	15.3%	1.10
2nd quartile	2nd quartile	22.8%	18.4%	1.24
2nd quartile	3rd quartile	26.1%	25.6%	1.02
2nd quartile	4th quartile (highest)	34.3%	40.8%	0.84
3rd quartile	1st quartile (lowest)	15.0%	15.3%	0.99
3rd quartile	2nd quartile	18.9%	18.4%	1.03
3rd quartile	3rd quartile	28.4%	25.6%	1.11
3rd quartile	4th quartile (highest)	37.6%	40.8%	0.92
4th quartile (highest)	1st quartile (lowest)	12.0%	15.3%	0.79
4th quartile (highest)	2nd quartile	15.5%	18.4%	0.84
4th quartile (highest)	3rd quartile	23.9%	25.6%	0.94
4th quartile (highest)	4th quartile (highest)	48.6%	40.8%	1.19

We see the evidence for homophily in the right panel of Figure 2. For each income quartile, members are more likely to send to other members in their own quartile than the overall probability of invitations being sent to that quartile. That homophily is strongest for members in the lowest income quartile: there, they are 44% more likely to send invitations to other members in the lowest income quartile than the national probability of invitations being sent to the lowest quartile. Even the lowest homophily rate (3rd quartile income) is 11% above the overall rate.

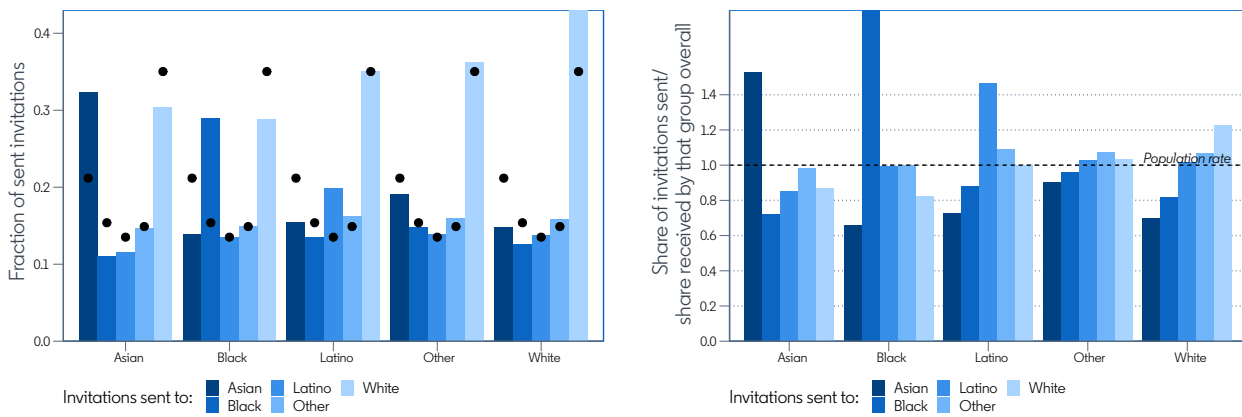
As noted, we also examine these trends with respect to the receiver (what fraction of their invitations come from different groups). This is highly related but not identical to the above presentation. Appendix Figure A2 contains these results; they are fairly similar, if not more pronounced. Individuals in the lowest income quartile communities are 49% more likely to receive invitations from others in the lowest income quartile, compared to the overall average likelihood. They also have the probability of receiving an invitation from a member in the highest income quartile that is 23% lower than the overall probability of receiving an invitation from the highest income quartile. These trends flip for members in the highest income quartile, who are significantly more likely (20%) to receive invitations from other members in the highest community income quartile than the overall probability of receiving invitations from this group.

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Race/ethnicity

In examining race, we see that for all groups, sending an invitation to White members is among their top two highest rates. We also see the strong evidence of homophily. Each group is more likely to send invitations to their own racial group than the overall average. That trend is particularly pronounced for Black members, who are 88% more likely to send invitations to other Black members than the average probability of US members sending to Black members. Asian (53%) and Latino (47%) also are much more likely to send to their own racial/ethnic groups than the overall probability of invitations being sent to their group.

Figure 3: Invitations sent, by race/ethnicity



Note: black dots represent the sample average. For example, the first set of bars denote that Asian members send invitations out to other Asian members (height of dark blue bar) at a rate exceeding the average rate sent to Asian members (across all race/ethnic groups, given by the black dot), but send to White members (lightest blue bar) at a rate below the average fraction sent to White members (black dot above that bar)

Note: bars are the ratio of the probability the group sends to the target (height of the bar in the left chart) divided by the overall share sent to that target group (black dot in the left chart). Values above 1 imply a group sends to the target at a rate above the normal rate.

As before, the appendix contains the results for invitations received (Figure A3), which again tell a similar story. The homophily rates are again largest for Black members (over twice as likely to receive invitations from other Black members than the rate at which Black members send out invitations—2.12 times), followed by Asian (75% more likely) and Latino members (60% more likely).

