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How the Size of Our Social Network Influences Our Semantic Skills

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Abstract

People differ in the size of their social network, and thus in the properties of the linguistic input they receive. This article examines whether differences in social network size influence individuals' linguistic skills in their native language, focusing on global comprehension of evaluative language. Study 1 exploits the natural variation in social network size and shows that individuals with larger social networks are better at understanding the valence of restaurant reviews. Study 2 manipulated social network size by randomly assigning participants to learn novel evaluative words as used by two (small network) versus eight (large network) speakers. It replicated the finding from Study 1, showing that those exposed to a larger social network were better at comprehending the valence of product reviews containing the novel words that were written by novel speakers. Together, these studies show that the size of one's social network can influence success at language comprehension. They thus open the door to research on how individuals' lifestyle and the nature of their social interactions can influence linguistic skills.

Keywords: Social network; Semantic skills; Comprehension; Variability; Individual differences

Highlights

- The size of our social network influences our linguistic skills
- Having larger social networks predicts better comprehension of unfamiliar others
- This effect is found using both a correlational and an experimental paradigm

1. Introduction

People differ in the number of people they regularly interact with. For example, when tracking how many people individuals send Christmas cards to, one study found a range

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that spanned from less than 25 up to over 350 people (Hill & Dunbar, 2003). Furthermore, network size might correlate with network heterogeneity, as larger networks might be more likely to include individuals that differ from one another. Previous research has delved into the social and health consequences of differences in social network size and type (e.g., Hill & Dunbar, 2003; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Research at the linguistic level showed that properties of the social network, such as its interconnectedness, or its social standing in society, as well as individuals' position within the social network, can influence the way individuals talk and the process of language change (e.g., Milroy, 1980). This article examines whether and how individual differences in the number of people one regularly interacts with influence linguistic *skills*. For ease of reference, the number of people one interacts with will be referred to as one's social network. Note that this term includes not only friends and family, but also work colleagues, clients, and even service people. This article tests whether the size of individuals' social network can influence individuals' semantic skills, focusing on global comprehension. Understanding how characteristics of individuals' input influence their linguistic skills could shed light on how language is learned, processed, and represented, as well as how one's lifestyle might influence one's linguistic skills.

1.1. Learning language from the environment

In general, people's linguistic representations depend on the characteristics of the input they receive. Thus, individuals exposed to different languages form different phonetic and lexical categories, and they learn to attend to different phonetic and syntactic cues (e.g., MacWhinney, Bates, & Kliegl, 1984; Werker & Tees, 1984). Similarly, changes in the input that individuals receive, as in the case of learning a second language as an adult, can even influence the representations that people have in their native language (Cook, 2003; Flege, 1987; Lev-Ari & Keysar, 2014; Lev-Ari & Peperkamp, 2013). This process of learning language from the environment is achieved, among other things, by implicitly tracking the statistics of different linguistic features. For example, people track how often certain sounds or words appear in one context versus another one and infer from these patterns about their characteristics and meaning. In general, the larger and the more representative of the population people's samples are, the more accurate the learning from the input would be. Importantly, as mentioned earlier, people greatly differ in their social network and therefore also in their linguistic environment. In particular, people's social networks could be of different sizes. Therefore, people with wider networks might have a more varied and more representative sample of the language in the population than people who interact with a smaller group of people. Consequently, people with wider social networks might have better linguistic skills. A larger and more representative sample can also help individuals track co-occurrences in the input and thus help them better understand how language use differs along certain speaker characteristics, such as age or educational level.

So far, the relationship between variability in the input and linguistic performance has been tested by manipulating properties of input presented in the laboratory and then testing the influence of this manipulation. This article examines whether the role that variability in input plays leads people with different social network sizes to differ in their linguistic skills. Additionally, previous research on the role of variable input has mostly focused on the acquisition of new categories (but see Sumner, 2011). The studies in this article test whether individual differences in variability in input influence the linguistic skills of native adult speakers. Finally, while previous linguistic studies tested the importance of variable input at the phonetic level, the studies here test whether the role that variability in input plays is general in nature, and therefore applies also to the semantic level.

