Disability Status and Networks

2025 Gaps in Network Strength and Features

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Key Findings

- **Members with disabilities have weaker networks on average:** LinkedIn members who self-identify as having a disability have lower network strength scores than those who do not identify as having a disability. This gap is present in all six countries examined, with members without disabilities having an average score ranging from 3 to 13% higher than members with disabilities. In the US, the gap by disability status is smaller than gender and socioeconomic gaps, and in the same range as some racial gaps estimated.

- **Network size is one key component of gaps in network strength:** Members without disabilities have average network sizes ranging from 11 to 36% larger than members with disabilities in the same country. Adjusting for network size—by accounting for factors like age and LinkedIn tenure—reduces the gap by disability status in average overall network strength by nearly half in each of the examined countries.

- **Network strength gaps in the US are present for all generations and employment status:** The gaps in total network strength are smaller for older generations (2.6% for Gen-X compared to 4.4% for Gen-Z) and for employed workers (3.3% compared to 3.6% for those without a currently listed job). The generational trends are primarily driven by smaller gaps by disability status in network size and information value. In fact, younger generations have smaller gaps than older generations in connection closeness, a measure of the frequency of messaging and on-platform post engagement with connections.

- **Gaps in network strength and its inputs by disability status tend to be smaller than gaps between countries, generation, and employment status:** For example, UK members with disabilities have an average network score that is slightly higher than the average for Spanish members without disabilities (46.7 vs. 46.3, respectively). Additionally, employed members in the US with disabilities have a higher average score than non-employed members in the US without disabilities (46.1 vs 42.1).

Introduction

Professional networks consistently play a crucial role in shaping a worker's career success. Our networks offer us job opportunities, emerging skills and occupations, new ways to upskill, and more. Sometimes, a single connection can be the key to opening doors during a job search, especially when someone can vouch for our hard-to-qualify strengths, such as communication and leadership. Having a stronger network is associated with more rapid career advancement and an increased number of recruiter messages. The structure of our network is also important: weak ties—people with whom we are connected who have a broad set of their own connections we don't know already— can improve employment outcomes.

As with other economic indicators, there are sociodemographic gaps in network strength. Women, racial minorities, and members from lower income communities on average have smaller and weaker professional networks. This report examines differences in network strength for LinkedIn members who self-identify as having a disability, compared to LinkedIn members who self-identify as not having a disability. Our prior research shows members who report having a disability are less likely to have a current job listed than members who report not having a disability, and are less likely to be working in a leadership position. We also found they work in different fields, industries, and show greater interest in remote work positions.

In this research note, we examine labor outcomes of LinkedIn members who have opted to self-report their disability status. We focus our attention on countries with sufficient data. The analysis is comprised of information on disability status and network strength for nearly ten million individuals across six countries: Brazil, Canada, France, Spain, the U.K., and the U.S. Our subgroup analysis (by generation[1] and by employment status), is limited to the U.S., the only country with sufficient data quality at these levels.

There are two critical considerations when interpreting the results from this analysis. First, although the analysis leverages LinkedIn members' profiles and self-reported disability status, the disparities we note are indicative of existing in economic and labor feature differences between individuals with and without disabilities. In other words, these disparities are not caused by the people's use of the LinkedIn platform. Second, our analysis focuses on a subset of LinkedIn members who have disclosed their disability status, which may not be fully representative of LinkedIn's overall user base or the broader economies of the countries for which the data is evaluated. Despite this, the data—derived from millions of self-identified LinkedIn members—can still provide valuable insights.

