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Compensatory word of mouth: Advice as a device to restore control

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ABSTRACT

Consumers often give advice by recommending products and services to one another. The present research explores the idea that advice giving sometimes reflects a self-serving desire to compensate for a loss of control. Four experiments provide convergent evidence for a phenomenon we term *compensatory word of mouth*, whereby consumers' communications contain advice fueled by their own need to restore control. Experiment 1 explores the potential practical relevance of this idea by showing that advertising messages can threaten consumers' sense of control and increase advice giving in word-of-mouth communications. Experiment 2 uses a different paradigm and further demonstrates that a threat to consumers' sense of control increases advice giving. As additional evidence of a compensatory account, Experiment 3 finds that threatened individuals' propensity to give advice is attenuated when they are first given an alternative means to restore a sense of control. Finally, Experiment 4 demonstrates that advice giving can serve a compensatory function by instilling a greater sense of competence that enhances consumers' feelings of control.

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1. Introduction

Advice is a pervasive and influential form of word of mouth (WOM). Consumers routinely provide advice by recommending or prescribing how others should behave with respect to a product, service, or brand (Cheema & Kaikati, 2010; Fitzsimons & Lehmann, 2004; Zhao & Xie, 2011). Moreover, a survey by the Keller Fay Group (2012) reports that 51% of consumers base their purchase decisions on other consumers' recommendations, and an experimental study by Çelen, Kariv, and Schotter (2010) finds that individuals act upon the recommendations they receive 74% of the time. Indeed, as a testament to its pervasive influence on consumers' behavior, consumers' advice can impact company's sales (De Bruyn & Lilien, 2008; East, Hammond, & Lomax, 2008; Gautham, Vadakkepatt, & Joshi, 2015; Hervás-Drane, 2015).

Much prior research suggests that advice giving is motivated by an empathic concern for the recipient (Feng, 2009; Goldsmith, 2008; Goldsmith & Fitch, 1997): consumers provide recommendations to improve or protect others' welfare (e.g., Dovidio, Allen, & Schroeder, 1990; Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Sundaram, Mitra, & Webster, 1998). Supportive of this view, Bazaarvoice (2007) finds that 90% of consumers state they offer recommendations to help others make better buying decisions. Consumers also appear to believe others are genuinely motivated to help them: approximately 92% of people trust other consumers' advice (Nielsen Company, 2012).

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Although we accept that advice can be motivated by an empathic concern for others, in this article we examine an alternative driver of advice giving. We suggest that, under specifiable circumstances, consumers offer advice for self-serving purposes tied to a need to restore their own lost sense of control. As we detail, a loss of control creates an aversive psychological state that induces compensatory behaviors aimed to restore control (e.g., Inesi, Botti, Dubois, Rucker, & Galinsky, 2011; Kay, Gaucher, Napier, Callan, & Laurin, 2008; Whitson & Galinsky, 2008). We suggest that giving advice to others provides consumers with one means to compensate for a loss of control. We regard advice given for such a purpose as an instantiation of *compensatory WOM*, which we refer to as any form of communication that arises, or is influenced by, a desire to offset one's own insecurities (see, for example, De Angelis, Bonezzi, Peluso, Rucker, & Costabile, 2012; Packard & Wooten, 2013, for other instances of compensatory WOM). In this paper, we focus on compensatory WOM in the form of advice tethered to consumers' need to restore a loss of control.

The remainder of the article is structured as follows. First, we review prior literature on both advice giving and human's need for control. Subsequently, we introduce the argument that an, as of yet, unexplored driver of advice giving is consumers' need to restore control. We then present four experiments that provide evidence for this relationship and support the underlying psychological mechanism. The first experiment demonstrates that marketing activities, such as advertising, can threaten consumers' sense of control and, as a consequence, increase advice giving. The remaining three experiments examine the compensatory nature of the phenomenon, by documenting the downstream effects of advice giving on one's sense of control. We conclude with a discussion of marketing implications.

2. Advice giving

Consistent with prior research, we use the term *advice* to refer to any form of communication in which a consumer uses prescriptive language that conveys a call to action to behave in a specified fashion. As such, advice captures any recommendation, instruction, or direction as to how someone should behave in a given situation (Kouper, 2010; Schrah, Dalal, & Sniezek, 2006; Sillence, 2013). To illustrate, advice is reflected in statements such as: "That hotel is great, you should stay there if you are in the area!" or "That hotel was not as posh as I had hoped. You should avoid it." With advice, an individual does more than just share her sentiment (e.g., "That hotel is great"); she explicitly urges the recipient to behave in a specific way ("you should stay there") (Cheema & Kaikati, 2010; Mazzarol, Sweeney, & Soutar, 2007).

