Published in final edited form as:

J Consum Mark. 2014 ; 31(6-7): 494–502. doi:10.1108/JCM-06-2014-1003.

Application of Regulatory Focus Theory to Search Advertising

Elyse N. Mowle,

Department of Psychology, Texas A&M University, College Station, Texas, USA

Emily J. Georgia,

Department of Psychology, University of Miami, Coral Gables, Florida, USA

Brian D. Doss, and

Department of Psychology, University of Miami, Coral Gables, Florida, USA

John A. Updegraff

Department of Psychology, Kent State University, Kent, Ohio, USA

Abstract

Purpose—The purpose of this paper is to test the utility of regulatory focus theory principles in a real-world setting; specifically, Internet hosted text advertisements. Effect of compatibility of the ad text with the regulatory focus of the consumer was examined.

Design/methodology/approach—Advertisements were created using Google AdWords. Data were collected for the number of views and clicks each ad received. Effect of regulatory fit was measured using logistic regression.

Findings—Logistic regression analyses demonstrated that there was a strong main effect for keyword, such that users were almost six times as likely to click on a promotion advertisement as a prevention advertisement, as well as a main effect for compatibility, such that users were twice as likely to click on an advertisement with content that was consistent with their keyword. Finally, there was a strong interaction of these two variables, such that the effect of consistent advertisements was stronger for promotion searches than for prevention searches.

Research limitations/implications—The effect of ad compatibility had medium to large effect sizes, suggesting that individuals' state may have more influence on advertising response than do individuals' traits (e.g. personality traits). Measurement of regulatory fit was limited by the constraints of Google AdWords.

Practical implications—The results of this study provide a possible framework for ad creation for Internet advertisers.

Originality/value—This paper is the first study to demonstrate the utility of regulatory focus theory in online advertising.

Keywords

Search engine; Google AdWords; Internet advertising; Online advertising; Regulatory fit; Regulatory focus; Search engine

In 2013, marketers spent over \$45 billion in advertising across the top three search platforms (Google, Yahoo!, and Microsoft Bing), with 33% of online marketing dollars spent on Google (eMarketer, 2013). In Q1 of 2014, marketers spent another 13.9 million dollars on advertising through Google, suggesting that advertisers are using products such as Google AdWords at high rates (Google, 2014). They are spending this money in an attempt to reach the internet users who, in aggregate, searched Google an average of 12.6 billion times a month in fall 2013 (comScore, 2013). Advertisers who rely on the internet to market products or services face substantial challenges: a distracted audience, very brief exposure to ads, text length limitations, and of course, competition from other advertisers. Such an environment differs substantially from the controlled, pristine laboratory environments in which social psychological theories are typically developed and tested. How well, then, can social psychological theory shed light on web users' responses to brief online advertisements?

Whether searching online or offline, social psychological theories such as regulatory focus theory propose that people make decisions and pursue goals largely for their utilitarian value: to gain pleasure and/or to avoid pain (Higgins, 1997). Regulatory focus theory, however, distinguishes between manners in which people can gain pleasure and avoid pain. Regulatory focus theory proposes that people can pursue goals with either a promotion or a prevention focus. Those who pursue goals with a promotion focus construe pleasure as the attainment of hopes, ideals and aspirations, and construe pain as the absence of these. In contrast, those who pursue goals with a prevention focus construe pleasure as the attainment of security and satisfaction of responsibility, and construe pain as the absence of these.

Regulatory focus principles have been widely tested and confirmed across a variety of research questions, including health information, evaluations of objects, message persuasion, and relationship strategies (Aaker and Lee, 2001; Chernev, 2004; Higgins *et al.*, 1994; Higgins *et al.*, 2003; Hong, 2014; Latimer *et al.*, 2008; Lee and Aaker, 2004; Wang and Lee, 2006). Unfortunately, the conditions under which regulatory focus theory has been tested have often been tightly controlled laboratory settings using well-defined and lengthy advertisements; even previous research measuring internet search behavior and regulatory focus has tested these behaviors in the lab (Hong, 2014). Therefore, the present study seeks to help marketers design ads that are the most attractive to consumers by testing the utility of regulatory focus theory in real-world online text advertising.

Theoretical background and research hypotheses

Regulatory focus theory

In a consumer context, most people want to purchase good products, and marketers want consumers to consider their products "good". However, "good" is in the eye of the beholder – those with a promotion focus might seek out products that offer luxury and enjoyment, whereas those with a prevention focus might seek out products that guarantee safety and reliability (Cesario *et al.*, 2004). From a management standpoint, a marketing campaign is more likely to maximize return on investment when it is able to describe a product in a way that appeals to either consumer. The same product could be described in ways that emphasize potential gains or prevention against losses; for example, a healthy juice with

antioxidants could emphasize an increase in energy from using their product or highlight the protective potential of antioxidants for preventing physical signs of aging. From a marketing perspective, then, how should a particular online advertisement be framed?

