



The paradox of weak ties in 55 countries

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ABSTRACT

People find jobs through their social networks using ties of different strengths. Intuitively weak ties might be less useful because people communicate less often with them, or more useful because they provide novel information. Granovetter's early work showed that more job-seekers get help via acquaintances than friends (Granovetter, 1973). However, recent work on job-finding (Gee et al., 2017) shows an apparent paradox of weak ties in the United States: most people are helped through one of their numerous weak ties, but a single stronger tie is significantly more valuable at the margin. Although some studies have addressed the importance of weak ties in job finding within specific countries, this is the first paper to use a single dataset and methodology to compare the importance of weak ties across countries. Here, we use de-identified data from almost 17 million social ties in 55 countries to document the widespread existence of this paradox of weak ties across many societies. More people get jobs where their weak ties work. However, this is not because weak ties are more helpful than strong ties – it is because they are more numerous. In every country, the likelihood of going to work where an individual friend works is increasing – not decreasing – with tie strength. Yet, there is substantial variation in the added value of a strong tie at the margin across these countries. We show that the level of income inequality in a country is positively correlated with the added value of a strong tie, so that individual strong ties matter more when there is greater income inequality.

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1. Introduction

The fact that the majority of jobs are found through social network ties helps to explain the existence of socioeconomic, geographic, and racial concentration of unemployment.¹ Additionally, individuals who find a job via a social contact have longer tenure and higher productivity.² Thus, how individuals use their social networks to obtain new employment is an important question.

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¹ See Topa (2011), Jackson (2011), Munshi (2011a), Ioannides and Loury (2004) and Marsden and Gorman (2001).

² See Brown et al. (2016), Beaman (2012), Beaman and Magruder (2012), Mayer (2012), Shue (2013), Wei et al. (2012), Schmutte (2015), Bandiera et al. (2009), Babcock (2008), Tassier (2006), Loury (2006), Castilla (2005), Elliott (1999), Marmaros and Sacerdote (2002), Topa (2001) and Simon and Warner (1992).

A person's social network is made up of ties of varying strength (e.g. a close friend is a strong tie while an acquaintance is a weak tie). In this paper we use de-identified, aggregate data from Facebook including almost 17 million social ties in 55 countries to ask which type of social tie is most useful in job finding, and whether it varies by country. We measure tie strength as the amount of contact or as the number of mutual friends between two friends; more contact or more mutual friends indicate greater tie strength. From a research perspective we would like to observe how each person used their social network to find their current job by monitoring a person during their job search. However, such monitoring is not feasible (nor desirable from a privacy perspective) for the whole Facebook population. So we use a proxy variable for job help by counting pairs of friends who eventually work at the same employer.

Although some studies have addressed the importance of tie strength in job finding within specific a country, this is the first paper to use a single dataset and methodology to compare the importance of tie strength across countries. We find that in all 55 countries more people get jobs where their weak ties work. However, this is not because weak ties are more helpful than strong ties – it is because they are more numerous. In every single country, the likelihood of going to work where a specific friend works is increasing – not decreasing – in tie strength. Yet, there is substantial variation in the added value of a strong tie at the margin across these countries. We show that the level of income inequality in a country is positively correlated with the added value of a strong tie, so that strong ties matter more when there is greater income inequality.

In the next section we briefly describe some related literature. Section 3 describes the data, Section 4 presents the results and Section 5 discusses the results and next steps.

2. Related literature

More than 40 years ago, Mark Granovetter identified the strength of weak ties in social networks (Granovetter, 1973). Although close friends and “strong ties are more motivated to help” each other, he argued that acquaintances and weak ties are more effective because they “are more likely to move in circles different from our own and will thus have access to information different from that which we receive.” (1371) To support his claim of the “primacy of structure over motivation,” (Ibid.) he constructed a network model to show that denser connectivity to mutual neighbors among strong ties can generate a redundancy of information flow, and he cited a small labor market study he had conducted in a suburb of Boston, Massachusetts, in which he found that most people who got help finding a job said they got help from someone with whom they rarely interacted.

Granovetter's paper ignited interest in social networks in sociology and spurred research on whether weak ties were better for information transmission in a wide variety of settings.³ For example, a global study of the “small world” phenomenon (Milgram, 1967) found that people who successfully navigated a large social network to connect to an unknown person were more likely to rely on weak ties (Dodds et al., 2003). And a widely-cited study of creativity suggested that teams that include weak ties are more productive, perhaps because weak ties inject novel ideas into the group (Guimerà et al., 2005). However, a number of studies have recently questioned the effectiveness of weak ties, showing that weak ties are less likely to share novel health information (Centola, 2010) and news stories (Bakshy et al., 2012); weak ties do not contribute to the spread of health behaviors (Christakis and Fowler, 2007) or political behaviors (Bond et al., 2012; Jones et al., 2013); weak ties receive a lower volume of novel information in recruiting networks (Aral and Alstytne, 2011); and small groups with more weak ties are less likely to survive (Palla et al., 2007). Furthermore, there are studies that find that weak ties may be more useful only under certain circumstances like when demand for information is low (Carpenter et al., 2003).

In a companion paper (Gee et al., 2017) we attempt to reconcile these two different sets of results in the US labor market with a simple hypothesis that Granovetter himself pointed out in a footnote in his original paper (Granovetter, 1973). Although it may be true that weak ties are *individually* less effective in transmitting plentiful information, they may be *collectively* more important than strong ties because they are more numerous. This would explain why some studies show that the probability of a successful information transmission is increasing with tie strength, while others show that weak ties are responsible for most of the successes (in obtaining jobs, finding a person in the network, acquiring novel ideas, and so on). This distinction is important, because scholars sometimes mistakenly confuse the two levels of analysis, thinking that a large number of successful transactions between weak ties implies that weak ties are also individually more effective.

In our US study we identify a seeming paradox of weak ties. The paradox is that most people are helped through one of their numerous weak ties, but a single stronger tie is significantly more valuable at the margin. Many other studies have addressed how people use their networks to find jobs within a specific country,⁴ but each has varied in its methodology and definition of tie strength so it is difficult to compare the results across countries. For example in the US in the 1970s, most jobs came from weak ties when measured by contact (Granovetter, 1973), while in 1980s China most jobs came from a strong tie using self-reported tie strength (Bian, 1997). So it remains an open question as to whether strong ties are more useful in each country, and how that compares across nations.

³ See Onnela et al. (2007), Borgatti et al. (2009) and McAdam (1986).

⁴ See Kramarz and Skans (2014), Bayer et al. (2008), Yakubovich (2005), Bian (1997), Granovetter (1995), Granovetter (1983), Pool (1980) and Granovetter (1973).

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