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Table 3: Invitations sent by race/ethnicity

Sender group	Receiver group	Among sender group, fraction sent to each receiver group	Overall fraction sent to receiver group from all sender groups	Ratio
Asian	Asian	32.4%	21.2%	1.53
Asian	Black	11.1%	15.4%	0.72
Asian	Latino	11.5%	13.5%	0.85
Asian	Other	14.6%	14.9%	0.98
Asian	White	30.4%	35.0%	0.87
Black	Asian	13.9%	21.2%	0.66
Black	Black	28.9%	15.4%	1.88
Black	Latino	13.4%	13.5%	0.99
Black	Other	14.9%	14.9%	1.00
Black	White	28.8%	35.0%	0.82
Latino	Asian	15.4%	21.2%	0.73
Latino	Black	13.5%	15.4%	0.88
Latino	Latino	19.8%	13.5%	1.47
Latino	Other	16.2%	14.9%	1.09
Latino	White	35.0%	35.0%	1.00
Other	Asian	19.1%	21.2%	0.90
Other	Black	14.8%	15.4%	0.96
Other	Latino	13.9%	13.5%	1.03
Other	Other	16.0%	14.9%	1.07
Other	White	36.2%	35.0%	1.03
White	Asian	14.8%	21.2%	0.70
White	Black	12.6%	15.4%	0.82
White	Latino	13.8%	13.5%	1.02
White	Other	15.9%	14.9%	1.07
White	White	43.0%	35.0%	1.23

Invitation Acceptance Rates

We next examine the acceptance rates. As noted, the raw rate is divided by the national average acceptance rate to provide relative rate, i.e., the percentage above or below the national rates of acceptance.

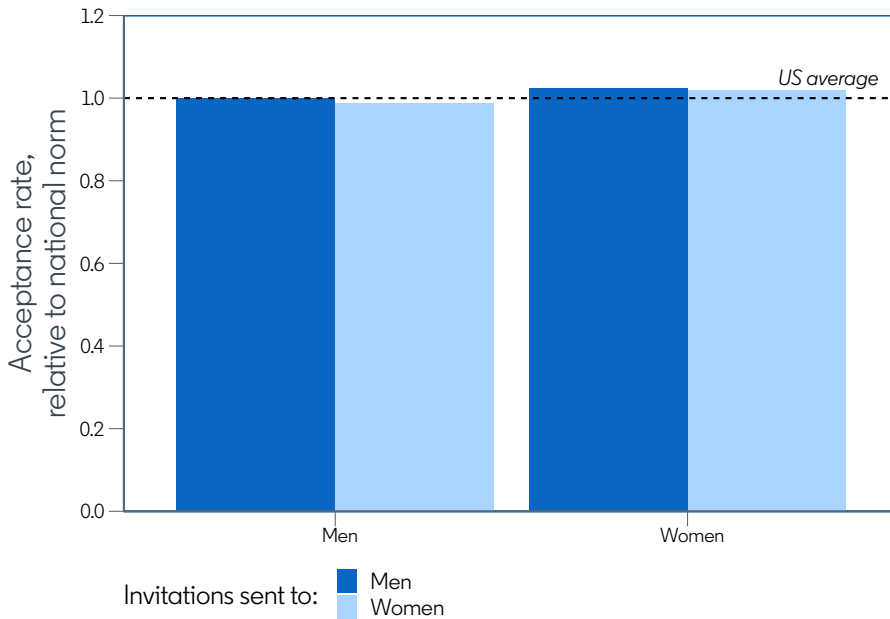
Gender

For invitations sent, there are only small differences, but in the direction of homophily. When men send out invitations, other men are slightly more likely to accept the invitation (at 0.999, or just at the national

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acceptance rate norm) than other women (at 0.987 times the national norm, or 1.3% below the national norm). This is also true for women, although women have a slightly higher acceptance rate than the national norm.

Figure 4: Acceptance rates by gender for invitations sent



In the appendix Figure A4, we report on the acceptance rates of invitations received. Men accept invitations from other men at the national norm but accept invitations from women at 5.6% above the national norm. Women accept invitations from men at 3.5% below the national norm and accept invitations from women at 10.3% above the national norm.