Regulatory fit

An advertisement is most likely to be successful when it matches an individual's regulatory focus, creating "regulatory relevance", which influences information processing and persuasion (Cesario, Higgins, & Scholer, 2008). That is, people who pursue a service or product with a promotion orientation should respond more favorably to advertisements that tout how the service can help fulfill one's hopes and aspirations. In contrast, people who pursue a service or product with a prevention orientation should respond more favorably to advertisements that tout how the produce can ensure safety, security, and stability. The compatibility between the advertisement and the regulatory focus of the consumer should increase the relevance of the message to a person's motivations, which should lead to greater effectiveness (Cesario *et al.*, 2008). When viewing advertisements, a consumer seeking to gain an ideal (rather than protect against loss) should experience regulatory relevance when viewing advertisements with information geared towards hopes, luxuries, and gains. Conversely, an effective advertisement for a consumer with a prevention focus should mention safety, protection, and prevention against loss. As a result, the experience of regulatory relevance should influence consumer behavior.

Furthermore, when a message presents information in a way that sustains a person's promotion or prevention motivational orientation, it may also create "regulatory fit," which may cause the individual to "feel right" about their evaluation of a message (Cesario *et al.*, 2004). For example, Cesario and colleagues (Cesario *et al.*, 2004; Study 2) manipulated the regulatory fit of a message by matching the eager v. vigilant means in which a program was described (eager means describing a program promoting success, which should sustain a promotion orientation; vigilant means describing a program preventing failure, which should sustain a prevention orientation) with participants' promotion or prevention chronic regulatory focus. When the means matched the recipient's regulatory focus, recipients viewed the message as more persuasive and had a more positive opinion of the issue.

This experience of "feeling right" may result in experiencing value from fit (Higgins, 2002). This experience of transfer of value from fit should apply in marketing, such as consumer evaluations of a product (see Avnet and Higgins, 2006, for review), such that consumers prefer products presented with advertising claims compatible with experimentally induced regulatory focus (Florack and Scarabis, 2006). Prevention-focused consumers have been found to prefer products with utilitarian performance-related attributes, whereas promotion-focused consumers prefer products with hedonic attributes (Chernev, 2004). Advertisements that focus on means compatible with the regulatory focus of a consumer are more effective than advertisements expressing incompatible means for reaching a goal (Cesario *et al.*, 2004). Importantly, these effects have been found for short advertising claims in addition to lengthy messages and product descriptions (Florack and Scarabis, 2006). Compatibility between regulatory focus and message is also relevant to buying intentions of consumers considering different health insurance policies (Daryanto *et al.*, 2010) and persuasiveness of

product health claims (Lee and Aaker, 2004). Selection of internet health information is dependent on the compatibility between an individual's activated regulatory orientation and the frame of the health message (Hong, 2014); participants were more likely to choose information compatible with their activated regulatory focus than incompatible information, even when both types of information were present. Therefore, the regulatory focus of the consumer should be considered when creating health messages (Hong, 2014). Moreover, the Hong (2014) study demonstrates that momentary activation of regulatory fit remains after exposure to incongruent information, which is critical when considering the context of internet search engines, where consumers will likely be exposed to multiple messages that vary in regulatory focus.

Importantly, regulatory fit influences not only consumer mood and sentiment but actual behavior. Indeed, in laboratory settings, promotion-focused individuals report higher expected satisfaction with a product when its one-page description was written with a promotion focus, whereas prevention-focused individuals expressed higher expected satisfaction with the same product when descriptions were written with a prevention focus (Werth and Foerster, 2007). Similarly, promotion-focused callers to a cancer information hotline were more likely to increase physical activity when both an audio message and a mailed brochure emphasized benefits of being active, whereas prevention-focused callers were more likely to increase physical activity when audio and print messages emphasizes the costs of inactivity (Latimer *et al.*, 2008). A recent study by Lin and Shen (2012) examined compatibility between regulatory focus of the consumer and message framing (gain vs. loss information in the text of the advertisement) as well as product attributes (products focused on pleasure or every-day needs) and how these variables affected attitudes about the advertisement and purchase intentions for a product. Results demonstrated that promotion-focused individuals demonstrated more positive advertisement and brand attitude and greater purchase intention when exposed to a message with gain framing compared to messages with loss framing. Therefore, matching the focus of an advertisement message with the focus of a promotion-oriented consumer could result in greater returns for the marketer. Notably, no effect was found for prevention-focused individuals on attitude or purchase intention. In both Latimer *et al.* (2008) and Lin and Shen (2012), the effect of compatibility between consumer regulatory focus and message was stronger among promotion-focused individuals compared to prevention-focused individuals. Overall, results of these laboratory studies suggest that advertisements are more successful when the content of a message is compatible with an individual's regulatory focus; moreover, preliminary evidence suggests that this effect may be stronger for promotion- than prevention-focused individuals.

