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## Computers in Human Behavior

journal homepage: www.elsevier.com/locate/comphumbeh



## Depleted egos and affirmed selves: The two faces of customization



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#### ARTICLE INFO

Article history:
Available online 7 June 2013

Keywords:
Psychology of customization
Ego depletion
Identity
Self-affirmation

#### ABSTRACT

Customization is generally considered a desirable attribute of media technologies, but it also entails the active exercise of choice by the user. Research has shown that constantly making personal choices results in depletion of inner resources required for self-control—a phenomenon known as "ego depletion." Therefore, we hypothesize a negative effect of customization on self control. But, in doing so, we also consider the possibility that this effect could be mitigated by the affordance of self-expression via customization. So, although making numerous choices could lead to ego-depletion, identity expression could lead to self-affirmation, which is known to counter ego-depletion. The current study explores these two competing effects of customization on one's inner resources, by way of a three-condition, between-subjects experiment (N = 54), in which one group of participants was instructed to customize their iGoogle portal in a manner that would bolster their self-affirmation and another in a manner that would minimize it, with the third condition serving as a browsing-only control. The results indicate that self-affirmation may compensate for ego depletion, with theoretical implications for the psychology of customization technology and practical implications for design of customization options in media interfaces.

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#### 1. Introduction

In complex societies like ours, individuals face multiple choices every day. The number of such decisions has increased dramatically in recent times due to the proliferation of customizable products and services. In order to enjoy products or services that cater to one's exact preferences via customization, one must make multiple decisions. For instance, a Starbucks customer often has to make a number of choices before s/he can enjoy a cup of coffee choices pertaining to what size drink to order, what type of milk to use, how much whipped cream to add, and so on. Customization demands that users engage with a product intensely by explicitly conveying their preferences. Such choices occur not only in cafes, however. Customization is now a common aspect of our daily lives, in this day and age of DIY (do-it-yourself). Modern technologies in general, and communication technologies in particular, offer users unprecedented opportunities to customize. As communication technologies get increasingly personal and social, numerous customizable features are available in virtually every media technology, requiring users to consider more choices and make more decisions.

The current study investigates the psychological effects of such incessant decision-making offered by current-day communication

\* Corresponding author. Tel.: +61 2 4200 4734. E-mail addresses: huk142@psu.edu (H. Kang), sss12@psu.edu (S. Shyam Sundar). technologies. Choices for customization require more regulated effort on the part of users compared to other habitual choices, and involve a deep assessment of one's personal preferences. It is true that even when there is no customization function, media users make several choices pertaining to content—what to read or watch—when they are in front of a television, leafing through the pages of a newspaper, or surfing the Internet. But, compared to choices involved during the process of customization, these kinds of content-related choices are mostly made by habitual or automatic processes *after* encountering the content.

Because customization takes place before the content is delivered, it requires hypothetical speculation of potential results and introspection about one's own preferences. Such advanced forms of choosing behaviors are known to deplete the limited resource for self control (Vohs et al., 2008), a phenomenon known as "ego depletion" (Baumeister, Bratslavsky, Muraven, & Tice, 1998). In the media context, this depletion of self control capacity can affect users' responses to the communications that follow the customization activity. For instance, studies have found that individuals tend to show less reactance to persuasive messages (Burkley, 2008) and process messages heuristically rather than systematically (Janssen, Fennis, Pruyn, & Vohs, 2008) when they are in a state of ego depletion.

Does this mean that the now common activity of customization in media technologies results in an overall reduction in self control resources? If so, is there a solution for this detrimental effect of choosing behaviors in customization? The current study posits that self expression through customization can be a viable intervention for countering the ego-depletion effect of customization. Users can consciously, or even unconsciously, express their self while they make choices in the process of customization, asserting their identity in the process (Sundar, 2008a), which is known to counteract ego depletion (e.g., Schmeichel & Vohs, 2009).

#### 2. Literature review

#### 2.1. Does customization lead to ego depletion?

The current study defines customization as user-initiated activities, which allow the user to actively change the interface or regulate information that they receive using a set of options provided by a media system (Wind & Rangaswamy, 2001). According to the agency model of customization (Sundar, 2008a), the presence of customization on an interface makes the user a source, rather than simply a receiver, of content, thereby invoking feelings of choice and control. But, choice and control are not always desirable. For instance, a study showed that consumers who were offered 24 options of products, as opposed to six options, were not satisfied with their purchase decisions and were less willing to buy anything at all (Iyengar & Lepper, 2000). It is well known that while human beings, in general, wish to be independent and active, they are also vulnerable to passivity (Ryan & Deci, 2000). Such conflicting intrinsic motivations among humans can pose a dilemma for designers of customization. This is the reason why we need to dissect more carefully the psychological effects of "agency" that underlie users' customization behaviors. Customizable affordances may allow users to celebrate individualized content and the realization of self-agency. On the other hand, users may also become exhausted by the process of exercising their self-agency given the heavy demand for volitional action.

