

# Chapter 16

## Virtual Interactions via Smartphones

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### ABSTRACT

*The recent boom in the use of smartphones has led to an expansion of the concept of cyber behavior to include nearly perpetual virtual contact through mobile devices. This chapter addresses the issue of mobile cyber behavior by identifying key dimensions of virtual interactions through smartphones. While most prior studies focused on mobile technology from a technical perspective, this article takes a sociotechnical perspective, focusing on aspects of human behavior in the context of a new technical system (i.e., smartphones). The authors' review of this literature suggests that mobile phone cyber behavior develops along three primary dimensions – the “3Cs” of: contextualization, customization, and convenience.*

### INTRODUCTION

Since the start of the twenty-first century, the development of mobile technology has revolutionized the primary modes of interactions between people, allowing for more timely, effective, and cost-efficient communications through computers and web-enabled “telepresence.” In recent years, smartphone (e.g., iPhone, Android, Blackberry, Palm, Window Mobile, etc.) use has boomed. In

2010, twenty-eight percent of U.S. mobile phone subscribers used smartphones and forty-two percent of those who acquired a new mobile phone in the past six months chose a smartphone over a feature phone (i.e., a low-end mobile phone with less sophisticated computing capabilities than smartphone) (Nielsen Company, 2010). This change in cellphone preferences has brought into focus the concept of “perpetual contact” (Katz & Aakhus, 2002). Interpersonal interactions can be

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carried out virtually using personalized and diverse information applications on a 3.5 inch screen. Concomitantly, a secondary boom has also formed—in mobile applications (or “apps”) for smartphones and other mobile devices. Apps development has become a viable pursuit for software firms, and app users have rapidly developed a culture built around use and sharing of apps. Individuals are integrating smartphone-based cyber behavior fully into their daily lives. In fact, the distinction between online and offline behavior is beginning to blur. However, our understanding of this ongoing hardware and software revolution has been studied primarily from a technical point of view—that is, a perspective that focuses on hardware and software capabilities. Now is an especially opportune time to develop a more nuanced conceptual understanding of how mobile phone cyber behavior is created and constructed from a sociotechnical perspective—that is, a perspective that recognizes the reciprocal relationships between social and technical change. More specifically, this research seeks to provide a new understanding of the nature of users’ virtual interactions that are mediated by smartphone usage. With this in mind, we have structured this chapter as follows. First, we provide an overview of existing literature on virtual interactions. Second, we will analyze features of smartphone users’ virtual interactions based on three key dimensions (i.e., 3Cs) by reviewing primary research in this area. Third, we suggest future directions on mobile phone cyber behavior and conclude with implications from this study.

## OVERVIEW

The study of cyber behavior via mobile phones is in its infancy largely because the smartphone as an integrated voice and Internet device did not emerge until 2007 (West & Mace, 2010). In recent times, the study of smartphone users’ virtual interactions has become the object of interdisciplinary behavioral study focused on how virtual

spaces are mediated by Internet-enabled mobile devices where the window on that world is limited to 3.5 inches. To understand the development of smartphone users’ virtual interactions, we need to briefly examine how such technologies have transformed our daily lives through the melding of online and offline behaviors. Though the studies are not numerous, the existing literature shines a light on a number of important theoretical and empirical trends.

A smartphone is a programmable device that facilitates the human need for communication, information gathering and transformation, and interaction (Charlesworth, 2009; Raento, Oulasvirta, & Eagle, 2009). For example, smartphones provide locational information via the Global Positioning System (GPS), allow us to check e-mail and voicemail anytime and anywhere, and integrate data from online and local sources into personalized presentations like route maps or exercise records. However, it should be noted that smartphones have still maintained the primary functions of traditional mobile phones: voice communication and texting while “on the go.” Because smartphones add to but do not supplant these basic cell phone functions, the literature on mobile communications is a good starting point for conceptualizing behaviors using smartphones. In *Perpetual Contact: Mobile Communication, Private Talk, Public Performance* (2002), James Katz and Mark Aakhus present a compilation of articles on how mobile phone technology has altered both individual and organizational behavior, and vice versa. They proposed the Apparatusgeist theory, a neologism combining “apparatus” (i.e., device or machine) and the “geist” (i.e., mind or spirit), to explain the patterns of consistency in how personal communication technologies (i.e., mobile phones) are perceived and/or used. This theory suggests that such patterns are constructed through the technological consequences and sociological meanings among users, non-users, and anti-users. Building on this theory, Katz and Aakhus believe that a universal pattern of mobile

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