Regulatory focus principles may be applied to online searches, as the terms consumers enter into search engines are indicators of whether they are motivated by promotion or prevention concerns. This information can then enable advertisers to tailor their advertisements accordingly. Considering the amount of money spent by marketers on search advertising platforms, particularly Google, the success of an advertisement with consumers is crucial. Google presents and ranks ads for consumers as a result of a Google-assigned "Quality Score", which is determined by Google through a combination of factors such as how well

ads, ad groups, and landing pages linked from these advertisements relate to what the consumer is searching for, as well as how likely a consumer is to click on a particular ad. This score affects the likelihood that consumers will view a marketer's ad within the first page of search results, as well as the placement of that ad on the page and the likelihood of the ad being placed above the natural search results presented to the consumer. The bid a marketer pays for clicks on advertisements is calculated partly using the Quality Score as well. Therefore, the Quality Score of a keyword in a marketer's ad group has implications for ad costs and revenue as well as reach of the advertiser's message. While matching consumer keywords to text in an advertisement and on the landing page for a product is a simple task, predicting the likelihood that consumers will click on your ad – an important aspect of Quality Score and therefore advertisement success – remains more an art than a science. Though compatibility between the regulatory focus of a consumer as indicated by their search keywords and the message of an ad should theoretically affect consumer behavior as evidenced by laboratory research, the effects of regulatory focus on ad success have not yet been measured in a native advertising platform such as Google AdWords. Evidence that compatibility increases the likelihood that a consumer will click on an advertisement would have important implications for managers hoping to get the most out of the money spent on internet search advertising. This study tests the following regulatory focus hypotheses using real online searches.

The Current Study

In the present study, we sought to answer the following question: In the context of brief online advertisements used commonly in Google advertisement, does the compatibility of the advertisement and consumer regulatory focus influence advertisement success? Consistent with prior work, we hypothesized that consumers holding a promotion focus towards a relevant service (as indexed by the regulatory focus of the search terms used) would be more likely to respond to a message that described the service in promotion rather than prevention terms. In contrast, we hypothesized that consumers holding a prevention focus towards a relevant issue would be more likely to respond to an advertisement that described the service in prevention rather than promotion terms. We note that this is the first study to our knowledge to examine whether regulatory focus principles apply to the real-world context of brief, online advertisements.

Research methodology

Participants

The current study sought to understand the effects of regulatory focus and message compatibility on the recruitment of participants for a study investigating the effectiveness of an online self-help program for couples – OurRelationship.com. This program is a web-based intervention for couples experiencing relationship problems. To recruit a sample that accurately represented adults in relationships in the United States, the researchers turned to the Google AdWords internet advertising platform¹. Within the Google search engine,

¹Google AdWords has been demonstrated to be an effective strategy for reaching psychological study participants (Eaton and Kenyon, 2014).

participants searched using both prevention- and promotion-focused keywords relevant to the OurRelationship program. For example, individuals searching “prevent divorce” were believed to be trying to prevent a loss (prevention focus), whereas individuals searching “improve communication” were assumed to be seeking a gain (promotion focus).

To be included in the present study, participants were required to be located in the United States and search specific keywords on [Google.com](https://www.google.com) indicative of relationship problems, as described in more detail below. Over the course of 5 weeks, 4,540 individuals searched one of the targeted keywords on [Google.com](https://www.google.com) and were presented with an advertisement matching this keyword. Of these, 63% (2,872) of individuals searched using a prevention-focused term, whereas 37% (1,668) of individuals searched using a promotion-focused term.

Procedure

The present study is a 2 (regulatory focus: promotion or prevention) $\times$ 2 (compatibility or message: compatible or incompatible) between-subjects design examining the relation between promotion- and prevention-focused advertisement text and the number of clicks received by each advertisement. Commonly searched keywords related to relationship distress were identified using Google’s online tools for advertisers and were grouped into distinctly themed AdWords ad groups. For the purposes of the present study, each ad group used in the OurRelationship study was first classified by the fourth author, an expert in message framing including regulatory focus theory, into one of three groups – a prevention focus, a promotion focus, or neither (e.g., specific characteristics of the program). Additionally, in an effort to further refine each AdWords ad group’s fit with prevention or promotion foci, the fourth author further classified the prevention and promotion focus groups as “consistent” or “highly consistent” with each foci. All classifications were subsequently discussed and consensus reached for the AdWords groups utilized in the present study, which are presented in Table 1. The “highly consistent” ad groups with a prevention focus were “Stop Communication Problems”, “Prevent Divorce, and “Spouse/ Partner Fighting”, and for promotion focus, “Reconnecting” and “Fix Sexless Marriage.”

