ThoughtCloud: An iPhone intervention for managing stress, mood, & anxiety

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Introduction

Let's face it—we're all stressed. We're so stressed, in fact, that we've come to accept it as a natural part of life (Thoits, 2010). We go through our daily routines—getting up, getting ready, checking email, commuting to work or school, completing task after task, and worrying about *every, last, little, thing*—that we often lose sight of what's important: the present moment (Killingsworth & Gilbert, 2010). Think about it, when was the last time you stopped to take a breather?

On the surface, it may not seem as though stress has any eminent consequences on our health or wellbeing, but it does—even down to a molecular level (Epel et al., 2004). Yes, even our *cells* are stressed. Stress negatively impacts our cognitive and emotional functioning, as well as our long-term physical and mental health Barik et al., 2013). This is a grave consequence considering we rely on our very minds to be happy, fulfilled individuals. We need our mental health to be motivated, helpful, fun, creative, productive, innovative, spontaneous; to be the best people we can be. And yet, we don't take care of ourselves, and ignore the stresses that weigh us down.

Fortunately, there *is* something we can do about it, and it doesn't cost an arm and a leg. Emerging research in mind-body medicine has provided substantial evidence that mindfulness-based practice has significant, positive effects on stress levels (Grossman et al., 2004). Research has consistently demonstrated that mindfulness training may modify cognitive (Zeidan et al., 2010) and emotional (Goldin & Gross, 2010) circuitry, as well as immune system functioning (Davidson et al., 2003). Mindfulness meditation has proven to be an effective intervention for addressing a variety of medical concerns, including anxiety, (Kabat-Zinn et al., 1993), depression (Piet & Hougaard, 2011), drug addiction (Bowen et al., 2011), smoking cessation (Brewer et al., 2011), borderline personality disorder (Linehan, 1993), eating disorders (Wolever & Best, 2009), psoriasis (Kabat-Zinn et al., 1998), irritable bowel syndrome (Gaylord et al., 2009), and pain management (Morone et al., 2008). Not only does mindfulness improve physical and mental health, but it also has a lasting impact on overall wellbeing (Brown et al., 2013).

Mindfulness

Because of the growing body of research supporting mindfulness as an effective mental health intervention, it's estimated that over 41 percent of cognitive therapists now integrate some form of mindfulness into their own therapy practice (Siegal, 2011). A well-known example of this technique involves teaching

patients to become more aware of their thoughts and emotions by engaging in mental imagery. In particular, patients are often instructed to imagine placing a thought on a cloud, and visualize it floating by. This technique encourages observation of thoughts, rather than reactivity, judgment, or attachment to thoughts. If a patient finds they are beginning to dwell on a particular thought, they are then encouraged to direct their attention to their breathing. This allows patients to use their breath as an anchor to the present moment (Kabat-Zinn, 1990).

ThoughtCloud provides a concrete framework for facilitating this mental imagery by allowing users to:

(1) *Identify thoughts*. Editable clouds provide unlimited space for identifying and recording incoming thoughts and feelings (*Figure 1*).
(2) *Observe thoughts*. Newly generated thought-clouds remain onscreen momentarily to assist with observation and awareness of thoughts and feelings (*Figure 2*).
(3) *Detach from thoughts.* Once pressed, the sun button assists with detachment of thoughts, by fading out all thought-clouds until transparent (*Figure 3*).

ThoughtCloud brings this mindfulness activity to a uniquely tangible space, and is an interactive and engaging alternative for individuals practicing mindfulness. Additionally, ThoughtCloud assists with the breathing exercise mentioned above by incorporating sounds as an anchor. When the user presses on the sun to fade (i.e. let go of) a thought, a whooshing sound mimics exhalation. Similarly, when the user is ready to generate new clouds, pressing on the hot-air balloon produces a sound to mimic inhalation.

ThoughtCloud is intended as a positive intervention for managing stress, mood, and anxiety, and is an easily-accessible, developmentally-appropriate, means of practicing mindfulness on a daily basis.

Call for Research

Presently, there are no studies being conducted on technology-based mindfulness interventions, perhaps because smartphone applications are still a relatively new construct in psychology.

Though ThoughtCloud draws directly from the mindfulness activities that have proven so successful in improving psychopathology, it is uncertain that a visual and tangible tool would have the same effect as engaging in purely simulated activities.

