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ACCESS BARRIERS AND LOCAL STRATEGIES FOR INTRAFAMILIAL MOBILE COMMUNICATION IN RESOURCE CONSTRAINED CONTEXTS

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Introduction

Mobiles might soon become the communication technology with the fastest adoption rate in modern history (De Gusta, 2012). In both developed and developing countries the penetration levels of mobiles have surpassed that of computers (ITU, 2014). As mobiles and smartphones support constant connectivity and reachability, and enable multi-modal communication, they have become central to our social interactions (Ling & Donner, 2013, p. 9) and to our everyday life (Ahn & Jung, 2014; Castells, Fernández-Ardèvol, Qiu, & Sey, 2009, p. 77). Communication through mobile technologies in families have not been immune to these transformations (Rudi, Dworkin, Walker, & Doty, 2015). The diffusion of Internet based mobile applications such as WhatsApp, Facebook chat, Skype and many others have broadened the possibilities of family members to keep in touch with ease.

The perpetual reachability and connectivity afforded by mobile communication technologies can facilitate importantly family communication, especially between teenagers and their parents, as millenials are among the most avid users of technology. A plethora of research has illustrated the importance of parent-teenager communication and its consequences for teenagers' outcomes. Parent-child communication is central for childrens' socialization, and represents for many the first resource for emotional support. During adolescence, communication patterns within the family play a fundamental role for the psychological wellbeing (Ackard, Neumark-Sztainer, Story, and Perry, 2006; Gentzler, Contreras-Grau, Kerns, and Weimer, 2005) and the social development of young people (Ledbetter, 2009). In general, family communication exerts a very strong influence on how and on why children communicate with others (Barbato, Graham, & Perse, 2003).

Despite their relative affordability (Ling & Donner, 2013, p. 7), access to and use of mobiles and smart phones in resource constrained contexts does not necessarily imply

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that individuals do not face adoption barriers to these communication technologies. In fact, subscription to mobile broadband in developing regions are just a fraction of the penetration level in developed countries (ITU, 2014). Using van Dijk's digital divide framework (Dijk, 2005), this study asks about parents' development of local strategies to access mobile communication technologies for intrafamilial communication in a resource constrained context. Specifically, it examines the personal and environmental access barriers that parents face, as well as how they take advantage of other resources available to them to create local strategies to access and use mobile communication technologies to keep in touch with their teenage children.

Access to mobile technologies and parent-child communication

Individuals face barriers of a diverse nature that prevent them from having access and adopting a particular technology (Mathieson, Peacock, & Chin, 2001). According to van Dijk's digital divide framework, categorical differences in the social position of individuals within a social system and the relationships of dominance these differences imply, produces an unequal distribution of resources that facilitate access and appropriation of technology (Dijk, 2005, p. 10).

The unequal distribution of resources influence unequal access to and use of communication technologies. Access in the model is conceptualized in a multifaceted fashion as comprised by successive kinds of access: motivational, material, skills and usage (van Dijk, 2005, p. 20). Effective access is dependent on having those four kinds of access. The digital divide is the result of gaps in those kinds of access. Lack of resources turn into access barriers. On the contrary, having the appropriate resources turn into facilitating conditions for access.

In the case of parent-child communication, parents are highly motivated to use mobile communication technologies. Parents are especially invested in trying to keep in touch with their teenage children as adolescence is a life stage of important transitions and changes (Andrew, 1990). This raises the question about how the lack or presence of certain resources and conditions for access create a set of access barriers that are related with material and skills kinds of access to mobile technologies, and how parents overcome those access barriers using alternative resources and the development of strategies for parent-child mobile communication.

Methods

Twenty semi-structured interviews were conducted to parents of children between the ages of fifteen and ninenteen years old in Bogotá, Colombia. Bogotá is the capital city of Colombia. The estimated population of Bogotá in 2015 was 7.900.000 inhabitants (DANE, n.d.). Around 11.25% of the population are adolescents (between 13 and 19 years old) (DANE, n.d.).

In Colombia, the poverty line is defined in terms of the costs for getting the minimum nutrition requirements for a person, compared to income per capita. The percentage of the population in Bogotá that live below the official poverty line was 10.2% in 2013. The Gini coefficient, a measure of income inequality, was 0.504 for the same year.