Prior research has often construed advice giving as an altruistic behavior driven by empathy for the receiver (Feng, 2009; Goldsmith, 2008). In social communications, empathy motivates people to give advice to help recipients make better decisions (Goldsmith & Fitch, 1997). Price, Feick, and Guskey (1995), for example, find that consumers' intention to give advice about products, brands, and stores increases as their empathy increases. Smith, Coyle, Lightfoot, and Scott (2007) also find that a concern for others motivates consumers to give advice in social networks. Similarly, both Cheung and Lee (2012) and Hennig-Thurau et al. (2004) suggest an empathic concern for others motivates consumers to post online comments and product recommendations. Thus, prior evidence supports the general conclusion that advice giving can result from an empathic concern for others.

Although empathy can underlie advice giving, at times consumers' advice appears to stem from more self-serving motives. For example, experts (e.g., physicians, lawyers, financial advisors) can be motivated by economic incentives to give advice (see Sah & Loewenstein, 2014; Sah, Loewenstein, & Cain, 2013). A desire to earn respect and to be recognized by others as an expert can also motivate people to give advice (Constant, Sproull, & Kiesler, 1996; Fischhoff, 1992). Building on the notion that people sometimes provide advice to satisfy self-serving motives, we explore whether consumers give advice to quench a self-focused desire to restore their sense of control. Specifically, we propose that consumers give advice to restore a lost sense of control because giving advice can boost their sense of competence.

3. Need for control: A basic human motive

Central to our proposition is that most human beings have some innate need for control over their world. Substantial psychological research testifies to the idea that people have a need to believe that they can influence their social and physical environment (e.g., Rothbaum, Weisz, & Snyder, 1982; Skinner, 1996). People struggle to accept the idea of a chaotic world where events occur randomly and outside their governance. Perceptions of chaos and unpredictability in life events often arouse stress and fear within individuals (Kay et al., 2008; Laurin, Kay, & Moscovitch, 2008). Conversely, possessing control over the environment arouses feelings of self-confidence, optimism, and comfort because individuals perceive themselves as agents of their own life (Fast, Gruenfeld, Sivanathan, & Galinsky, 2009; Wegner & Wheatley, 1999) as well as capable of influencing other people's behaviors (Sommer & Bourgeois, 2010; Thompson, 1999).

Because of this fundamental need for control, people engage in efforts aimed to restore their sense of control when it is threatened (Inesi et al., 2011; Kay, Shepherd, Blatz, Chua, & Galinsky, 2010; Langer, 1975; Rothbaum et al., 1982). For example, individuals have been found to compensate for threats to their sense of control by increasing their support of governments or political leaders capable of imposing order (Kay et al., 2008, 2010; Shepherd, Kay, Landau, & Keefer, 2011). Individuals experiencing a loss of control also engage in a host of other compensatory strategies that afford, or provide the illusion of, a controlled and orderly world, such as heightening personal endorsement for a controlling God (Laurin et al., 2008), increasing belief in scientific progress (Rutjens, van Harreveld, & van der Pligt, 2010), and seeking structured hierarchies in the workplace (Friesen, Kay, Eibach, & Galinsky, 2014). Individuals

experiencing a loss of control also look for patterns and structures in chaos and randomness and engage in superstitious rituals all in the service of restoring a sense of control (see Keinan, 2002; Whitson & Galinsky, 2008).

Consumption also provides a means to restore control. Cutright (2012) finds that the experience of a lack of control leads people to seek structured consumption—products characterized by sharp edges and tight corners—to reinforce a sense of control. People whose control is undermined also prefer brand extensions that exhibit a strong fit with the parent brand because they provide an enhanced perception of order and structure (Cutright, Bettman, & Fitzsimons, 2013). Consumers experiencing a low sense of control also exhibit a preference for products (e.g., exercise equipment) that require more, as opposed to less, personal effort because expending effort restores feelings of control (Cutright & Samper, 2014). Finally, Inesi et al. (2011) suggest that a loss of control can lead people to compensate by seeking actual or symbolic markers of power and control, such as status goods (see also Rucker & Galinsky, 2008).

4. Advice as a device to restore control

Building on the notion that people engage in efforts to restore a threatened sense of control, we explore whether consumers give advice as a means to restore control. Why would offering advice serve as a surrogate for control? Our argument rests on two premises. First, we propose that advice giving fosters an increased sense of competence. Second, we propose that feeling competent instills a psychological sense of control.