Table 4: Acceptance rates by gender for invitations sent

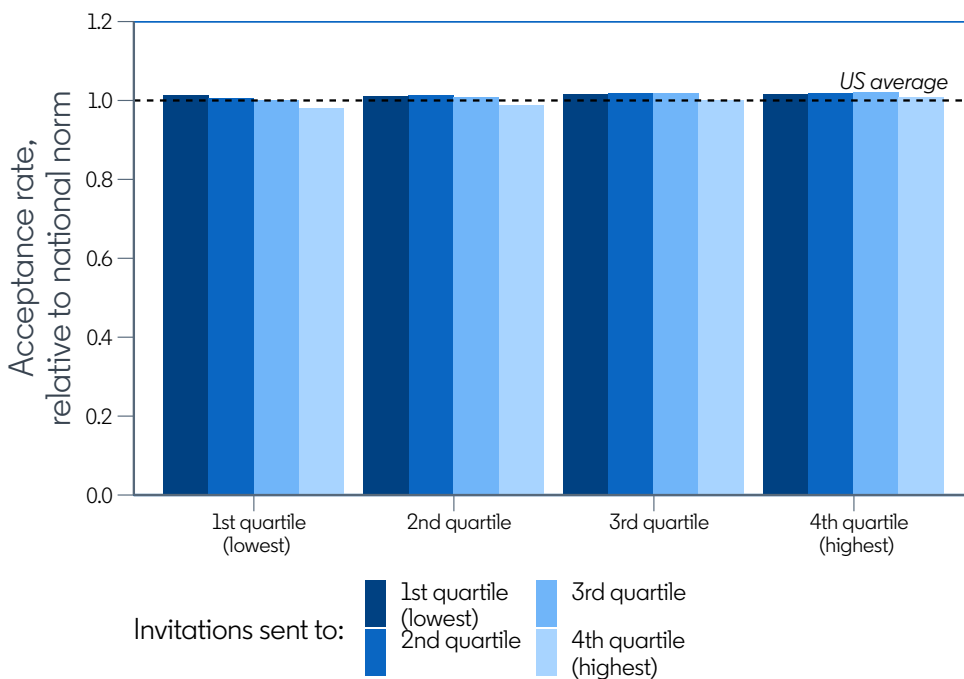
Sender group	Receiver group	Acceptance rate of sender divided by national norm
Men	Men	0.999
Men	Women	0.987
Women	Men	1.024
Women	Women	1.020

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ZIP Code Median Income

For ZIP Code median income quartile, we see evidence for advantage and homophily. In terms of advantage, members in the fourth quartile (highest community income) have above-national norm rates of their invitations being accepted, regardless of what income group they send it to. In terms of homophily, for the bottom three groups, the highest rate of acceptance is when they send it to members in their own ZIP Code median income quartile. For example, members who are in the first quartile and send to other members in the same quartile, are 1.1% more likely to have their invitations accepted than the national rate of acceptance. Again, these rates are small, but do point to advantage.

Figure 5: Acceptance rates by ZIP Code median income for invitations sent



In the appendix Figure A5, we report on the acceptance rates by receiver local income. There we see stronger evidence for homophily. Members living in the lowest income quartile are 13.6% more likely to accept invitations from other members in the lowest income quartile compared to the national acceptance rate, but only 4.1% more likely to accept invitations from members in the highest income quartile compared to the national norm.

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Table 5: Acceptance rates by ZIP Code median income for invitations sent

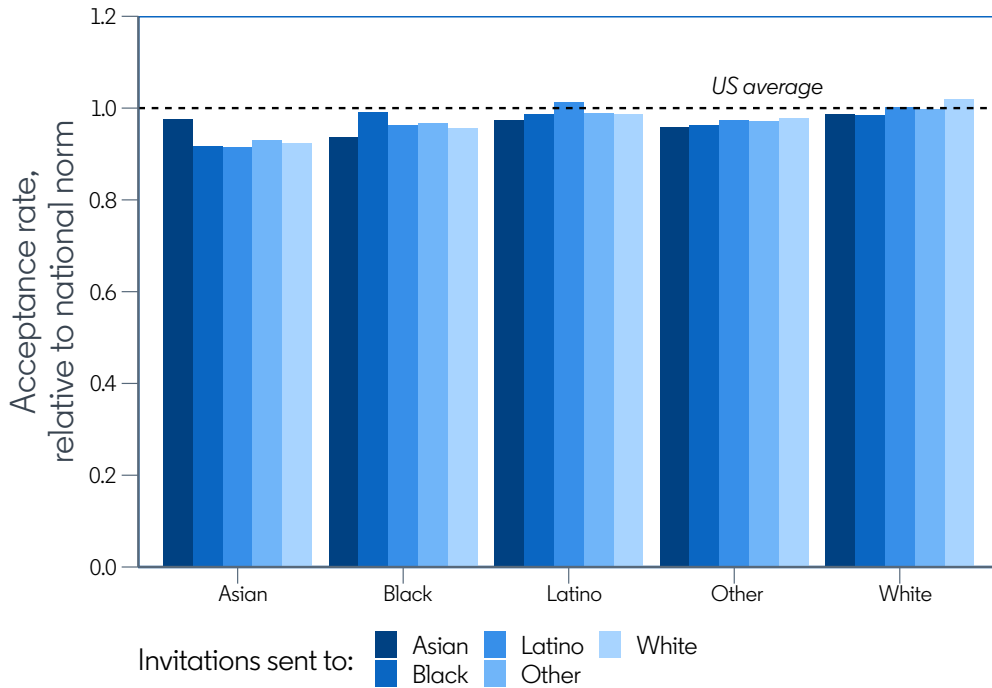
Sender group	Receiver group	Acceptance rate of sender divided by national norm
1st quartile (lowest)	1st quartile (lowest)	1.011
1st quartile (lowest)	2nd quartile	1.005
1st quartile (lowest)	3rd quartile	1.000
1st quartile (lowest)	4th quartile (highest)	0.980
2nd quartile	1st quartile (lowest)	1.009
2nd quartile	2nd quartile	1.014
2nd quartile	3rd quartile	1.007
2nd quartile	4th quartile (highest)	0.988
3rd quartile	1st quartile (lowest)	1.015
3rd quartile	2nd quartile	1.017
3rd quartile	3rd quartile	1.018
3rd quartile	4th quartile (highest)	0.999
4th quartile (highest)	1st quartile (lowest)	1.014
4th quartile (highest)	2nd quartile	1.018
4th quartile (highest)	3rd quartile	1.019
4th quartile (highest)	4th quartile (highest)	1.008