Households in Bogotá are classified into one of six possible social strata (1: Very low, 2: Low, 3: Mid-low, 4: Mid, 5: Mid-high, and 6: High). Stratification of each household is made based on the internal and external characteristics of the dwelling and its surroundings as a proxy for socioeconomic level (DANE, n.d.).

It is estimated that around 9.5% of the population in Bogotá live in very low social strata, 39.3% in low strata, 35.7% in mid-low, 9.45% in middle social strata, 2.6% in mid-high, and 1.7% high (Secretaría Distrital de Planeación de Bogotá, 2012). Individuals living in households classified into 1, 2 and 3 strata receive subsidies for public services such as electricity, gas, water, sewage and Internet. Also, individuals in these social strata can benefit from different programs aimed at lowering the costs of access to health, education, food and transportation. Individuals living in mid-high and high contribute more taxes and pay more for their utilities in order to subsidize those living in very low, low and mid low households.

Participants in the study were recruited using a purposeful criterion sampling method (Palinkas et al., 2013). Parents of children in public and private high schools in Bogotá were contacted. The population in each high-school varied in terms of the social strata students belonged to. As low and mid-low social strata are the most present in Bogotá, more parents in high-schools serving this population were invited to participate. Interviews took place at a location chosen by the interviewee. Fifteen participants lived in households between very low and mid-low social strata, and five lived in households of middle, mid-high or high social strata. Eighteen participants were female, and six of them were either divorced or single mothers.

Participants were asked about their usage patterns of different communication technologies to keep in touch with their teenage children, the different hurdles they face when trying to use these technologies, and how they try and solve these barriers in order to communicate with their children when they are not together. Interviews were around an hour long on average.

Analysis and results

Interviews were taped for later transcription. The transcripts of the interviews were iteratively analyzed (Onwuegbuzie & Leech, 2007) and coded. Emerging categories were identified through these codes. Table 1 illustrates the lack of resources for material and skills access, as well as how that lack of resources manifested as a barrier for access to mobiles and/or smartphones.

However, rarely these barriers and lack of resources precluded parents from communicating with their children through mobile technologies when necessary. During the interviews, individuals also described the way in which they used other resources available to develop local strategies to overcome those access barriers. Table 2 illustrates how in the face of a lack of financial, environmental, technical, infrastructural, cognitive and knowledge resources, participants reported they turned to another set of available resources, creating strategies to achieve their intrafamilial communication objectives.

Access Dimension	Lack of resources	Manifested as access barrier
Material Access	Financial resources	• Device too expensive • Data plan too expensive • Voice plan too expensive • Mobile phone minutes too expensive
	Environmental resources	• Not safe to use mobile/smartphone in neighborhood • Not safe to own mobile/smartphone
	Technical/Infrastructure resources	• Mobile/smartphone has bad signal • Slow or no data connection • Mobile/smartphone fails
Skills Access	Cognitive	• Anxious operating touchscreen • Not confident operating smartphone
	Knowledge	• Does not understand how device works

Table 1. Lack of resources and manifested barriers for mobile intrafamilial communication

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Access Dimension	Resources lacking	Resources available	Strategy
Material	Financial resources	Social resources	• Call from other person's phone (neighbor, friend) • Call to child's friend phone
		Environmental resources	• Go to Internet cafe • Buy mobile minutes from mobile minutes lady
		Technical/Infrastructural resources	• Buy low-end mobile
	Environmental resources	Environmental resources	• Go to Internet cafe • Buy mobile minutes from mobile minutes lady
		Technical/Infrastructural resources	• Use low-end mobile
	Technical/Infrastructure resources	Environmental resources	• Internet cafe • Buy mobile minutes from mobile minutes lady

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Table 2 Continued

Access Dimension	Resources lacking	Resources available	Strategy
Skills	Cognitive and knowledge	Social resources	• Get help from children • Get instruction from children
		Technical/Infrastructural resources	• Use low-end mobile

Table 2. Alternative resources and local strategies for intrafamilial mobile communication

Implications

Communication through mobile technologies are not as easy as we may imagine for people in resource constrained contexts. Despite their relative low cost, and although mobiles are almost pervasive, individuals in developing countries face important hurdles to access mobile technologies. While important access gaps are present, due to differences in the resources individuals can count on, it seems that in circumstances of high access motivation, like in the case of intrafamilial communication, individuals develop local strategies through alternative resources that facilitate access conditions to the technologies that will allow them to achieve their intrafamilial communication objectives.

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