To our first premise, research exploring intra-organizational interactions (Agneessens & Wittek, 2012), information systems (Sykes, Venkatesh, & Johnson, 2014), and employees' behaviors (Zagenczyk & Murrell, 2009) suggests that advising others can enhance one's own perceived competence and knowledge. The influence of advice giving on competence might result from the self-perception that, if one is advising others, then one must possess command of the area (Agneessens & Wittek, 2012; Fischhoff, 1992). Moreover, when people attempt to appear competent and knowledgeable they tend to use more prescriptive expressions that equate to advice by virtue of verbs of obligation (e.g., "I think you should involve your husband as much as possible;" Craven & Potter, 2010; Heritage & Sefi, 1992). Thus, offering advice might be one means to signal, or even gain, a sense of competence.

To our second premise, ample evidence suggests that competence is closely tethered to control (Skinner, 1996). Some scholars have even argued that control motivation might reflect a more fundamental need for competence (Bandura, 1997; deCharms, 1968; White, 1959). Consistent with a relationship between competence and control, prior research suggests that feeling competent can enhance one's sense of control (Anderson & Kilduff, 2009; Carli, 2001). Furthermore, Cutright and Samper (2014) find that consumers with a threatened sense of control exert more effort to pursue desired outcomes in the service of feeling more effective and competent in attaining that outcome. In another study, Mochon, Norton, and Ariely (2012) showed that threatening consumers' problem-solving ability, which could be viewed as a threat to their ability to control their environment, increased their preferences for self-assembly products (e.g., an IKEA bookcase). Assembling such products might signal a sense of competence that compensates for their concerns about lacking control over their environment.

In short, when individuals' sense of control is threatened, they seek opportunities to regain a semblance of control (e.g., Friesen et al., 2014; Kay et al., 2010; Whitson & Galinsky, 2008). We propose that giving advice—recommendations, instructions, or directions to others on how to behave in a given situation—is one means to restore a sense of control. Moreover, we propose that advice offers a means to restore a sense of control because it provides a signal of competence to an individual.

5. Contribution and overview

This research explores whether consumers use advice as a compensatory device to restore a lost sense of control. We present four experiments that test our predictions and provide convergence on the proposed psychological process. We first demonstrate that advertising messages that threaten consumers' sense of control increase their likelihood to advise others on the advertised topic (Experiment 1). Using an alternative manipulation to threaten control, we show that the effect is attenuated for consumers with a chronically lower desire for control (Experiment 2). Consistent with our compensatory account, we subsequently demonstrate that the tendency to advise others after control is threatened is attenuated when people are provided with an alternative means to restore control (Experiment 3). Finally, in line with our account, we show that advice giving is associated with a greater sense of competence and subsequent sense of control (Experiment 4).

In all experiments, we report all data exclusions, manipulations, and measures related to our hypothesis testing. In some experiments we collected additional measures after the key hypothesis-related measures for exploratory purposes. Details with regard to the additional measures are available from the authors upon request.

6. Experiment 1

Experiment 1 tests the hypothesis that individuals with a need to restore control manifest a greater tendency to give advice than individuals without such a need. In particular, this experiment seeks preliminary evidence for the effect by employing marketing stimuli, and more specifically advertising messages, that threaten consumers' sense of control. To the extent that advertising messages can activate a need to restore control, marketers' actions might encourage advocacy by increasing message recipients' inclination to engage in WOM in the form of advice.

6.1. Method

In Experiment 1 we recruited 133 participants (61 females, 72 males) from an online paid pool of respondents and randomly assigned them to one of three experimental conditions: Need to restore control present vs. absent vs. neutral.

We manipulated participants' need to restore control via different versions of an advertisement. Specifically, we created three distinct versions of an advertisement for *Insacar.com*, a fictitious car insurance information service. One version was designed to threaten respondents' sense of control. The other two versions were designed to either boost respondents' sense of control, or be control-neutral (see [Appendix A](#) for the three versions of the advertisement). Participants were exposed to one of the three versions of the advertisement and then asked to indicate how likely they were to advise a friend to use the promoted car insurance information service (i.e., "How likely would you be to advise a friend to use *Insacar.com*?"; 1 = very unlikely, 7 = very likely).

To test the effectiveness of this manipulation in influencing consumers' sense of control, we recruited another sample of 123 respondents from the same population as the main experiment and randomly exposed them to one of the three advertisements. Then, we asked participants to indicate how they felt using three items (i.e., "out of control", "uncertain", and "insecure"; 1 = very little, 7 = very much). Scores on these three items were reversed and then combined ($\alpha = 0.88$) to obtain an index of sense of control, such that higher values on this index represented greater control. Furthermore, to check that our manipulation did not influence mood and importance of the advertised solution, respondents completed the PANAS scale ([Watson, Clark, & Tellegen, 1988](#); positive affect items: $\alpha = 0.93$; negative affect items: $\alpha = 0.95$) and rated the importance of the car insurance information service promoted in the ad using three items (i.e., "important", "relevant", and "critical"; 1 = very little, 7 = very much; $\alpha = 0.83$).