Race/ethnicity

For race/ethnicity, we see some evidence both for advantage and homophily. For advantage, White members have the highest rate of their invitations being accepted. For homophily, we see that for each of the four examined groups (Asian, Black, Latino, and White members), the highest rate of their invitations being accepted is when they send it to their own racial group. For example, Latino members who send to other Latino members have an acceptance rate that is 1.2% above the national norm, while when they send invitations to White members, the acceptance rate is 1.3% below the national norm.

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Figure 6: Acceptance rates by race/ethnicity for invitations sent



In the appendix Figure A6, when examining acceptance rates by receiver, we again see evidence for homophily, with Latino members accepting invitations from other Latino members at a rate 14.6% above the national norm, but accepting invitations from White members at only 6.2% above the national norm.

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Table 6: Acceptance rates by race/ethnicity for invitations sent

Sender group	Receiver group	Acceptance rate of sender divided by national norm
Asian	Asian	0.974
Asian	Black	0.916
Asian	Latino	0.914
Asian	Other	0.929
Asian	White	0.922
Black	Asian	0.936
Black	Black	0.990
Black	Latino	0.962
Black	Other	0.966
Black	White	0.956
Latino	Asian	0.974
Latino	Black	0.985
Latino	Latino	1.012
Latino	Other	0.987
Latino	White	0.987
Other	Asian	0.958
Other	Black	0.962
Other	Latino	0.972
Other	Other	0.970
Other	White	0.977
White	Asian	0.986
White	Black	0.985
White	Latino	1.001
White	Other	0.997
White	White	1.020

Appendix

Acknowledgements

We gratefully acknowledge the support and feedback of many individuals in this report. These include Simone Bell, Gorki De Los Santos, Patrick Driscoll, Meg Garlinghouse, Sakshi Jain, Karin Kimbrough, Jen Ramos, and Amie Wong.

Methodology

For all analysis, we limit attention to non-restricted, active accounts. For the race analysis, we additionally limit to individuals who have self-identified their race and gender.

Data and Privacy This body of work represents the world seen through LinkedIn data, drawn from the anonymized and aggregated profile information of LinkedIn's 930+ million members around the world. As such, it is influenced by how members choose to use the platform, which can vary based on professional, social, and regional culture, as well as overall site availability and accessibility.

In publishing these insights from LinkedIn's Economic Graph, we want to provide accurate statistics while ensuring our members' privacy. As a result, all data show aggregated information for the corresponding period following strict data quality thresholds that prevent disclosing any information about specific individuals.

Gender Classification Gender identity isn't binary, and we recognize that some LinkedIn members identify beyond the traditional gender constructs of "man" and "woman." If not explicitly self-identified, we have inferred the gender of members included in this analysis either by the pronouns used on their LinkedIn profiles or inferred on the basis of first name. Members whose gender could not be inferred as either man or woman were excluded from this analysis.

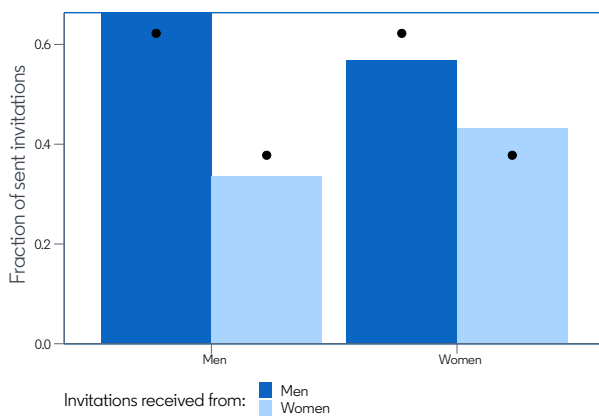
Appendix

Number of invitations received

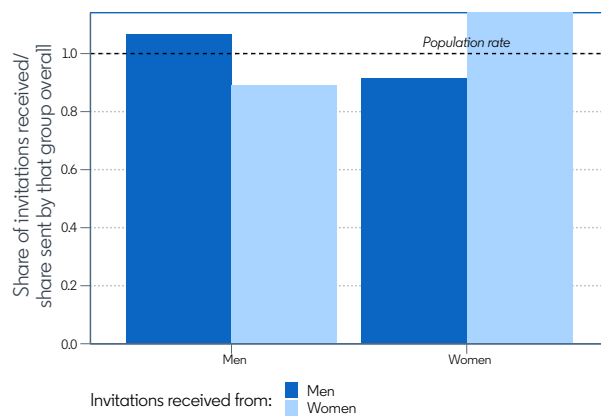
Gender

Similar to invitations sent, we see again in invitations received strong evidence for homophily. Women receive invitations from other women at a 14% higher rate than the average rate that are sent to women, and for men from other men, 7% higher.

