Nudging Users toward Enhanced Self-Regulation: Effects of 3D Touch

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Abstract

Many mobile applications provide interventions to explicitly educate, remind and motivate users to perform healthy behaviors. However, users do not always act according to these explicit digital interventions, as it is often challenging to regulate one’s behavior in order to maintain a healthy lifestyle. Thus, our study investigates whether users’ self-regulation can be facilitated subliminally with proper mobile interaction design. Specifically, we investigated the impacts of two touch modes facilitated by 3D Touch technology, i.e., hard press and gentle tap. Drawing on the embodied cognition theory, we conjecture that press and tap may activate associated thoughts and thus deliver different information that affects users’ judgments, decisions and self-regulation behaviors. We test our hypotheses in two experiments. Results from the two studies show that inducing users to press during mobile interaction (as compared with tap) can improve their self-regulation in terms of selecting healthy food (study 1), setting higher goals, and engaging in more physical exercise (study 2). In addition, such effects were more salient among users with higher health awareness and a promotion-focused health orientation. Our work has significant implications for both mobile interaction design and health intervention research.