Once a user entered a keyword search into Google, the user was randomly presented with an advertisement from the relevant ad group that was either compatible (e.g., promotion message advertisement following a user’s promotion-focused search term) or incompatible (e.g., prevention message advertisement following a user’s promotion-focused search term). Specifically, below the headline of the ad, the 35-character first line of descriptive text was manipulated to be present either promotion- or prevention-focused messages. For example, an individual searching the prevention-focused keyword “how to prevent divorce” would see either “Understand & End Negative Patterns” (compatible) or “Improve Communication and Intimacy” (incompatible) in the 35-character first line of descriptive text. The 25-character headline of the advertisement was the same across the consistent and inconsistent conditions and the text closely matched the keyword searched by the user. Although standardizing the headline across conditions likely reduces the effect of the experimental manipulation (compared to manipulating the text of both the headline and descriptive text), we chose this approach to maximize applicability of the present findings to AdWords marketers. Indeed, as Google strongly recommends closely matching the headline to the search term to

maximize clicks, we felt that advertisers would be unlikely to adopt a different approach. Additionally, the final line of advertisement text (a description of our product) – “Online, Self-Help Marriage Program” – was the same across all of the advertisements. Thus, of the 12–15 words of text, approximately 45% (4–7 words) was manipulated to have either a promotion- or prevention-focused message. The full text of the advertisements is presented in Table 1.

Measures

Using Google AdWords and Google Analytics reports, we measured whether promotion- or prevention-focused advertisements resulted in more advertisement clicks per impression (i.e., number of times displayed and viewed by consumers). Additionally, we measured whether advertisements with messages compatible or incompatible with the keyword searched by the consumer resulted in more clicks.

Results

The frequencies of clicks and non-clicks for prevention and promotion advertisements using the “consistent” ad groups are presented in Table 2. Using logistic regression analysis examining the main effect of keyword, the main effect of advertisement content, and the interaction between keyword and content explained significant variance in advertisement clicks [$\chi^2(1, N = 13,723) = 118.96, p < 0.001$]. There was a main effect of keyword focus, with consumers nearly twice as likely to click on an advertisement when they searched a keyword classified as promotion- rather than prevention-focused ($OR = 1.97, 95\% CI = 1.52–2.54, p < 0.001$). Further, a significant but small effect was demonstrated for advertisement message; users were more likely to click on an advertisement with promotion message content than with prevention message content ($OR = 1.35, 95\% CI = 1.04–1.74, p = 0.02$). Finally, results showed a significant interaction between keyword and advertisement message ($OR = 2.89, 95\% CI = 1.74–4.82, p < 0.001$); examination of click rates (see Table 2) indicated that an advertisement with promotion message content was especially likely to result in a click when paired with a consumer-searched promotion keyword. However, no such advantage was seen for promotion message advertisements paired with prevention keywords (see Table 3).

To further clarify our results, logistic regression analyses were subsequently limited to the “highly consistent” ad groups – those with keywords judged to best represent promotion or prevention concerns. These more limited analyses were considered a more specific test of the theory. Logistic regression analysis examining the main effect of keyword searched by the consumer, the main effect of advertisement message content, and the interaction between keyword and content explained significant variance in advertisement clicks ($\chi^2(1, N = 3,104) = 359.74, p < 0.001$). Overall, the effects of keyword, message content, and the interaction between keyword and content were consistent with previous analyses on the full sample; however, the magnitude of the effects was notably larger (Table 3). There was a strong main effect for keyword type, such that users were almost six times as likely to click on an advertisement when they searched a promotion-focused keyword compared to a prevention-focused keyword ($OR = 5.88, 95\% CI = 4.32–8.01, p < 0.001$). Further, there

was a main effect for advertisement type such that users were twice as likely to click on an advertisement with promotion-focused message content instead of prevention-focused message content ($OR = 2.61$, 95% $CI = 1.92-3.56$, $p < 0.001$). Finally, there was a strong interaction of these two variables ($OR = 7.47$, 95% $CI = 4.02-13.86$, $p < 0.001$). Examination of the pattern of results again indicated that user clicks were especially likely when a promotion-focused advertisement was delivered following a promotion-focused keyword; however, no such advantage of a prevention advertisement following a prevention search keyword was observed (see Figure 1).

Discussion of Results and Limitations

The purpose of the present study was to determine if the effects of regulatory focus on advertisement success as found in laboratory research settings would generalize to internet search advertising. Therefore, we sought to determine whether compatibility of advertisement text with users' regulatory focus as indicated by search keywords used would result in greater advertisement effectiveness on Google AdWords. Analyses showed that users were significantly more likely to click on compatible message advertisements than on incompatible advertisements, but only when users searched using promotion keywords. No advantage for compatible advertisements was observed when users searched prevention keywords. These findings echo the laboratory results of Latimer *et al.* (2008) and Lin and Shen (2012), who found that effects of message compatibility were stronger for promotion-focused individuals.