This is an area of research that, to the best of my knowledge, is unchartered territory, and should be researched in the near future, especially with the widespread use of smartphones and rapidly growing number of brain-based applications available to the public.

Figure 1: Identify thoughts

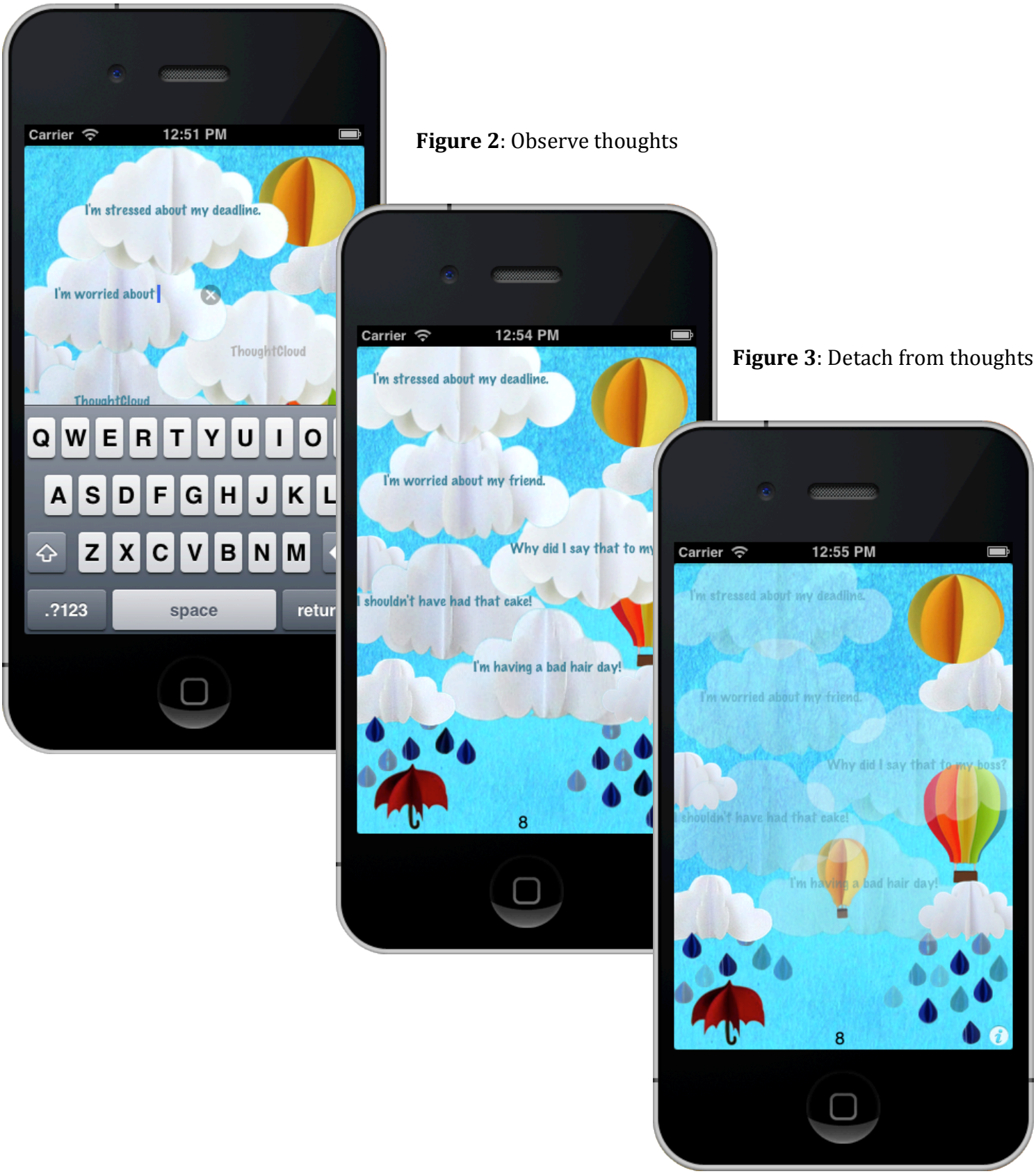

Figure 2: Observe thoughts

Figure 3: Detach from thoughts

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