"Ego depletion" is cited as the most plausible explanation for this vulnerability. It is formally defined as the temporary reduction "in the self's capacity or willingness to engage in volitional action caused by prior exercise of volition" (Baumeister et al., 1998, p. 1253). The amount of inner resources required for all actions that need self-control, defined as 'volitional actions' (e.g., active response, emotion or behavior regulation, and choosing behaviors), is finite (Baumeister et al., 1998).

Some examples of these volitional actions include regulating emotions (e.g., Bruyneel, Dewitte, Franses, & Dekimpe, 2009; Ostafin, Marlatt, & Greenwald, 2008) and impulses (e.g., Fennis, Janssen, & Vohs, 2009; Roberts & Manolis, 2012; Vohs & Faber, 2007), controlling one's attention (e.g., DeWall, Baumeister, Gailliot, & Maner, 2008) and cognitive effort (e.g., Fennis et al., 2009; Reinhard et al., 2012), and making choices (e.g., Bruyneel, Dewitte, Vohs, & Warlop, 2006; Vohs et al., 2008). Because the capacity of these inner resources is quite limited, one would have fewer resources to successfully execute subsequent active responses or acts of selfcontrol after certain types of volitional activity. Studies have found that individuals who engage in self-control depleting tasks in the first stage of an experiment were generally found to show worse performance on the second self-control task than control-group participants (Hagger, Wood, Stiff, & Chatzisarantis, 2010), supporting the notion that self-control resembles a kind of energy or strength, and forms a subset of deliberate and conscious self-regulation (Baumeister et al., 1998).

The act of *making choices* is one of the volitional acts known to have detrimental effects on self control resources (e.g., Bruyneel et al., 2006; Vohs et al., 2008). Vohs et al. (2008) conceptualized the process of choosing behaviors with three key phases: "deliberation among options, deciding on a plan of action (i.e., making a

choice), and implementing the chosen option" (p. 892). They found that the phase of making a choice requires more inner energy than the other two phases, suggesting that making a choice itself consumes self-control resources over and beyond the cognitive effort involved in deliberating and weighing alternatives. As stated earlier, the choices made in the process of customization involves a "meaningful and effortful internal act that involves more than habitual behavior" (Vohs et al., 2008, p. 884). Therefore, it is expected that customization choices made by a user will deplete the user's capacity for self control.

#### 2.2. Can self-expression counteract ego depletion?

As discussed, customizable options on an interface imbue users with a sense of agency because they enable them to serve as sources of messages, offering them not only greater "control" over the interaction, but also greater involvement in it and – perhaps most important for our investigation—an opportunity to project their own unique identity (Sundar, 2008a). The model defines self-agency as the degree to which the user feels that s/he is a relevant actor in shaping the nature and content of communication.

The general human principles of egocentricity and ego-defensiveness are understood to form the basis of customization (Sundar, 2008a). As Petty, Wheeler, and Bizer (2000) note, the real psychological appeal of customization is that the customized message is oriented to some aspect of the self through the connection of one's characteristics or personality and the emotional tone of the message. In the customization process (Sundar, Oh, Bellur, Jia & Kim, 2012), individual users may consciously or mindlessly express their own values or identities when they are involved in the customization processes. As such, customization allows each user to feel unique and distinct from others (Kalyanaraman & Sundar, 2006), thereby letting participants to perceive own identity. This proposition was supported in a recent empirical study (Kang, Sundar, Kim, & Bae, 2009) which found that individuals rated customizable web services significantly higher in terms of perceived identity than personalization services (i.e., tailored content by adaptive computer system based on its database) and web services without any tailoring options. Therefore, aside from engaging users in effortful choosing behaviors, customization is known to help users affirm selves by expressing their own values and identity (Marathe & Sundar, 2011).

This aspect of customization, which allows for self-expression, is potentially important because being able to express one's core values is said to be a "small but significant act" of self-affirmation (Schmeichel & Vohs, 2009, p. 770). As it turns out, self-affirmation is known to be an effective psychological intervention for countering ego depletion (Baumeister, Heatherton, & Tice, 1993; Schmeichel & Vohs, 2009). According to self-affirmation theory, people strive for a positive perception of self, and a simple strategy that reminds individuals of their self-worth can serve to restore self integrity when there is a threat to it (Sherman & Cohen, 2002, 2006; Steele, 1988). Self-affirmation is typically studied in a context with unfavorable implications for the self (Baumeister et al., 1993). For instance, studies have shown that self-affirmed individuals tend to be less defensive when processing health-related persuasive messages (Ditto & Boardman, 1995; Liberman & Chaiken, 1992) and process counterarguments in a more objective manner (Cohen, Aronson, & Steele, 2000; Correll, Spencer, & Zanna, 2004). In general, these studies show that self-affirmation elicits better self control under conditions that ordinarily disrupt self control. In fact, a study has shown beneficial effects of self-affirmation on maintaining self-control under conditions of ego-depletion (Schmeichel & Vohs, 2009).

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