The size of these effects deserves some mention; indeed, the effect size difference between compatible and incompatible advertisements among the promotion searchers corresponds to a large effect. Even more notable, this large effect was achieved despite the fact that only 4–7 words of text were manipulated, and the “incompatible” messages were not completely incompatible as all of the advertisements utilized a headline that matched the consumer's search term. For comparison's sake, a recent study on the effects of tailoring short product advertisements on Amazon's Mechanical Turk website to other important individual difference factors – Big 5 personality traits – found only small to small-to-medium effect sizes (Hirsch *et al.*, 2012). In the current study, manipulations of the message's regulatory focus were small and somewhat diluted, yet the effects of these manipulations were notably strong. Thus, it may be that the individual's state has more immediate influence on advertising response than do individuals' traits (e.g., personality traits), which may be a more distal predictor of behavior. From a marketer's standpoint, these results demonstrate that advertisers can significantly increase clicks on their online search advertisements through careful consideration of the focus of the consumer (e.g., whether the consumer is more focused on possible promotion or on prevention concerns) and presenting advertisements with messages compatible to the regulatory focus of the search term used by the consumer.

One explanation for why compatible text was more important to promotion-focused users could be related to the language used in our advertisements. Our advertisements were abstract, using phrases such as “avoid negative patterns” or “improve intimacy”, instead of providing concrete steps to complete a goal. Such abstract language may have been a good

fit for participants in a promotion focus because promotion focus is associated with a preference for abstract language and constructs (Lee *et al.*, 2010; Semin *et al.*, 2005). In contrast, the abstract language in our advertisement text may have failed to provide a “regulatory fit” for prevention-focused consumers (Lee *et al.*, 2010). Therefore, marketers may benefit from considering the use of language in their online advertisements in addition to the message content. A marketer advertising a product such as OurRelationship.com to prevention-focused consumers could, for example, use concrete text such as “5 Steps to Prevent Divorce” instead of the more abstract language used in this study.

Finally, it is possible that the search results for prevention keywords had multiple appropriate advertisements and therefore consumers chose to delay clicking on any advertisement. Situations where all the options match the individuals’ regulatory focus may produce inner conflict, which in turn may cause individuals to delay their decision (Levav *et al.*, 2008). Such behavior is more characteristic of prevention-focused individuals than promotion-focused individuals (Crowe and Higgins, 1997; Hammer, 2010). Unfortunately, it is impossible to determine what users’ alternative search results were at the time our advertisements were viewed as Google does not provide this information to marketers. However, this possibility further highlights the importance of a good Quality Score on the success of Google AdWords advertisements. Ads with extremely high Quality Scores have been demonstrated to decrease competitors for the same keywords due to the high cost of bidding against a marketer with high Quality Scores (Forbes, 2014). Thus, less competition from other advertisers will not only decrease cost for marketers but may also decrease the likelihood of consumers experiencing decisional delay.

In addition to the main effect for consistency and its interaction with focus, it was notable that there was a large main effect for advertisement content. Specifically, although consumers in our study were almost twice as likely to enter a prevention-focused search term than a promotion-focused search term into Google, once consumers were presented with an advertisement they were almost six times more likely to click on a promotion-focused advertisement. Multiple studies have demonstrated evidence that traits associated with individuals’ prevention focus are also associated with individuals’ chronic indecision (Crowe and Higgins, 1997; Hammer, 2010). Furthermore, people in a prevention state are more likely to prefer options maintaining the status quo compared to people in a promotion state (Chernev, 2004). Decisional delay that is characteristic of chronic indecision may have influenced users that searched prevention keywords to not click on any advertisements. Further, some product categories are more associated in general with a particular regulatory focus; for example, consumers may view suntan lotion as a prevention product (Zhou and Pham, 2004; Florack and Scarabis, 2006). Thus, it may be that the *OurRelationship* program, which focuses on improving relationships, was viewed as a promotion-focused product and as a result received fewer clicks from prevention-focused individuals. Marketers should carefully consider the likely regulatory focus of their product and targeted consumers to increase the effectiveness of online text advertisements. In cases where the product’s regulatory focus is incompatible with targeted consumers, marketers may benefit from strong use of the strategies previously suggested, such as using tailored language (concrete vs. abstract) and focusing on the strength and urgency of the message content.

Practical implications

This is the first study to explore the effect of regulatory fit in advertisements outside of a controlled laboratory environment with participants who were not viewing advertisements purely as part of the requirements of their participation in a research study. Furthermore, we relied on objective behavioral measures (clicks) rather than opinions of the advertisements. Thus, our findings show the relevance of regulatory focus theory for real-world consumer behavior, with strong effects demonstrated despite the brevity of the advertisements. Thus, by measuring actual consumer behavior (clicks on advertisements) in this study, the present results speak directly to success of advertisements manipulated using regulatory focus theory. While this study specifically used the Google AdWords platform, results should generalize to all search based advertising platforms that allow tailored advertisement delivery based on users' search terms.