Figure A1: Invitations received, by gender



Note: black dots represent the sample average. For example, the first set of bars denote that men receive invitations from other men (height of dark blue bar) at a rate exceeding the average rate received by men (across men and women), but receive from women (light blue bar) at a rate below the average fraction received by women.



Note: bars are the ratio of the probability the group receives from the target (height of the bar in the left chart) divided by the overall share received by that target group (black dot in the left chart). Values above 1 imply a group receives from the target at a rate above the normal rate.

Appendix

Table A1: invitations received by gender

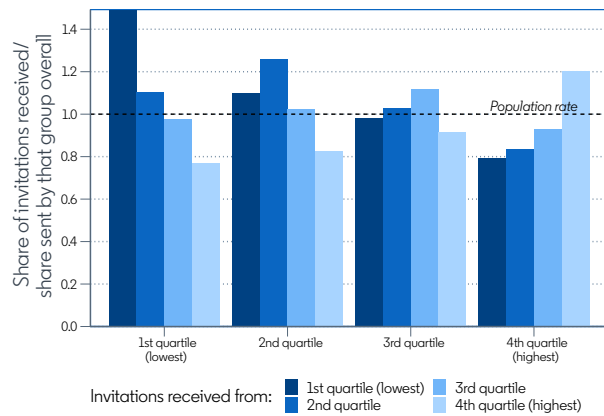
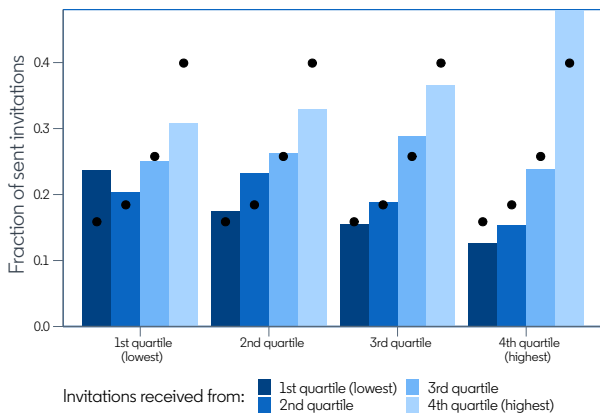
Receiver group	Sender group	Among receiver group, fraction received from each sender group	Overall fraction received from sender group for all receiver groups	Ratio
Women	Men	56.9%	62.2%	0.91
Women	Women	43.1%	37.8%	1.14
Men	Men	66.4%	62.2%	1.07
Men	Women	33.6%	37.8%	0.89

ZIP Code Median Income

Similar to rates for invitations sent, we see evidence for homophily and advantage. Members in the lowest income quartile receive invitations from other members in the bottom quartile at a rate 49% above the national average of invitations received from the bottom quartile; members in the top quartile have a 20% higher probability that their invitation came from a member in the top quartile as the national probability of receiving invitations from the top quartile.

Appendix

Figure A2: Invitations received by ZIP Code median income



Note: black dots represent the sample average. For example, the first set of bars denote that members in the lowest income communities receive invitations from other members in lowest income communities (height of dark blue bar) at a rate exceeding the average rate received by members in the lowest income communities (across all income quartiles), but receive from members in the highest income communities (lightest blue bar) at a rate below the average fraction received by members in the highest income communities.

Note: bars are the ratio of the probability the group receives from the target (height of the bar in the left chart) divided by the overall share received by that target group (black dot in the left chart). Values above 1 imply a group receives from the target at a rate above the normal rate.