1.2. Language learning via statistical learning

Over the last few decades, research has increasingly demonstrated that language learning relies on the statistical extraction of patterns from the linguistic environment. This approach has been particularly popular in the area of first language acquisition, where infants are argued to learn the phonological categories of their language by extracting the underlying distribution of the sounds they hear. Many studies provide support for this hypothesis (e.g., Anderson, Morgan, & White, 2003; Kuhl, 2004; Maye, Werker, & Gerken, 2002; Pierrehumbert, 2003), demonstrating, for example, that infants categorize sounds into two categories when the distribution in the input is bimodal, but as a single category when it is unimodal (Maye et al., 2002). Relatedly, it has been proposed that certain aspects of infant-directed speech, such as the exaggerated vowel space, are motivated by an implicit goal on the part of the speaker to decrease the overlap between categories (Kuhl et al., 1997). Such reduced overlap and greater distance between categories should make it easier for the listener to identify that the distribution includes several categories and facilitate their discrimination. In accordance with this hypothesis, infants whose primary caregiver has a wider vowel space have been shown to have better speech discrimination abilities early in life (Liu, Kuhl, & Tsao, 2003, but see Martin et al., 2015).

The role of statistical learning in language acquisition is not limited to the phonological domain. It has, for example, been argued that infants learn to segment words from the speech stream by learning within-word and across-word transitional probabilities (e.g., Saffran, Aslin, & Newport, 1996), and that a similar mechanism that attends to inter-word dependencies facilitates the acquisition of grammatical structure (e.g., Thompson & Newport, 2007). Even at the semantic level, it has been suggested that children track the grammatical frames that verbs appear in, and infer from these about aspects of verb meaning (Gleitman, 1990). Statistical learning, then, is an integral part of language learning.

Importantly, the process of language learning continues throughout people's lives. Individuals constantly sample the language in their environment and modify their representations accordingly. Individuals' sensitivity to the likelihood of a token given what they learned about the distribution can be seen in people's longer reaction time to linguistic tokens that are atypical (Fine, Jaeger, Farmer, & Qian, 2013; McMurray, Tanenhaus, &

Aslin, 2002). In fact, there is no one-to-one mapping between sounds and their targets. Therefore, it has been proposed that language processing is only achieved by sampling the phonetic distribution of each speaker's speech and then normalizing the input of the speaker in order to disambiguate phones' target, a process known as talker normalization (e.g., Nusbaum & Magnuson, 2007). Individuals not only sample the input, but also adjust their own representations in accordance with it. For this reason, intensive exposure to a different language or dialect, as when moving to a different region, can influence individuals' native variety (e.g., Cook, 2003; Flege, 1987; Lev-Ari & Keysar, 2014; Lev-Ari & Peperkamp, 2013). Likewise, the process of sampling the input and modifying the representations in accordance with it is assumed to be at the heart of the mechanism by which linguistic innovations can spread and lead to language change (e.g., Nettle, 1999).

1.3. The role of variability

Research on statistical learning, then, shows how the input can influence the content of individuals' representations—which phonological categories individuals have, which phonotactic rules individuals represent, the semantics of different terms, and so forth. The characteristics of the input, however, influence not only *what* people learn, but also *how well* they learn it. A key characteristic of the input that seems to affect the process of learning is its variability. Three types of evidence suggest that greater variability improves the robustness of learning.

One type of evidence comes from studies that show that variability boosts learning of new phonetic varieties. Listeners are better at learning a new phonological contrast (Lively, Logan, & Pisoni, 1993) and at understanding a novel foreign-accented speaker (Bradlow & Bent, 2008) if they had previously been exposed to multiple speakers of this variety rather than only one speaker, even when the amount of previous exposure is matched. Sumner (2011) has further shown that this improvement is due to the variability in the input. Thus, English listeners learn better to adjust to French accented Voice Onset Times if exposed to multiple, and thus variable, tokens, even when they originate from the same speaker, compared with a single token from that speaker that is repeated as many times. This advantage for variability holds despite variable input including fewer good exemplars as well. A second type of evidence for better learning when the input is variable comes from a few recent studies in first language acquisition. Rost and McMurray (2009) have shown that infants learn minimal word pairs better if they hear multiple speakers produce the words rather than a single token by a single speaker repeated an equal number of times. They further found that it was the variability along the irrelevant features rather than the to-be-learned feature that facilitated learning (Rost & McMurray, 2010). Finally, variability is argued to be important for extracting patterns in general, not only in the domain of speech. Thus, training participants on a set of visual stimuli with greater variation improves their ability to extract the underlying pattern compared with training on a less varied set (Posner & Keele, 1968).