Overall Network Strength

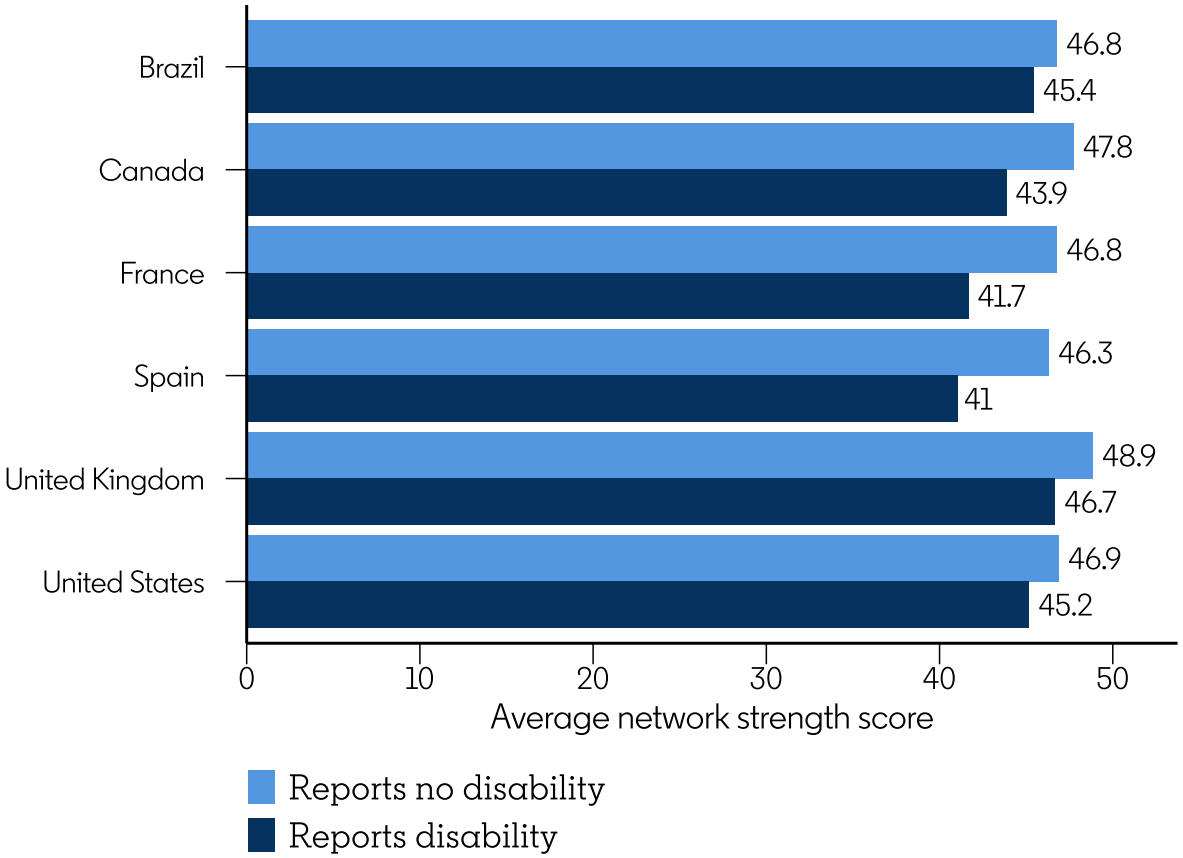
The overall network strength score ranges from 0 to 100, with 100 being the theoretical maximum score that can be achieved (see the appendix for a discussion on the model and how the score is computed).

[1] We use the Pew generation definitions: Baby boomers (birth years 1946-1964); Gen-X (birth years 1965-1980); Millennial (birth years 1981-1996); Gen-Z (birth years 1997-2012).

Disability Status and Network Strength

Average scores in each country range between 40 and 50, which are relatively typical average scores in this metric. For each of the six countries evaluated, members with disabilities have lower scores (and thus, weaker network strength) than members without disabilities. However, the variation across countries is relatively large compared to the variation within country across disability group. For example, the country where members with disabilities have the highest average network score (U.K., at 46.7) exceeds the lowest country's score for workers without disabilities (Spain, 46.3).