Appendix

Table A2: Invitations received by ZIP Code median income quartile

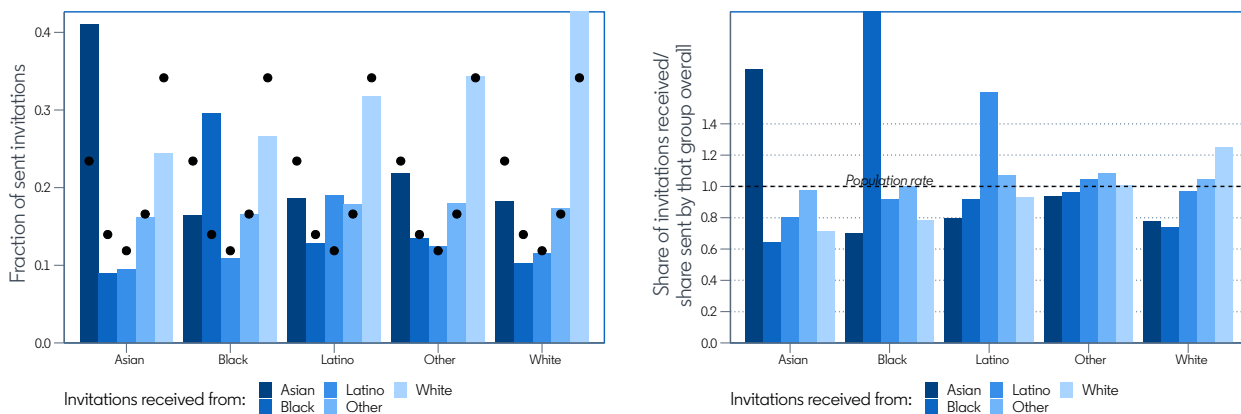
Receiver group	Sender group	Among receiver group, fraction received from each sender group	Overall fraction received from sender group for all receiver groups	Ratio
1 st quartile (lowest)	1 st quartile (lowest)	23.7%	15.9%	1.49
1 st quartile (lowest)	2 nd quartile	20.4%	18.4%	1.11
1 st quartile (lowest)	3 rd quartile	25.1%	25.8%	0.98
1 st quartile (lowest)	4 th quartile (highest)	30.8%	39.9%	0.77
2 nd quartile	1 st quartile (lowest)	17.5%	15.9%	1.10
2 nd quartile	2 nd quartile	23.2%	18.4%	1.26
2 nd quartile	3 rd quartile	26.4%	25.8%	1.02
2 nd quartile	4 th quartile (highest)	32.9%	39.9%	0.82
3 rd quartile	1 st quartile (lowest)	15.6%	15.9%	0.98
3 rd quartile	2 nd quartile	18.9%	18.4%	1.03
3 rd quartile	3 rd quartile	28.9%	25.8%	1.12
3 rd quartile	4 th quartile (highest)	36.6%	39.9%	0.92
4 th quartile (highest)	1 st quartile (lowest)	12.6%	15.9%	0.80
4 th quartile (highest)	2 nd quartile	15.4%	18.4%	0.84
4 th quartile (highest)	3 rd quartile	23.9%	25.8%	0.93
4 th quartile (highest)	4 th quartile (highest)	48.0%	39.9%	1.20

Appendix

Race/ethnicity

Similar to rates for invitations sent, we see evidence for homophily. For each group, members are more likely to receive invitations from their own race/ethnic group than the overall average sent out by that group. This is again largest for Black members (over twice as likely to receive invitations from other Black members than the rate at which Black members send out invitations), followed by Asian (75% more likely) and Latino members (60% more likely).

Figure A3: Invitations received by race/ethnicity



Note: black dots represent the sample average. For example, the first set of bars denote that Asian members receive invitations from other Asian members (height of dark blue bar) at a rate exceeding the average rate received by Asian members (across all race/ethnicities, denoted by the black dot), but receive from White members (lightest blue bar) at a rate below the average fraction received by White members (black dot above lightest blue bar).

Note: bars are the ratio of the probability the group receives from the target (height of the bar in the left chart) divided by the overall share received by that target group (black dot in the left chart). Values above 1 imply a group receives from the target at a rate above the normal rate.

Appendix

Table A3: invitations received, by race/ethnicity

Receiver group	Sender group	Among receiver group, fraction received from each sender group	Overall fraction received from sender group for all receiver groups	Ratio
Asian	Asian	41.0%	23.4%	1.75
Asian	Black	9.0%	14.0%	0.64
Asian	Latino	9.5%	11.9%	0.80
Asian	Other	16.1%	16.6%	0.97
Asian	White	24.4%	34.1%	0.71
Black	Asian	16.4%	23.4%	0.70
Black	Black	29.5%	14.0%	2.12
Black	Latino	10.9%	11.9%	0.92
Black	Other	16.6%	16.6%	1.00
Black	White	26.6%	34.1%	0.78
Latino	Asian	18.7%	23.4%	0.80
Latino	Black	12.8%	14.0%	0.91
Latino	Latino	19.0%	11.9%	1.60
Latino	Other	17.8%	16.6%	1.07
Latino	White	31.8%	34.1%	0.93
Other	Asian	21.9%	23.4%	0.93
Other	Black	13.4%	14.0%	0.96
Other	Latino	12.4%	11.9%	1.05
Other	Other	18.0%	16.6%	1.08
Other	White	34.3%	34.1%	1.00
White	Asian	18.2%	23.4%	0.78
White	Black	10.3%	14.0%	0.74
White	Latino	11.5%	11.9%	0.97
White	Other	17.4%	16.6%	1.05
White	White	42.6%	34.1%	1.25