The studies in this article focus on the influence of social network size on linguistic skills at the semantic level. In general, the larger the social network is, the more likely it is to be varied. In fact, in the studies about the role of variability in phonological acquisition, variability was often manipulated as the number of speakers in exposure (Bradlow & Bent, 2008; Lively et al., 1993; Rost & McMurray, 2009). Therefore, having a larger social network might similarly boost linguistic performance. So how might variable input improve *semantic* skills? Exposure to a wider distribution of language use might assist individuals in learning how to interpret expressions according to their linguistic context. After all, in semantics, just as in phonology, there is often no one-to-one correspondence between a term and its meaning. People can often refer to the same object using different terms (e.g., *baby carriage* vs. *stroller*). In the domain of modifiers and evaluative language use, such individual differences are even greater, as different people might not only use different synonyms to convey the same meaning, but they might use terms that differ in their degree. For example, some people are prone to use extreme modifiers, and therefore might use *great* to express the same degree of excitement that others might express with the terms *nice* or *ok*. Such individual differences also extend beyond single word choices to manners of phrasing. Therefore, just as listeners normalize the speech of speakers in order to disambiguate phonemes (e.g., Nusbaum & Magnuson, 1997), addressees must calibrate their interpretation of evaluative expressions to the speakers. One way by which they might do so is by tracking co-occurrence dependencies between different terms or manners of speaking. For example, someone who uses the term *spiffy* is more likely to also say *neato* than someone who says *fly*. Similarly, people who use exaggerated terms might be more likely than more reserved speakers to use certain other terms or structures. The more speakers one is exposed to, the more opportunities one has to learn such dependencies. Study 1 tested whether this is the case by testing whether individuals with a larger social network are better at understanding the valence of restaurant reviews. Study 2 tested whether the link between social network size and global comprehension is causal by testing for a beneficial effect of social network size using an experimental manipulation of social network size. Together, these studies allow a better understanding of how properties of our social network, by influencing the type of linguistic input we receive, shape our linguistic skills.

2. Study 1

Study 1 tested whether social network size influences global comprehension. To do so, participants read elicited restaurant reviews, and indicated how many stars the writer of the review assigned to the restaurant. Understanding how many stars the reviewer assigned to the restaurant indicates comprehension of the review. After all, the sole goal of the review is to inform the reader whether or not to go to that restaurant. Accordingly, restaurant review sites usually indicate next to a restaurant's name the average star rating it received, as it is assumed that the reviewers' reviews can be summarized by their star ratings, and that these capture the reviewers' level of enthusiasm. The study tested whether the number of interlocutors participants regularly interact with predicts how accurately they estimated reviewers' ratings.

2.1. Method

2.1.1. Reviews elicitation

Five M-Turk users were recruited for elicitation of restaurant reviews. Each participant was asked to write 30 reviews, six reviews for each star level between 1 and 5. Participants were told that the reviews could be fake or real, but that they should write them as if they were to be posted on a restaurant review website, such as Yelp. Participants indicated the number of stars each review corresponded to. The reviews of two reviewers whose reviews sounded most natural and were at an appropriate length were selected to serve as stimuli. Below is an example of one of the elicited two-star reviews:

> Denny's restaurant is a place that I keep coming to only because it's open 24/7. I enjoy their menu but you'll get very tired of it after a couple of visits. The staff is so so.

2.1.2. Participants

Forty-nine native English speakers with USA IP addresses were recruited via M-Turk.

2.1.3. Stimuli

The 60 elicited reviews from the two selected reviewers were organized in one random order blocked by reviewer. The number of stars assigned to each review was not shown.

All participants were also asked at length about their linguistic exposure. Most questions were exploratory and gathered qualitative information for future research on network structure. Importantly, all participants were asked how many people they talk to in a regular week.[1]

2.1.4. Procedure

Participants first answered the linguistic interaction questionnaire. They were then asked to read each restaurant review and indicate how many stars they think the review writer had assigned to the restaurant. They were told that all reviews in each set of reviews were written by the same reviewer. Once participants indicated their response by clicking a response on a radio button, their response turned green if it was correct. If it was wrong, their response turned red, and the correct response turned green. Participants could not modify their responses.