Figure 1: Overall Network Strength

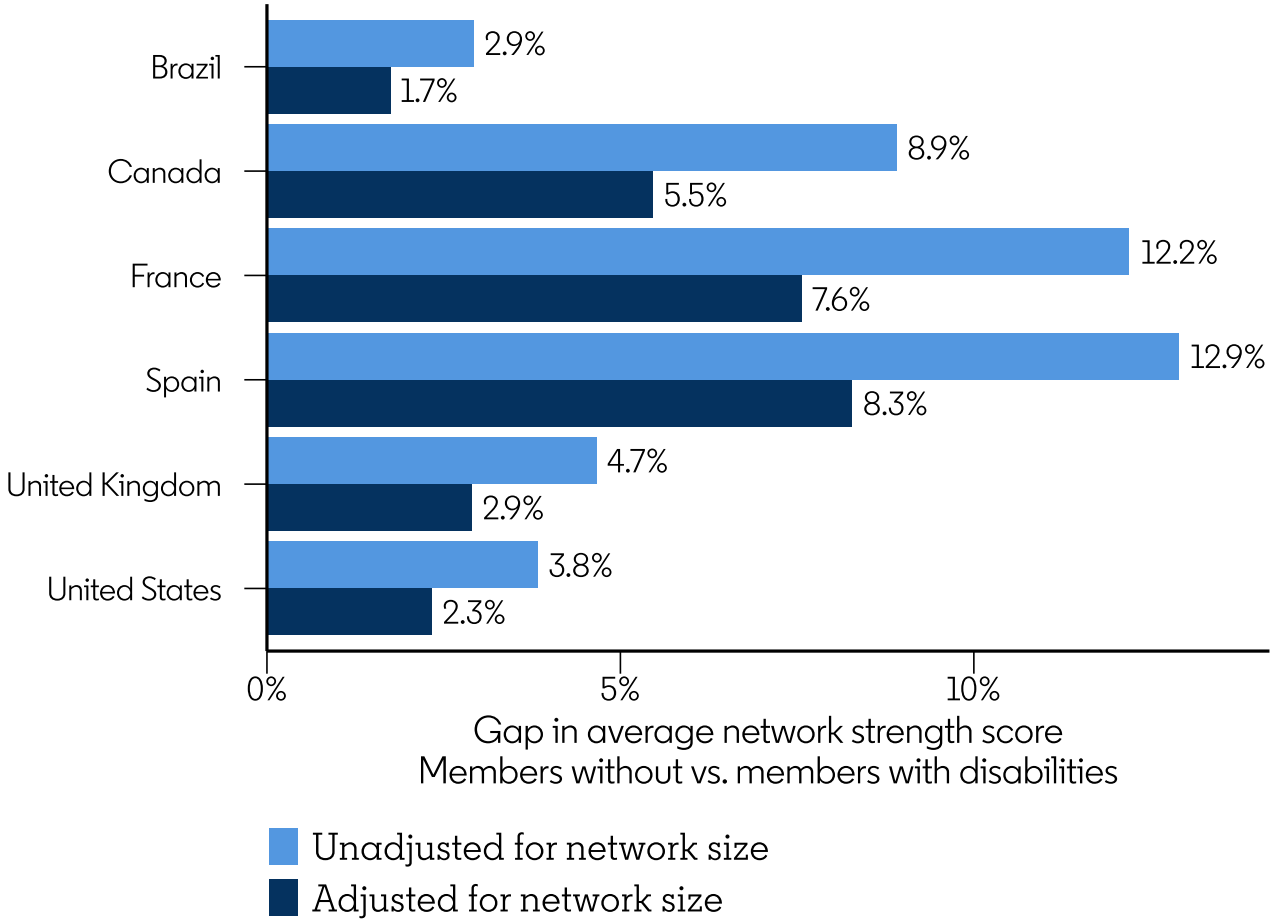


We can compare the scores between groups by focusing on the percentage gap in the scores between those without and with disabilities. Figure 2 shows the gap in total network strength, both for the overall score, and for the overall score adjusted for network size given total network size plays a critical role on network strength but is highly dependent on features like member age and LinkedIn tenure, as well as potential concerns about the quality of network connections being more important than the quantity of connections. For each country, members without disabilities have higher total network scores than members without. Brazil, the U.K., and the U.S. tend to have the smallest gaps (between 3 and 5% gap), and Canada, France, and Spain have larger ones (9-13%). For the U.S., the 3.8% gap is smaller than previously measured gaps by gender (12.8%), socio-economic status (highest to lowest quartile of ZIP

Disability Status and Network Strength

Code community income, at 29.2%), and White/Hispanic (7.1%). It is slightly larger than the White/Black gap (2.8%).[2] We also see that controlling for network size almost drops the gaps in half.

Figure 2: Overall Network Strength Gaps



Gaps in Network Strength Components

Overall network strength scores are based on four distinct features. There are four elements of total network strength (defined in more detail in the appendix):

1. **Network size:** All else equal, more connections is a stronger network (although those benefits may have diminishing returns). Network size enters the model as each new connection offers the potential to share information which may help a person's career, such as job opportunities, emerging skills in demand, and training opportunities.

