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Use Smart, Not Less: Toward a Theory of Self-Monitoring in the Digital Age

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Although smartphones are an essential part of everyday life, prior studies state that smartphone addiction has consequences on life satisfaction, mental health, and academic performance. Several studies discuss the inverse relationship between smartphone usage and productivity. However, few studies have specifically discussed the use of smartphones as an effective self-monitoring mechanism. Thus, the purpose of our study was to examine the role of smartphones as a mindfulness tool rather than as addiction vector to understand how technology can bring awareness to smartphone usage and improve productivity.

In this study, we introduce the new concept of *smartphone self-monitoring affordances*. We argue that these affordances, along with *intentional mindfulness* and *mindfulness self-efficacy,* can enable implementation intention to monitor screen time—*self-monitoring*—in smartphone usage. We also claim this intention can increase productivity when accounted for individual factors including baseline productivity. To validate our model, we used a series of surveys to record data on self-monitored smartphone usage among college students, since research has shown that younger generations are more susceptible to smartphone addiction than others due to earlier exposure. The rate of smartphone-related issues such as depression, anxiety, and physical problems are also higher among younger generations. We collected data from three state universities in New York, California, and Hawaii, asking students to download a mobile app, Space, to monitor their phone and application usage.

Our study contributes to behavioral and technological scholarship, illuminating the relationship between self-monitoring and productivity, as well as identifying drivers of self-monitoring. The first implication of this research lies in the positive relationship between monitoring smartphone usage and productivity. Results suggest that increasing productivity is reliant on tracking the amount of time users spend using their smartphone, presenting it to them in an understandable format. This reflects phone developers' decisions to provide a screen time report as a default capability. Second, this study provides a comprehensive understanding of self-monitoring and productivity and therefore, inform the design of mindfulness tools. Third, as more digital natives enter the workforce, this study gains significance. Our findings present the opportunity for employers to intervene in unhealthy or obstructive smartphone use, which impacts employee productivity and value.

This study lays a solid foundation for future inquiry that contributes to the mindful use of digital technologies. For example, future research can extend this study to investigate other potential drivers of self-monitoring such as users' motivations, goals and capabilities. Research regarding the overuse of mobile technologies can expanded by analyzing different factors like user perception of usefulness, accuracy, and data privacy. Considering contextual factors would also offer research alternatives, like how the quality of smartphone usage differs based on the context and user demographic, increasing productivity across groups.

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