

# A Study of ELL Adult's Use of Mobile Communication Applications: an Examination of Tie Strength

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**Abstract.** This study begins to examine the problems that surround the usability and design of mobile communication applications for E.L.L (English Language Learner) immigrant adults in the United States by looking at the intent of this population when using phones. A user study was conducted where ELL immigrant adults answered questions about their mobile phone use. The results show that ELL immigrant adults use their smart phones daily and communicate with their friends and family, showing that maintenance of strong ties is important to this community. We hope this study moves towards an inclusive application that takes into account the relationship maintenance needs of this community.

**Keywords:** digital divide, immigrants, decision support systems, usability, mobile applications

## 1 Introduction

The increased access and use of mobile technology has made communication easier, especially for the immigrant community in the United States [7]. However, given the rapid developments of the technology industry, much of the literature on the digital divide has been unable to keep pace with the latest issues in the digital age [4]. Early work has generally looked at immigrants and technology, however, not specifically at the intersection between mobile application design and the information behaviors of ELL immigrant adults. These users of technology have different needs than the target population envisioned by app designers. The contribution of this poster is to build upon the previous work of EDITEDANONYMITY and began to look at the question: What do ELL immigrant adults use mobile communication apps for? The results show that the ELL immigrant adult community uses mobile communication apps for the maintenance of strong ties, an implication that we hope will influence app design for this population.

## 2 Background

This project is part of a broader study aiming at understanding ELL immigrant adults and their usage of mobile apps as outlined in [5]. A case for why the ELL immigrant adult community needs specific thought when developing apps are made in that paper. Specific to this paper is the idea of tie strength and technology.

## 2.1 Tie Strength and Technology

Tie strength has been studied in terms of technology in a number of ways [1,2,4]. It has been found that tie strength can be calculated via a technical medium using very little information [4] and that it can be predicted when given access to the social media of an individual [2]. In terms of information behaviors, sharing between users and strongly tied individuals in their network has been found to translate to a technical medium [8]. Specific to ELL immigrant adults and mobile apps, this is the first study to the researchers knowledge that explores this area.

## 3 Methods

A computer-administered survey was conducted. The survey consisted of 28 core questions, as well as an English comprehension exam. The target participant base for this project was immigrant adults and children of immigrants. Questions focused on demographic information of the participants as well as information about mobile phone usage and preferred communication apps. Only the results from participants who passed the English comprehension exam were examined.

## 4 Results and Discussion

### 4.1 Participants

The data from 71 participants were used. The participants were born in several countries across the globe and migrated to the United States and U.S. territories. Birth countries of our population are shown in Figure 1.



**Fig. 1.** Illustration of where the participants were born

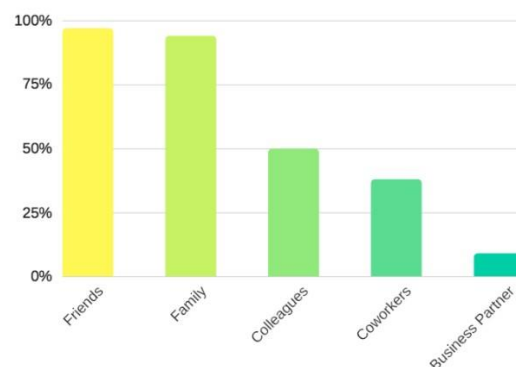
## 4.2 Time Spent on Smartphone

To begin examining the information behaviors of ELL immigrant adults, we began by asking the question “How often does our target population use their smartphone?” Knowing whether this population uses this technology daily would shed light on the importance of this tool in their everyday life as well as their information behaviors. The majority of the participants indicated that they use smartphone multiple times a day, with less than 4% of the participants using smartphones a few times a week and weekly.

## 4.3 Communication

To focus on the idea of tie-strength, we examine in depth one particular question focusing on ELL immigrant adults and communication via smartphones. When asked *who do you communicate with?* majority the participants answered *family* and *friends* regardless of their birth country or culture as shown in Figure 2. We posit that ELL immigrant adults are communicating the most with friends and family members due to an interest in maintaining strong-tie relationships. Similar findings in blogs [2] begin to provide insight into how ELL immigrant adults are using mobile communication apps. This finding also suggests a more personal nature to the type of information being communicated being had by ELL immigrant adults.

We Communicate With Our **Friends** and **Family** the Most



**Fig. 2.** Graph of who the participants communicate with the most on smartphones

The implication of this result is that apps aimed at serving the ELL immigrant adult community should facilitate the maintenance of strong-tie relationships.

## 5 Conclusion and Future Work

In conclusion, our results show a very preliminary, but important step towards understanding how the ELL immigrant community are using mobile communication appli-

cations daily to contact family and friends. Knowing this information from such a varied and large survey sample lets us draw the conclusion that the information behavior of ELL immigrant adults is centered around the maintenance of their strong-tie relationships. The fact that ELL immigrant adults are communicating on a daily basis also gives a glimpse into the consistent and personal maintenance of these relationships.

Future work should focus on exploring the want to maintain strong ties more by focusing on the types of ties being maintained by the community.

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