2.2. Results

The number of people participants interact with in a typical week ranged from 1 to 100 ($M = 19.3$, $SD = 21.8$). To test whether social network size improves individuals' ability to correctly estimate the valence of evaluative descriptions, a mixed model logistic regression analysis was conducted with Participants and Items as random factors, and

Number of Interlocutors as a fixed factor. The model included intercepts as well as a slope for number of Interlocutors for the Items factor. Results show that Number of Interlocutors indeed had an effect ($\beta = 0.008$, $SE = 0.004$, $z = 2.06$, $p < .04$; see Appendix A for the full results). The more interlocutors participants interact with in a typical week, the more accurate they were in interpreting reviewers' evaluation. Specifically, interacting with about 10 more people per week improves accuracy by about 2%.[2]

The results of Study 1 show that the properties of individuals' social network can influence their linguistic skills. Specifically, they show that having a larger social network can lead to better comprehension of evaluative descriptions.

One potential limitation of Study 1 is that the study exploited the natural variation in individuals' network size. While this approach ensures that the investigated effect is of ecological relevance, potential confounds are difficult to completely rule out. For example, the effect might be driven by a third factor that correlates with social network size, or social network size might be the consequence of one's semantic skills rather than their source. Several reasons render these possibilities unlikely. First, it is important to note that social network size indexes the number of interlocutors one has in a typical week, including colleagues, clients, etc. This is distinct from the number of friends one has, and it is likely to be less determined by individuals' traits. Still, it is possible that individuals select themselves into certain professions, company types, and situations that are likely to involve more or less interaction.

Additionally, in another study at the laboratory that examined the effects of social network at the phonological level, 60 participants performed a battery of cognitive tasks, including working memory (Operation Span; Unsworth, Heitz, Schrock, & Engle, 2005), an auditory short-term memory task, a selective attention task (the flanker task; Eriksen, 1995), and a task switching task (the Trail Making Task; Reitan, 1958). In that study, there was no hint of a correlation between number of interlocutors and any cognitive measure (all rs < $|0.08|$). Therefore, the effect in Study 1 is unlikely to be driven by a correlation of social network size with a cognitive ability.

Nevertheless, to completely rule out such an alternative explanation and to test causality, Study 2 aims at replicating the results of Study 1 using an experimental manipulation of social network size.

3. Study 2

Study 2 tests the effect of social network size on semantic skills using a manipulation of social network size. In this study, participants were exposed to novel words that appeared in contexts that facilitated their interpretation. The use of the novel words was modeled on the way real speakers use the evaluative words *horrible*, *bad*, *ok*, *good*, and *great*. Crucially, participants were exposed to these words in short passages written by either two or eight real individuals, with the amount of passages held constant across network sizes. We then tested whether learning from social networks of different sizes influences comprehension of these words. Specifically, we tested whether social network size influenced interpretation of passages written by novel speakers containing these words.[3]

3.1. Elicitation

Chair reviews were elicited from American native English speakers on M-Turk. Elicitation participants were asked to write 40 chair reviews, eight reviews per star rating level. Participants were also instructed to use at least one of the words: *horrible*, *bad*, *ok*, *good*, and *great* in each of their reviews. Participants were presented with pictures of 40 chairs to assist them in the task, but they did not have to write about these specific chairs. Twenty reviews (four per star level) were then selected from each of the eight participants whose reviews sounded most natural and fit with our criteria (i.e., included the required words and were of an appropriate length). These reviews were used in the exposure stage. Twenty additional reviews from other participants were selected for the comprehension test. In all reviews, the words *horrible*, *bad*, *ok*, *good*, and *great* were replaced with the words *noral*, *rous*, *gading*, *tove*, and *solane*, respectively. Below is an example of one such review:

This design is noral. Who would use this in their home?

3.2. Method

3.2.1. Participants

Seventy-six participants were recruited via M-Turk. All were native English speakers residing in the United States. One participant was excluded because he clicked the rightmost response on all 85 screens, always within about 1 s or less. One more participant was excluded because her experiment aborted in the middle and then started again in the other condition.