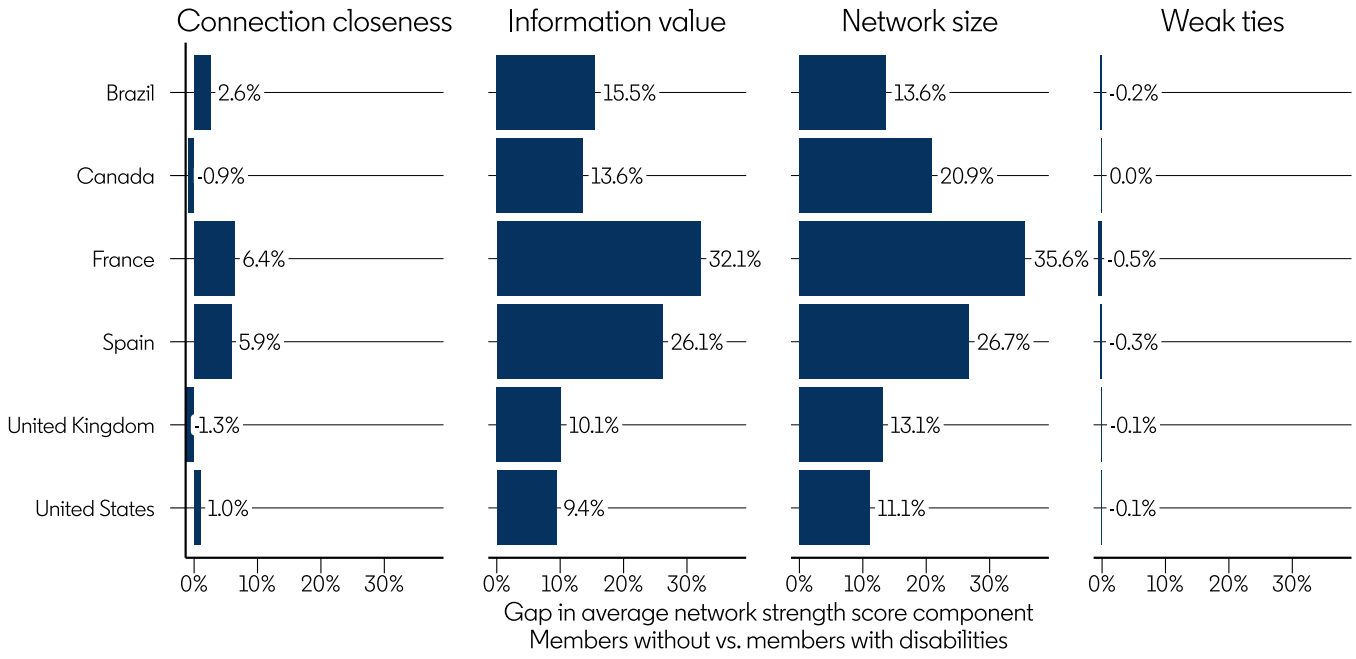
[2] See https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/PDF/economic-network-strength.pdf Table 3 in the Appendix. We calculate percent gaps by taking the percent difference in the percentile scores reported there.

Disability Status and Network Strength

2. **Information value:** Being connected to individuals who can help my career more than connections who can't help my career means a strong network. An example of this is being connected to people in more senior positions at work.
3. **Connection closeness:** Being connected to individuals who share information with me makes a stronger network. This is measured by on-platform messaging and platform feed engagement between connections.
4. **Weak ties:** Being connected to people who have connections that I am not connected to (weak ties) is a stronger network. Weak ties can broaden a person's professional reach by introducing fresh ideas and opportunities, while also boosting visibility and access to job leads beyond their immediate network.

Figure 3 measures the gap by disability status for each of the four network strength features. We find that the largest gaps are in information value and network size. There are negligible gaps in weak ties and relatively small gaps in the connection closeness component across countries. Moreover, members with reported disabilities in the U.K. and Canada have higher connection closeness scores than those without.

