

Chapter 9

Smartphone–Induced Digital Distractions: Using Social Cognitive Theory and Self–Regulated Learning to Frame the Challenge

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ABSTRACT

This chapter investigates smartphone-induced digital distractions through the lens of social cognitive theory and self-regulated learning. Social cognitive theory's reciprocal triarchic conceptualization is matched with the current role of the smartphone in the learning environment. Self-regulated learning is used to frame the challenges and opportunities presented by the smartphone. A final section suggests two opportunities for generating positive educational outcomes in light of social cognitive theory and self-regulated learning. The first is opportunity described as a reclamation of the dominant narrative regarding the educative role of personal technology. The second is the development of the individual learning scientist.

INTRODUCTION

The ubiquity of the smartphone has created endless opportunities to introduce digital distractions into the learning enterprise. Whether the learner is completing homework or attending to a lecture, device notifications and social media temptations are an ever-present reality. This chapter aims to frame the challenge of digital distraction using a social cognitive theoretical framework. The chapter will describe how a social cognitive-based self-regulated learning (SRL) model can be used as a heuristic to understand these challenges better and increase learner awareness. The chapter pays particular attention to the unique challenges presented by the smartphone. Compared to other digital tools such as tablets and laptops, the smartphone exhibits additional concerns due to the cognitive attention it demands. Distrac-

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tions from the smartphone are often an amalgamation of work, school, family, and friends, and they may range from annoying and irrelevant to urgent and severe. Thus, the distractions are as much a social as a personal phenomenon.

A smartphone is a mobile phone that can install and run additional applications or software. The flexibility provided through installing these applications has resulted in the adoption of the device by virtually every college-age person in the U.S. (Pew Research Center, 2021). Given this ubiquity and flexibility, the smartphone plays a unique role in educational contexts. The use for social, personal, and academic purposes places it in a pivotal position for teachers and learners. Given the multiple purposes, countering any enhanced learning is increased distraction (Anshari et al., 2017; Flanigan & Babchuk, 2015). The balance between learning support and learning distraction is foundational to improving academic achievement.

The relationships between smartphone use, self-regulated learning, and academic outcomes are only recently coming into focus as essential intersections of educational research. One frequently cited early study found a negative relationship between overall phone use and academic achievement (Lepp et al., 2015). In contrast, a meta-analysis aggregated intervention studies and identified a positive influence on achievement (Tingir et al., 2017). Details regarding the effect of the smartphone on learning in classrooms and while studying have started to emerge from additional research. However, the research to date does not sufficiently incorporate current understandings of learning and instruction (Bernacki et al., 2020). The purpose of this work is to make one such connection by reviewing the implications of two well-established frameworks for understanding student learning; social cognitive theory and self-regulated learning.

The chapter includes three sections. The first describes social cognitive theory as a framework for understanding the occurrence and implications of smartphone-induced digital distractions. The section consists of a description of how social cognitive theory's conceptualization of modeling can assist in understanding student use of the smartphone. The second section explores how SRL extends social cognitive theory and provides a nuanced framework to explore the implications of the smartphone for student learning. A concluding section describes implications for practice and future research.

SOCIAL COGNITIVE THEORY

Social cognitive theory has been remarkably useful for researchers studying human behavior in general (Lin & Hsu, 2015; Xing & Rojewski, 2020) and learning in particular (Bembenutty et al., 2016; Usher & Schunk, 2018). Albert Bandura posited the theory in partial response to deficits noted in behaviorism (Bandura, 2013). Bandura was troubled by the inefficiency of learning by trial and error and via reinforcement as posited by behaviorism. The theory begins with the premise that individuals have agency.

People operate as thinkers of the thoughts that serve determinative functions. They construct thoughts about future courses of action to suit ever-changing situations, assess their likely functional value, organize and deploy strategically the selected options, evaluate the adequacy of their thinking based on the effects which their actions produce and make whatever changes may be necessary. (Bandura, 1999, p. 23)

This agency is complex and interdependent. According to social cognitive theory (SCT), behavior involves a reciprocal relationship between the individual, actions, and environment or context (Bandura,

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