Furthermore, though marketers may find advice from Google and other internet services for creating successful online advertisements, no published research study to date has demonstrated a significant relationship between advertisement text content and the likelihood of advertisement clicks and conversions. The current study provides internet advertising platform consumers with a framework for creating successful text advertisements. The results of the current study suggest that regulatory fit between an advertisement's message and the regulatory focus of the consumer will result in more successful advertisements for the advertiser. Therefore, marketers should diversify their advertisements to account for varying focus of consumers in order to maximize the appeal and success of their ads.

However, the present study also had some limitations. In order to receive a good bidding price on advertisements, AdWords groups were tightly themed with closely related keywords that had high quality scores. Unfortunately, due to the limits of bidding prices and quality scores, there were keywords that would have fit with a particular regulatory focus that were not included in the ad groups in this study. Additionally, the character limits on the headline and advertisement texts limited the phrases used to provide a compatible or incompatible advertisement message with the consumer's regulatory focus. Finally, using advertising formats that allowed for longer phases could have allowed for more specific or concrete language in the prevention text conditions, as well as helped to more clearly differentiate between promotion- and prevention-focused advertisement texts. However, it is notable that we found significant differences in our advertisement manipulations despite these limitations. Most importantly, the limitations of ad text customization encountered by the authors on Google AdWords are experienced by all marketers using native search result advertising. The demonstration of effects of regulatory focus theory on successful online advertisements despite these limitations suggests that application of regulatory focus theory can be successful even in short text advertisements. Through manipulating a small number of words in their advertisement text, marketers can significantly increase the likelihood their advertisements will receive clicks from consumers. Such an approach will result in higher Quality Scores from Google, lower bidding costs, and higher revenue from these advertisements.

Summary

The purpose of the present study was to determine whether relevance of advertisement text messages to a consumer's regulatory focus would result in a significantly larger number of clicks on an online advertisement. We hypothesized that regardless of the regulatory focus of the user, the advertisements with text consistent with the users' regulatory focus would be more successful. The analyses of advertisement clicks provided partial support for the hypothesis that relevant messages would receive more clicks regardless of the regulatory focus of the consumer. Analyses show that users were influenced by advertisement content – consumers were significantly more likely to click on compatible message advertisements compared to incompatible advertisements; however, the overall effect size was small. Relevant messages were significantly more important to users in a promotion focus than to those in a prevention focus. Additionally, analyses showed a greater likelihood of promotion-focused consumers to click on our advertisements. Overall, the results of this study demonstrate that the interaction of a user's regulatory focus when searching the Internet and the regulatory focus of the advertisement message are important in consumer decisions to click on an advertisement. These results are the first to demonstrate the effects of regulatory focus theory on advertising success in the context of real-world advertising, where our advertisements competed with natural search results and other Google AdWords marketers.

In summary, the present study suggests that marketers should carefully consider the possibility of using social psychological theories such as regulatory focus theory to maximize the success of their online advertisements. Specifically, the results suggest that online marketers will benefit from tailoring their message content to the regulatory focus of their target consumers, instead of presenting an advertisement without a clear message focus or presenting the same advertisement text to every consumer.

Acknowledgments

The project described was supported by Grant R01HD059802 to Brian D. Doss from the Eunice Kennedy Shriver National Institute of Child Health & Human Development. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Eunice Kennedy Shriver National Institute of Child Health & Human Development or the National Institutes of Health. The authors would like to thank Larisa Cicila, M.A., Judith Biesen and Kimberley Stanton for their assistance with this project.

References

- Aaker JL, Lee AY. "I" seek pleasures and "we" avoid pains: The role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research*. 2001; 28:33–49.
- Avnet T, Higgins ET. Locomotion, assessment, and regulatory fit: Value transfer from "how" to "what". *Journal of Experimental Social Psychology*. 2003; 39:525–530.
- Avnet T, Higgins ET. How regulatory fit affects value in consumer choices and opinions. *Journal of Marketing Research*. 2006; 43:1–10.
- Camacho CJ, Higgins ET, Luger L. Moral value transfer from regulatory fit: 'What feels right is right' and 'what feels wrong is wrong'. *Journal of Personality and Social Psychology*. 2003; 84:498–510. [PubMed: 12635912]
- Cesario J, Grant H, Higgins E. Regulatory fit and persuasion: Transfer from 'Feeling Right'. *Journal of Personality and Social Psychology*. 2004; 86(3):388–404. [PubMed: 15008644]