Figure 3: Network Strength Feature Gaps



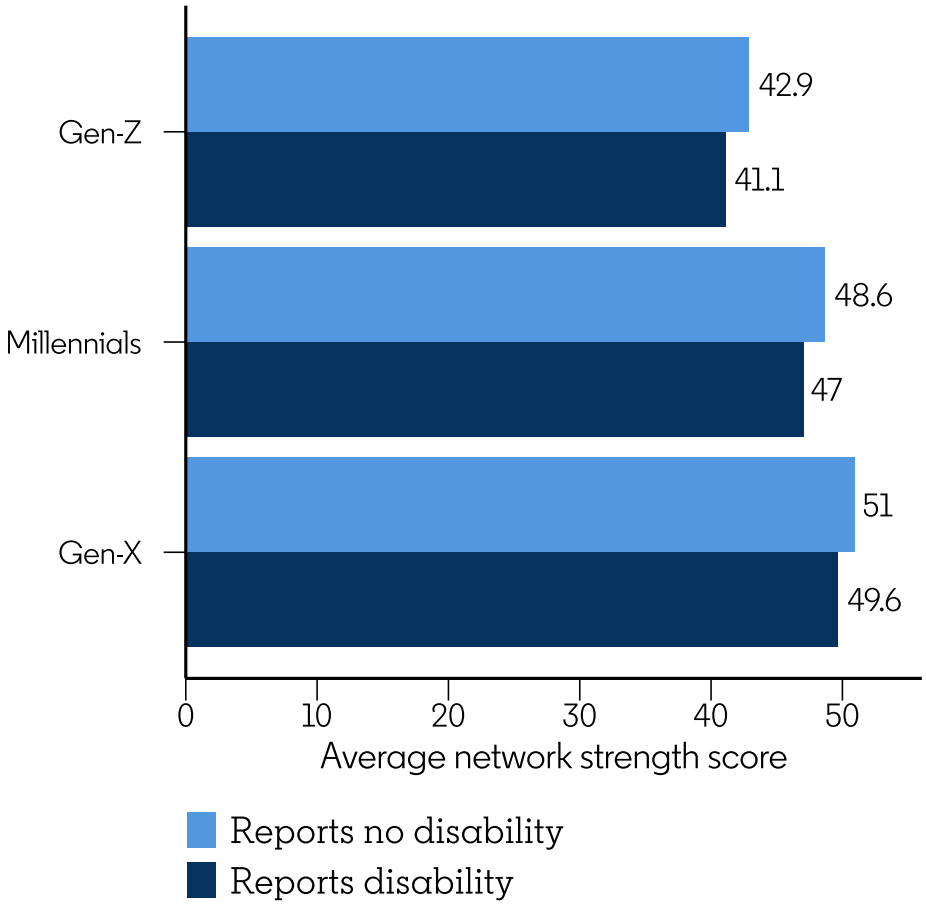
Disability Gaps by Generation

Younger members have weaker networks than older members, although for all generations, members without disabilities still have stronger networks than members with disabilities. However, the generation gaps exceed the gaps by disability status (as seen in our report on gaps in leadership by disability status

Disability Status and Network Strength

and generation), such that a Millennial member with disabilities has a stronger network strength score on average than a Gen-Z member without disabilities.