3.2.2. Stimuli

One hundred and sixty reviews containing the novel words, 20 from each of the reviewers selected from the elicitation task, were used in the training stage. Each participant was exposed to a random sample of 40 of the reviews. In the Two Speakers condition, two of the eight speakers were selected at random for each participant, and their entire set of 20 reviews was presented at random order, for a total of 40 reviews. In the Eight Speakers condition, 40 reviews were sampled randomly from the pool for each participant, such that there was one review for each star rating level for each of the eight reviews, for a total of 40 reviews as well. Note that different participants in the same condition were exposed to different sets of reviews, and each review in the pool was equally likely to appear in the Two Speakers and the Eight Speakers condition. Additionally, eight cartoons of faces were selected for the eight reviewers, such that reviews from each reviewer were always shown with that face cartoon. Twenty additional reviews, four at each star rating level, were selected for the global comprehension task.

3.2.3. Procedure

Participants were told that they will read chair reviews but that some of the words were consistently replaced with novel words. They were instructed to try to learn the words' meanings. Participants were also told that the reviews were written by real people, and that reviews that are presented with the same face cartoon were written by the same person. During the training stage, participants' task was to estimate how many stars the reviewer had assigned the chair. Participants received feedback: If their response was correct, it turned green. If it was incorrect, it turned red, and the correct response turned green. Participants performed their task at their own pace. The feedback similarly remained on screen until participants clicked Next. Following the training stage, participants performed three tests: a lexical prediction task, a global comprehension task, and a word ordering task. As mentioned earlier, this article focuses on the global comprehension task, which always appeared second. In this task, all participants were presented with the same 20 new reviews. As in the exposure stage, the star rating was missing, and participants' task was to estimate it. Unlike the exposure stage, participants did not receive feedback. The reviews were also not presented with cartoons indicating the reviewers, as these were new reviewers participants were not familiar with. Participants performed the task at their own pace.

3.3. Results

An examination of the results indicated that one participant responded unrealistically fast to all items (Median RT = 1,280 ms vs. 3,430 ms for the entire data set). Another participant responded at pure chance (20%), as well as much faster than average. We therefore excluded these two participants. Still, an examination of the results indicated that many of our participants did not perform the task seriously, at least occasionally. As Fig. 1 illustrates, there was a group of particularly short responses that were also correspondingly inaccurate. As these were multiple-choice questions, it is possible that some participants might have responded without reading the review beforehand. To ensure that this is not the case, responses that were too fast to enable reading the review before responding were excluded.

The reviews in this task varied in length from 4 to 21 words. It was therefore unadvisable to set a single threshold for response inclusion, as durations that are insufficient for reading and responding to 21 words might be sufficient for reading much shorter reviews. Therefore, a threshold of five words per second was set. In general, estimates of reading times vary. Ziefle (1998) found that people can only read ~180 words per minute when reading from a computer screen. Still, to be as conservative as possible, the threshold was set at almost twice as fast a rate (5 words per second, 300 words per minute). Furthermore, the task requires not only reading, but also making an evaluation and a motor response, so this threshold in fact sets the maximal allowed reading speed at a much

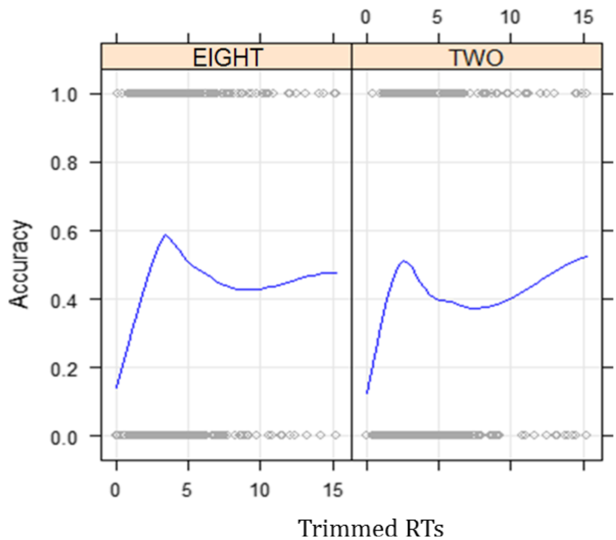

Fig. 1. Accuracy as dependent on response time and condition.

higher unrealistic value, thus only excluding responses that could not have possibly followed reading of the review. This threshold led to the exclusion of 368 responses (26.7%). This high proportion of unrealistically fast responses is mostly due to the fact that many of the reviews consisted of two sentences, a first short sentence that consisted of the novel word, and a second sentence that either explained this description or hedged it (e.g., *This chair is gading. It's cool-looking, and it's comfortable for short periods of time* or *This chair is solane! The only thing I didn't like were the weird buttons*). It seems that many participants, at least occasionally, did not read beyond the first sentence. As the goal of the study was to see if participants learn the context dependencies of word meanings, such strategy precludes testing of this hypothesis.