Appendix

Acceptance rates of invitations received

Gender

Figure A4: Acceptance rates by gender for invitations received

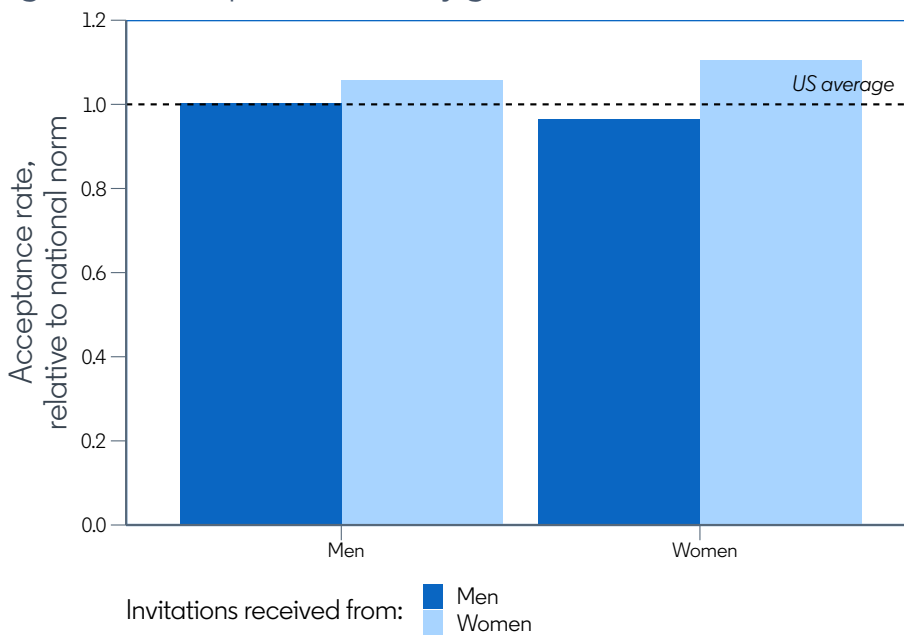


Table A4: Acceptance rates by gender for invitations received

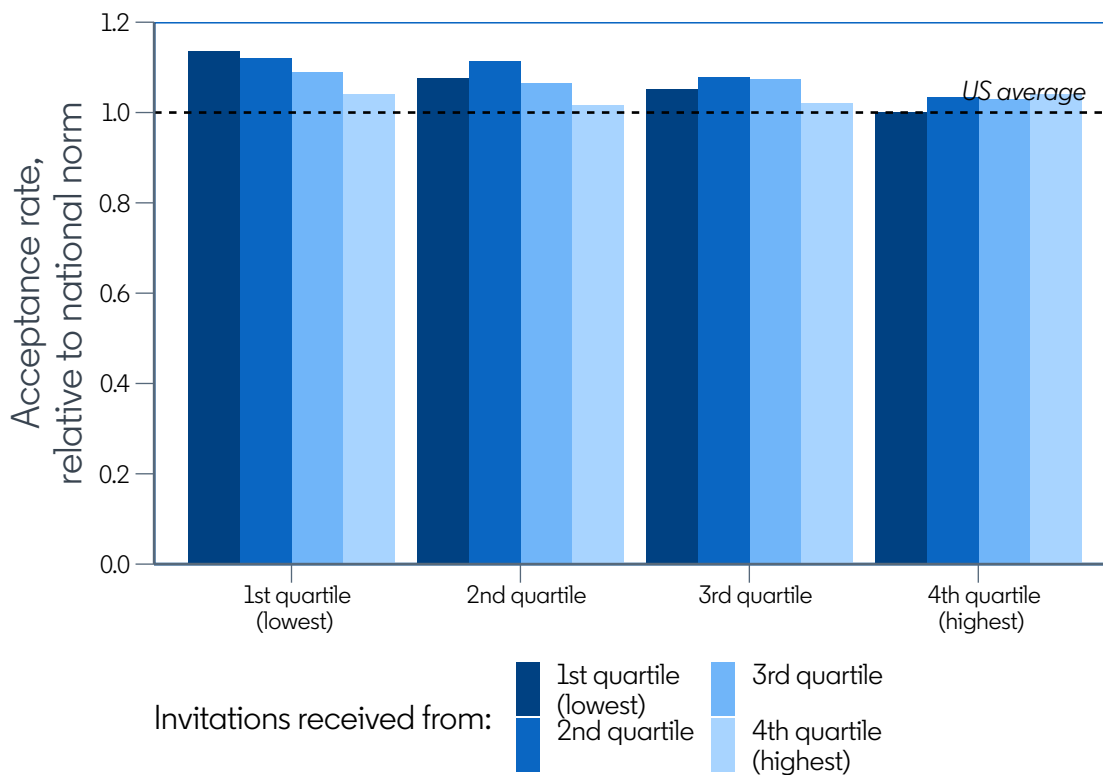
Receiver group	Sender group	Acceptance rate of receiver divided by national norm
Men	Men	1.003
Men	Women	1.056
Women	Men	0.965
Women	Women	1.103

Appendix

Men accept invitations from other men at the national norm, but accept invitations from women at 5.6% above the national norm. Women accept invitations from men at 3.5% below the national norm, and accept invitations from women at 10.3% above the national norm.