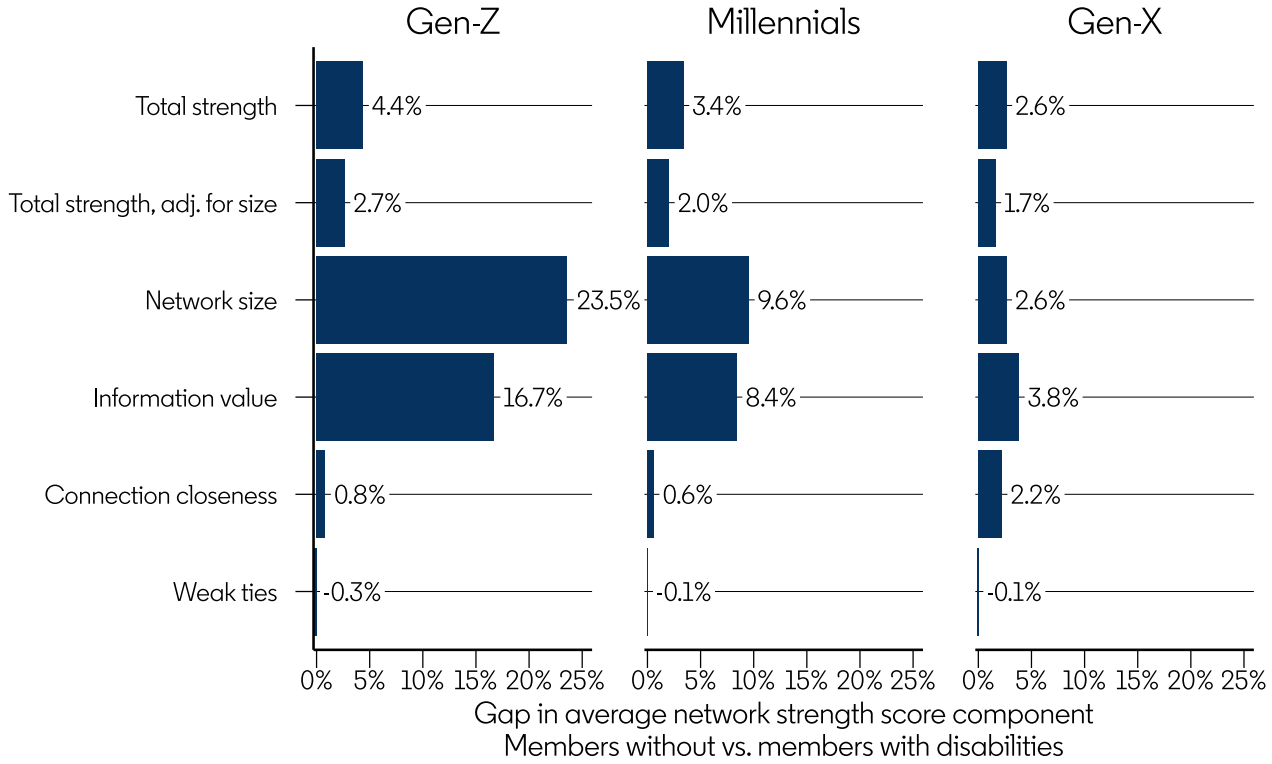
Figure 4: Network Strength by Generation



Looking overall, the network strength gaps are larger for younger generations. In contrast, our report on leadership gaps found smaller gaps between those with and without disabilities for younger generations compared to older generations. Additionally, network size and information value still dominate in importance.