Therefore, a mixed model logistic regression analysis was run on the remaining data. The model included Participants and Items as random variables and Network Size (coded nominally as eight vs. two) as a fixed factor. The model included intercepts for the random variables, and a slope for Social Network for the Items variable. The results replicated the results of Study 1, showing that participants who were exposed to eight speakers were more accurate than participants who learned from two speakers ($\beta = -0.33$, $SE = 0.16$, $z = -2.08$, $p < .04$; see Appendix B). The model indicates that those who learned from two speakers were accurate about 45% of the time, while those who learned from eight speakers were accurate about 53% of the time (see Fig. 2).[4]

Study 2 replicates the main findings of Study 1 with an experimental manipulation of social network size. It shows that social network size causally influences linguistic skills. In particular, having a larger social network boosts semantic skills, such as global comprehension.

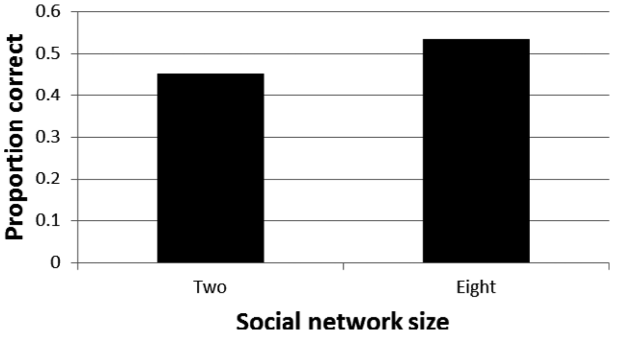

Fig. 2. Accuracy in the global comprehension task as dependent on social network size at exposure.

4. General discussion

Our linguistic knowledge and therefore linguistic performance are influenced by the linguistic input we had been exposed to. The properties of our linguistic input, in turn, are influenced by the number of the people we interact with and their heterogeneity. Exposure to a greater number of sources can provide us with a sample that reflects the distribution in the speech community more reliably. It can also allow us to learn contingencies between different properties—How use of different terms and the expression of different meanings differ across different subgroups in the population, as well as the relation between their likelihood and the likelihood of use of other terms and meanings in that context. Indeed, the results of these studies show that the size of one's social network can influence semantic performance, and, in particular, that having a larger social network can boost interpretation of the meaning that interlocutors express. Previous studies have shown that greater variability can boost phonological learning of a new variety. These are the first studies to examine the effects of variability on performance at the semantic level, and in adults' comprehension of their native variety. Additionally, these are the first studies to extend the study of the effects of variability to their expression as differences in the properties of people's social network. The exploitation of the natural variation in individuals' social network properties in Study 1 adds to the ecological validity of the studies and points to their real-world implications.

One might wonder whether the findings reported in these studies in fact reflect the effect of social network size or merely of exposure, as people who interact with a larger social network might also receive more linguistic exposure. Study 2, however, replicated the results of Study 1, even though amount of exposure was kept constant and only social network size varied across conditions. It therefore cannot be the case that it is the amount of oral interaction one engages in that underlies the results in these studies. While it could be that in other cases amount of exposure would play a role as well, these studies show that the number of interlocutors one interacts with has its own unique contribution.

Similarly, one may wonder if there is indeed a causal relationship between the size of one's social network and one's semantic skills or whether the effect in Study 1 is due to another variable that correlates with network size. One might even hypothesize that the effect goes in the opposite direction. That is, that one's semantic skills determine one's social network. Study 2, however, included random assignment into social network size conditions, preventing any potential confounds between social network size and other factors, or a potential opposite direction of influence. As Study 2 replicated the findings of Study 1, it demonstrates the causality of the effect of social network size on linguistic skills. Thus, while it is possible that people also self-select into social networks of different sizes, these studies show that having a larger network, on its own, improves one's semantic skills.