- Cesario J, Higgins ET, Scholer AA. Regulatory fit and persuasion: Basic principles and remaining questions. *Social and Personality Psychology Compass*. 2008; 2/1:444–463.
- Chernev A. Goal-attribute compatibility in consumer choice. *Journal of Consumer Psychology*. 2004; 14:141–150.
- Chinn S. A simple method for converting an odds ratio to effect size for use in meta-analysis. *Statistics in Medicine*. 2000; 19:3127–3131. [PubMed: 11113947]
- comScore. [accessed 17 April 2014] comScore Releases October 2013 U.S. Search Engine Rankings. 2013. available at: http://www.comscore.com/Insights/Press_Releases/2013/11/comScore_Releases_October_2013_US_Search_Engine_Rankings
- Crowe E, Higgins ET. Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*. 1997; 69:117–132.
- Daryanto A, de Ruyter K, Wetzels M. Getting a discount or sharing the cost: The influence of regulatory fit on consumer response to service pricing schemes. *Journal of Service Research*. 2010; 13:153–167.
- Eaton WO, Kenyon KM. Accessing populations with specialized clinical needs: An illustrative case study using Google AdWords. *Professional Psychology: Research and Practice*. 2014; 45:36–43.
- eMarketer. [accessed 17 April 2014] Facebook Sees Big Gains in Global Mobile Ad Market Share. 2013. available at: <http://www.emarketer.com/Article/Facebook-Sees-Big-gains-Global-Mobile-Ad-Market-share/1010171>
- Florack A, Scarabis M. How advertising claims affect brand preferences and category-brand associations: The role of regulatory fit. *Psychology & Marketing*. 2006; 23(9):741–755.
- Forbes. [accessed 19 August 2014] How Exactly Does Google AdWords Work?. 2014. available at: <http://www.forbes.com/sites/quora/2014/08/15/how-exactly-does-google-adwords-work/>
- Google. [accessed 17 April 2014] 2014 Financial Tables. 2014. available at: <http://investor.google.com/financial/tables.html>
- Hammer, CA. “Effects of cognitive load and decision situation on decisional procrastination: The strategies of indecisives versus decisives”, Unpublished master’s thesis. Chicago, IL: DePaul University; 2010.
- Hirsch JB, Kang SK, Bodenhausen GV. Personalized persuasion: Tailoring persuasive appeals to recipients’ personality traits. *Psychological Science*. 2012; 23:578–581. [PubMed: 22547658]
- Higgins ET. Beyond pleasure and pain. *American Psychologist*. 1997; 52:1280–1300. [PubMed: 9414606]
- Higgins ET. Making a good decision: Value from fit. *American Psychologist*. 2000; 55(11):1217–1230. [PubMed: 11280936]
- Higgins ET. How self-regulation creates distinct values: The case of promotion and prevention decision making. *Journal of Consumer Psychology*. 2002; 12:117–191.
- Higgins ET, Roney C, Crowe E, Hymes C. Ideal versus ought predilections for approach and avoidance: Distinct self-regulatory systems. *Journal of Personality and Social Psychology*. 1994; 66:276–286. [PubMed: 8195986]
- Higgins E, Idson L, Freitas AL, Spiegel S, Molden DC. Transfer of value from fit. *Journal of Personality and Social Psychology*. 2003; 84:1140–1153. [PubMed: 12793581]
- Hong T. Examining the role of exposure to incongruent messages on the effect of message framing in an Internet health search. *Communication Research*. 2014; 41:159–179.
- Latimer AE, Rivers SE, Rench TA, Katulak NA, Hicks A, Hodorowski J, Salovey P. A field experiment testing the utility of regulatory fit messages for promotion physical activity. *Journal of Experimental Social Psychology*. 2008; 44(3):826–832. [PubMed: 19543443]
- Lee AY, Aaker JL. Bringing the frame into focus: The influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology*. 2004; 86:205–218. [PubMed: 14769079]
- Lee AY, Keller PA, Sternthal B. Value from regulatory construal fit: The persuasive impact of fit between consumer goals and message concreteness. *Journal of Consumer Research*. 2010; 36:735–747.

- Levav J, Kivetz R, Cho CK. 'Too much fit?' How regulatory fit can turn us into Buridan's asses. *Advances in Consumer Research*. 2008; 35:1–41. Available at: http://www.columbia.edu/~rk566/research/Regulatory_Fit_Context_Effects.pdf.
- Lin H, Shen F. Regulatory focus and attribute framing: Evidence of compatibility effects in advertising. *International Journal of Advertising: The Quarterly Review of Marketing Communications*. 2012; 31(1):169–188.
- Semin GR, Higgins T, de Montes L, Estrouget Y, Valencia JF. Linguistic signatures of regulatory focus: How abstraction fits promotion more than prevention. *Journal of Personality and Social Psychology*. 2005; 89(1):36–45. [PubMed: 16060741]
- Wang J, Lee AY. The role of regulatory focus in preference construction. *Journal of Marketing Research*. 2006; XLIII:28–28.
- Werth L, Foerster J. How regulatory focus influences consumer behavior. *European Journal of Social Psychology*. 2007; 37(1):33–51.
- [accessed 30 May 2013] United States Securities and Exchange Commission, Form 10-K, Google Inc. 2013. available at: <http://www.sec.gov/Archives/edgar/data/1288775/000119312513028362/d452134d10k.htm>
- Zhou R, Pham MT. Promotion and prevention across mental accounts: When financial products dictate consumers' investment goals. *Journal of Consumer Research*. 2004; 31:125–135.