Disability Status and Network Strength

Figure 5: Network Strength Feature Gaps by Generation

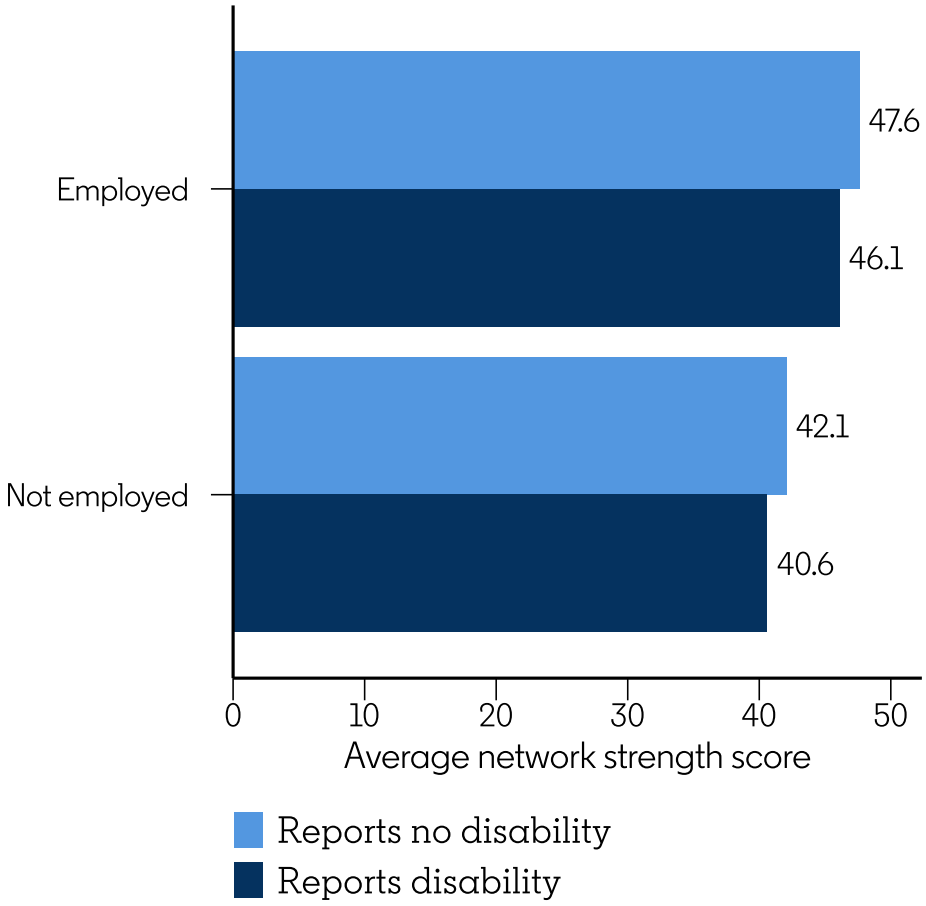


Disability Gaps by Employment Status

We next examine these disparities by employment status. As we might expect, being employed is correlated with having on average a stronger network, and this again is more important than disability status. This is evident in the 5.5-point difference in average network strength scores between employed and unemployed members, regardless of disability status, compared to the 1.5-point gap between members with and without disabilities within each employment group.

Disability Status and Network Strength

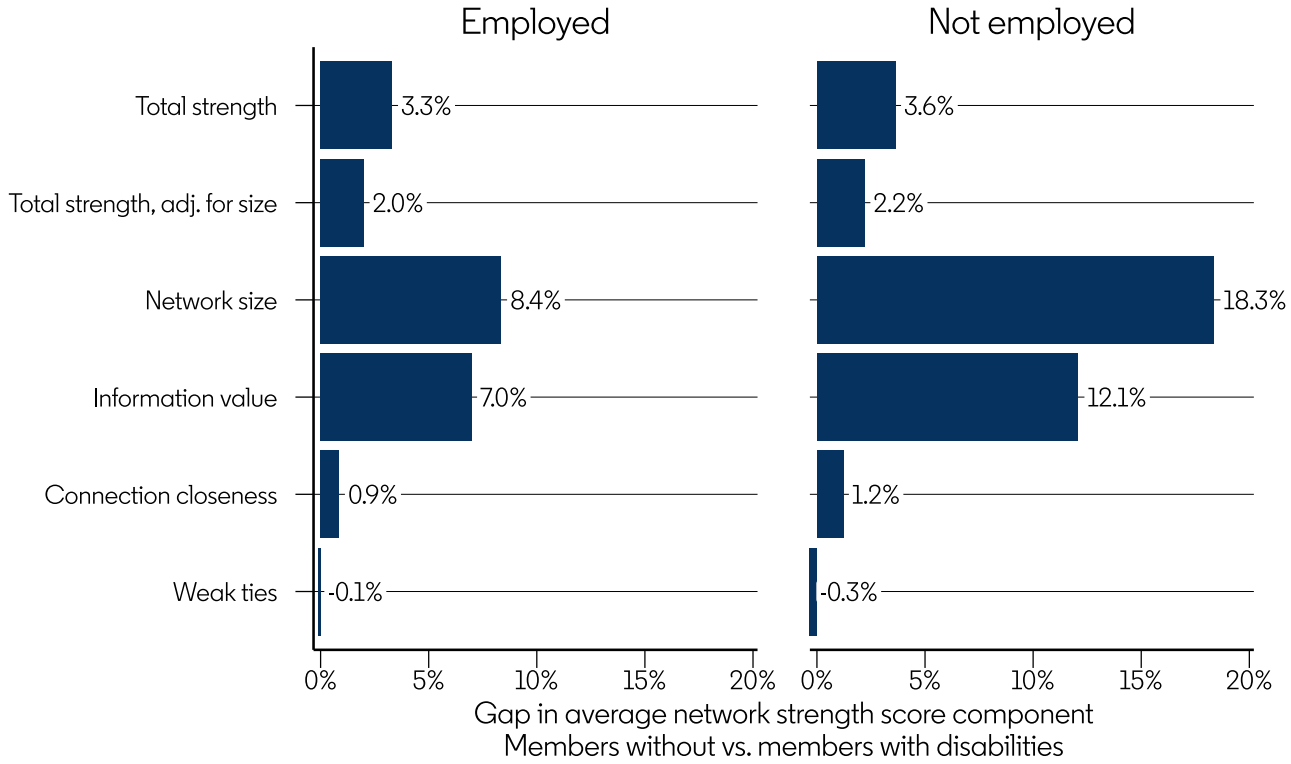
Figure 6: Network Strength by Employment Status



When we break it down by components and gaps, we see the gap in overall network strength (adjusted or unadjusted for network size) is smaller for employed members than those not employed.