One limitation of the studies is that they cannot differentiate between the number of people one interacts with and knowledge about the number of people one interacts with. That is, it could be that participants in the large social network condition were better not because they were exposed to eight instead of two reviewers, but because they knew that they were exposed to eight versus two reviewers. Similarly, as people in the real world know how many people they interact with, having a larger social network might be beneficial because of the knowledge of network size rather than the input the network provides. According to the account proposed here, it is the number of people in the network and the resulting increased variability that boosts performance. At the same time, additional studies are required to tease these options apart. That said, as in the real world the two perfectly correlate, it would still be the case that having a larger social network would boost one's global comprehension.

These studies mostly focused on the influence of social network size on linguistic skills. But social network size is only one property of people's social networks that could influence their skills. Lexical choice, as well as other aspects of speech style, vary along social factors, such as age, educational level, geographic background, and so forth. Therefore, it is likely that having a more heterogeneous social network would expose individuals to greater variability in the way in which meanings are expressed, and thus allow them to better learn co-occurrence patterns, and dependencies that allow better interpretation of a speaker's expression, thus boosting their semantic skills. Additionally, other properties of the network, such as its interconnectedness (sometimes referred to as saturation)—the degree to which different people in the network know and talk to one another—might also have an effect.

Similarly, while this set of studies focused on the semantic level, linguistic skills at other levels might be influenced by the properties of our social network as well. Considering the findings about the benefits of variability to learning a new phonological variety, the phonological level seems like a good candidate, and current work at the laboratory examines this possibility. Linguistic skills at the pragmatic, and even the syntactic level, however, might also be influenced by the properties of our social network, the more so the greater inter-individual variance they show.

Finally, learning from the environment is not restricted to the linguistic domain. Therefore, having social networks of different sizes and structures could influence the distribution of other types of information we receive, and thus influence our knowledge base and skills in other domains. For example, interactions with more people might make us better at understanding how individuals' knowledge might differ, or how different individuals are likely to behave in different situations, thus facilitating our ability to predict other people's behavior and the interpretation of their actions.

To conclude, these studies show that the size of our social network influences our linguistic skills. They thus open the door to research that examines how our lifestyle and social interactions shape our success and ease at understanding others, and how it might even shape non-linguistic aspects of our behavior and skills.

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Notes

1. All participants were also asked about the total number of people they interact with per week, including textual correspondence such as e-mail and SMS. The number of oral interlocutors highly correlated with the total number of interlocutors ($r = .81$), but the effect of the number of oral interlocutors was stronger. It is unclear whether this is because the amount of interaction via e-mail and texts is more limited and therefore less influential, or whether this is due to the fact that it is harder to estimate the number of people one receives e-mails and other textual messages from, rendering the predictor less reliable.
2. An alternative analysis was run in which order (within reviewer) as well as its interaction with Number of Interlocutors was entered into the model. There was no indication of improvement during the experiment or of improvement depending on participants' Number of Interlocutors (both zs < 1), while the effect of Number of Interlocutors remained significant ($p < .05$). However, since review difficulty was not measured and counterbalanced across the beginning, middle, and end of the list, it is impossible to conclude from this null effect that individuals do not calibrate to speakers with more exposure or that learning from exposure is not modulated by social network size.
3. Additionally, the study included a task at the lexical level in order to follow-up on previous findings suggesting that, at the lexical level, having a larger social network does not improve, and occasionally even impairs, prediction of lexical choice among synonyms. The results of this study will not be reported here but elsewhere. In short, they show that, indeed, at the lexical level, in contrast to the semantic level, exposure to a larger social network leads to worse performance.
4. The article focuses on success at global comprehension of the use of evaluative adjectives. Still, we also examined the accuracy of learning the objective hierarchy of the novel evaluative adjectives. Accuracy was operationalized as the number of "moves" required in order to match the participant's order with the correct one (correct ordering requires 0 moves). There was no difference on that measure between the participants in the two speakers and eight speakers conditions who required on average 1.4 and 1.9 moves, respectively ($t = 1.29$, n.s.).

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Appendix A: Results of Study 1

	β	*SE*	*z*	*p* value
Intercept	0.37	0.29	1.23	0.19
No. of interlocutors	0.008	0.004	2.06	<0.04

Appendix B: Results of Study 2

	β	*SE*	*z*	*p* value
Intercept	0.13	0.18	0.76	0.45
Social network size (two)	−0.33	0.16	−2.08	<0.04