Figure 1.
Likelihood of clicking on an advertisement by keyword and advertisement type

Overview of Advertisement Groups, Keywords, and Consistent and Inconsistent Text

Ad Group	Sample Keywords	Consistent Advertisement Text	Inconsistent Advertisement Text
<i>Promotion-Focused Advertisement Groups</i>			
Reconnect with partner	How to rekindle a marriage Reconnect with your spouse	Rekindle Your Marriage Learn New & Better Ways to Connect Online, Self-Help Marriage Program	Rekindle Your Marriage Learn How to Stop Drifting Apart. Online, Self-Help Marriage Program
Fix sexless marriage	Sexless marriage help How to fix a sexless marriage	In A Sexless Marriage? Learn New & Better Ways to Connect Online, Self-Help Marriage Program	In A Sexless Marriage? Understand & End Negative Patterns. Online, Self-Help Marriage Program
Fix marriage	How to fix my marriage Repairing a marriage	How to Fix Your Marriage Improve Communication and Intimacy Online, Self-Help Marriage Program	How to Fix Your Marriage Understand, End Negative Patterns Online, Self-Help Marriage Program
Save relationship	Save your relationship Help saving my relationship	Save Your Relationship Improve Communication and Intimacy Online, Self-Help Marriage Program	How to Fix Your Marriage Understand, End Negative Patterns Online, Self-Help Marriage Program
Improve Communication	How to communicate with your spouse Improving communication in marriage	Communication in Marriage Learn New and Better Ways to Talk Online, Self-Help Marriage Program	Communication in Marriage Learn Proven Ways to End Arguments Online, Self-Help Marriage Program
<i>Prevention-Focused Advertisement Groups</i>			
Stop fighting	Fighting with partner How to stop arguing with your spouse	Stop Fighting With Spouse Learn Proven Ways to End Arguments Online, Self-Help Marriage Program	Stop Fighting With Spouse Learn New & Better Ways to Connect Online, Self-Help Marriage Program
Prevent divorce	Avoid divorce How to prevent divorce	Learn to Avoid Divorce Understand & End Negative Patterns. Online, Self-Help Marriage Program	Learn to Avoid Divorce Improve Communication and Intimacy Online, Self-Help Marriage Program
Stop communication problems	Problems with communication Lack of communication in marriage	Communication In Marriage Learn Proven Ways to End Arguments. Online, Self-Help Marriage Program	Communication In Marriage Learn New and Better Ways to Talk. Online, Self-Help Marriage Program
Stop spouse blaming	Critical spouse How to deal with a nagging wife	Nagging, Critical Spouse? Learn New, Better Ways to Connect Online, Self-Help Marriage Program	Nagging, Critical Spouse? Learn Why and How You Can Stop It Online, Self-Help Marriage Program
Stop spouse ignoring	Spouse ignores me What to do when your husband ignores you	Spouse Ignoring You? Find New and Better Ways to Connect Online, Self-Help Marriage Program	Spouse Ignoring You? Find Out Why and How to Stop It Online, Self-Help Marriage Program

Table 2
Number of clicks and non-clicks by search and advertisement type for consistent and highly consistent ad groups

Response to Ad	Compatible		Incompatible		Total	
	Consistent	Highly Consistent	Consistent	Highly Consistent	Consistent	Highly Consistent
<i>Promotion-Focused Advertisements</i>						
Clicked	293	191	341	90	634	281
Did Not Click	2969	318	7922	1069	10891	1387
Total	3262	509	8263	1159	11525	1668
<i>Prevention-Focused Advertisements</i>						
<i>Total</i>						
Response to Ad	Consistent	Highly Consistent	Consistent	Highly Consistent	Consistent	Highly Consistent
Clicked	45	29	27	24	72	53
Did Not Click	1205	741	916	642	2121	1383
Total	1250	770	943	666	2193	1436

Table 3

Logistic regression analysis of advertisement clicks

Predictor	Odds Ratio	Std. Err.	z	p	[95% Conf. Interval]
<i>Consistent Ad Groups</i>					
Keyword Focus	1.97	0.26	5.20	<0.001	1.52 – 2.54
Ad Focus	1.35	0.18	2.29	0.020	1.04 – 1.74
Interaction	2.89	0.75	4.07	<0.001	1.74 – 4.82
<i>Highly Consistent Ad Groups</i>					
Keyword Focus	5.88	0.93	11.23	<0.001	4.32 – 8.01
Ad Focus	2.61	0.41	6.08	<0.001	1.92 – 3.56
Interaction	7.47	2.36	6.37	<0.001	4.03 – 13.86

Note: “Keyword Focus” captures the effect of searching with a promotion- versus a prevention-focused keyword. “Ad Fit” captures the effect of seeing a promotion- versus a prevention-focused advertisement.