Disability Status and Network Strength

Figure 7: Network Strength Feature Gaps by Employment Status



Conclusion

Leveraging LinkedIn network data and self-identified disability status, we find that workers with disabilities have smaller and weaker networks on average than workers without disabilities. Strong networks are critical to career success. The disability gap in network strength and its features highlight one important indicator and input into disparities in career success. The gap is consistent across countries, generations, employment status, and is true for most components of what makes a strong network. Within these network features, this gap is particularly pronounced for differences in network size and information value, which reflect the number of people we are connected to and the career-relevant knowledge and access they provide. Conversely, the gap is small, and even reversed, for weak ties and connection closeness, which capture members' professional reach beyond their immediate network and how frequently they interact with their connections on the platform.

Appendix

Acknowledgements

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Methodology

This body of work represents the world seen through LinkedIn data, drawn from the anonymized and aggregated profile information of LinkedIn's 1 billion+ 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.

For the analysis, we limit attention to non-restricted, active accounts. Disability status is derived from members' self-identification. As individuals self-select into identifying their demographics, our sample is not a random sample representative of all LinkedIn members in a given country, let alone the underlying workforce population. All results should be interpreted with this caveat in mind. We limit the sample to countries and subgroup analyses for which we have at least 250,000 Self-ID responses on the disability question (excluding those who skip or refuse to answer the question), and have at least 2% of the responses be affirmative for having a disability (in practice, excluding outlying countries, the affirmative rate is closer to 5-10%). Despite the above-mentioned limitations, the analysis is based on nearly ten million members in six countries who have opted to self-identify, and thus represents a meaningful sample of interest to contrast outcomes between groups.

We base these estimates on a model of network strength that was intentional in its features and aggregations, and ultimately rooted in some conceptualization of how networks can improve labor outcomes. The end analysis was based on four features:

Network size

All else equal, more connections is a stronger network (although those benefits may have diminishing returns). Network size enters the model as each new connection offers the potential to share information which may help a person's career, such as job opportunities, new skills and trainings, and sales opportunities.

Appendix

Information value

Being connected to individuals who can help my career more than connections who can't help my career (professional vs. social network?) means a strong network. This is calculated using six features:

1. Employment status: a person employed will be more connected to labor information and job opportunities
2. Work experience: a person with more months of work experience in their career will have more general information and knowledge which may help a person in their career.
3. Firm tenure: a person with more tenure at a firm will have more firm-specific information about job opportunities and knowledge which may help a person's career
4. Number of connection invitations received: a person who receives more invitations to connect on LinkedIn's platform likely has more social capital which may translate into other information and assistance to other workers.
5. Fraction of connection invitations where the person was the receiver instead of the sender: another measure of social capital in the workplace
6. Seniority level: leveraging LinkedIn's seniority taxonomy, we translate the seniority of a person's current primary position into a seniority score, with higher levels of seniority receiving a higher value on a seven point scale. As before, we assuming that people in more senior and management positions are more likely to know of job openings and help with finding career opportunities and being hired.

Connection closeness

Being connected to individuals who share information with me makes a stronger network. In the original publication, we called this "Information bandwidth" to mirror the network science literature. It is calculated from a collection of information about communication between network nodes, including on-platform messaging and post engagement.

Weak ties

Being connected to people who have connections that I am not connected to (weak ties) is a stronger network. In the original publication, we called this "information non-redundancy." This is estimated using the local closure coefficient. The local closure coefficient is the fraction of wedges headed at u that are closed, or in other words, the fraction of second degree connections of member i with whom member i is already connected as a first degree connection. A higher local closure coefficient signifies a more insulated network with less second degree information, and thus is penalized in the mode.

Overall model

The overall model of network strength was given by the following equation

Appendix

$$S_i = \sum_{j \in N_i} B_i V_j + \sum_{j \in N_i} \sum_{k \in N_j} (1 - \rho_i) B_i B_j V_k$$

Where

- S_i: Total network strength of member i
- N_i: Network set of member i
- B_i: Average connection closeness for member i across their connections
- V_j: Information value of member j to all other members
- ρ_i: Local closure coefficient of member i

The total network strength score is subsequently rescaled to be on a 0 to 100 point scale based on the theoretical maximum:

$$\widetilde{S_i} = \frac{\ln(S_i)}{\ln(max\ S)} \approx \frac{1}{18} \ln(S_i)$$