ZIP Code median income quartile

Figure A5: Acceptance rates by ZIP Code median income quartile for invitations received



Appendix

Table A5: Acceptance rates by ZIP Code median income quartile for invitations received

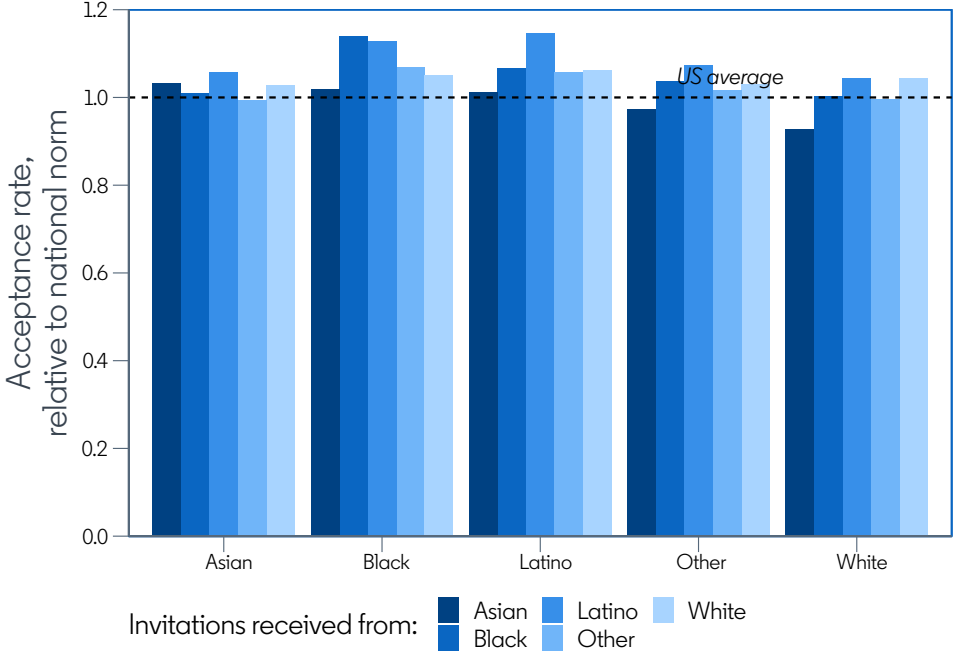
Receiver group	Sender group	Acceptance rate of receiver divided by national norm
1 st quartile (lowest)	1 st quartile (lowest)	1.136
1 st quartile (lowest)	2 nd quartile	1.121
1 st quartile (lowest)	3 rd quartile	1.089
1 st quartile (lowest)	4 th quartile (highest)	1.041
2 nd quartile	1 st quartile (lowest)	1.077
2 nd quartile	2 nd quartile	1.113
2 nd quartile	3 rd quartile	1.065
2 nd quartile	4 th quartile (highest)	1.017
3 rd quartile	1 st quartile (lowest)	1.052
3 rd quartile	2 nd quartile	1.078
3 rd quartile	3 rd quartile	1.074
3 rd quartile	4 th quartile (highest)	1.021
4 th quartile (highest)	1 st quartile (lowest)	1.000
4 th quartile (highest)	2 nd quartile	1.033
4 th quartile (highest)	3 rd quartile	1.029
4 th quartile (highest)	4 th quartile (highest)	1.040

Here we see stronger evidence for homophily. Members living in the lowest income quartile are 13.6% more likely to accept invitations from other members in the lowest income quartile compared to the national acceptance rate, but only 4.1% more likely to accept invitations from members in the highest income quartile compared to the national norm.

Appendix

Race/ethnicity

Figure A6: Acceptance rates by race/ethnicity for invitations received



Appendix

Table A6: Acceptance rates by race/ethnicity for invitations received

Receiver group	Sender group	Acceptance rate of receiver divided by national norm
Asian	Asian	1.032
Asian	Black	1.009
Asian	Latino	1.056
Asian	Other	0.994
Asian	White	1.028
Black	Asian	1.018
Black	Black	1.139
Black	Latino	1.129
Black	Other	1.068
Black	White	1.050
Latino	Asian	1.011
Latino	Black	1.066
Latino	Latino	1.146
Latino	Other	1.057
Latino	White	1.062
Other	Asian	0.972
Other	Black	1.036
Other	Latino	1.072
Other	Other	1.016
Other	White	1.031
White	Asian	0.926
White	Black	1.004
White	Latino	1.044
White	Other	0.995
White	White	1.043

We again see evidence for homophily, with Latino members accepting invitations from other Latino members at a rate 14.6% above the national norm, but accepting invitations from White members at only 6.2% above the national norm.