We observed a significant effect of our manipulation on respondents' sense of control, $F(2, 120) = 5.25, p = 0.007$. Planned contrasts showed that respondents who read the control-threatening version of the advertisement reported feeling a lower sense of control ($M = 5.23, SD = 1.51$) than respondents who read the control-boosting version ($M = 6.05, SD = 1.25$), $t(120) = 2.82, p = 0.006$, and respondents who read the neutral version ($M = 6.04, SD = 1.12$), $t(120) = 2.81, p = 0.006$. Respondents who read the control-boosting version and those who read the neutral version of the advertisement did not differ in sense of control ($p > 0.90$). This result is consistent with prior work suggesting that individuals in a baseline state typically feel in control ([Cutright, 2012](#); [Cutright et al., 2013](#)). We found no significant effects of advertisement on respondents' positive or negative mood (all $ps > 0.20$) or the perceived importance of the advertised service (all $ps > 0.65$).

6.2. Results and discussion

We found a significant effect of advertisement on participants' likelihood to give advice, $F(2, 130) = 4.88, p = 0.009$. Respondents who read the control-threatening version of the advertisement were more likely to advise a friend to use the promoted car insurance information service ($M = 4.77, SD = 1.48$) than respondents who read the control-boosting advertisement ($M = 3.88, SD = 1.55$), $t(130) = 2.56, p = 0.012$, and respondents who read the neutral advertisement ($M = 3.80, SD = 1.81$), $t(130) = 2.83, p = 0.005$. Respondents' likelihood to give advice did not differ significantly as a function of whether they read the control-boosting message or the neutral message ($p > 0.80$).

Overall, Experiment 1 provides initial support for the hypothesis that a threat to consumers' sense of control can increase their tendency to give advice. This experiment also offers an initial example of how marketers might apply the present findings to design advertisement to encourage advocacy. In the next three experiments, we explore the boundary conditions of the effect and delve deeper into probing the underlying psychological mechanism.

7. Experiment 2

Experiment 2 sought further evidence that a need to restore control can lead people to give more advice. To do so, we manipulated a need to restore control using a previously established paradigm and tested a theoretically relevant boundary condition. Specifically, if our theory is correct, people's innate desire for control should affect their sensitivity to control threats ([Burger, 1985](#); [Gebhardt & Brosschot, 2002](#); [Keinan & Sivan, 2001](#)), and thus their propensity to give advice in a compensatory manner. Even though maintaining control is a basic human motive (e.g., [Skinner, 1996](#)), individual differences exist in people's *chronic desire for control* ([Burger, 1992](#); [Burger & Cooper, 1979](#)). People with a higher chronic desire for control exhibit a more pronounced drive for dominance and a desire to influence others ([Gebhardt & Brosschot, 2002](#)). In contrast, people with a lower chronic desire for control are less confident in their ability to influence events, display less lofty aspirations, and prefer to engage in unchallenging tasks ([Burger, 1985](#)). If a threat to an individuals' sense of control leads to greater advice giving as a way to restore control, this effect should be more pronounced among those most concerned with having control (i.e., individuals chronically high in their desire for control).

7.1. Method

In Experiment 2 we recruited 82 participants from an online paid pool of respondents and randomly assigned them to one of two conditions in a 2-cell (need to restore control: present vs. absent) \times chronic desire for control (measured continuously) design.

We first measured participants' chronic desire for control using a three-item version of Burger and Cooper's (1979) desire for control scale (i.e., "I enjoy having control over my own destiny", "I like to be in control of most things that occur in my life", and "I prefer a job where I have a lot of control over what I do and when I do it"). Each item was assessed on a seven-point scale (1 = not me at all, 7 = very true of me). We averaged the scores on these three items to obtain an index of chronic desire for control with higher scores indicating a greater chronic desire for control ($\alpha = 0.69$).

Next, respondents participated in an ostensibly unrelated study in which need to restore control was manipulated via an episodic recall task (Cutright, 2012; Whitson & Galinsky, 2008). Specifically, participants were randomly assigned to write about a situation in their own life in which they felt they had either no control (i.e., need to restore control present) or full control (i.e., need to restore control absent). Although this manipulation has been used in prior research (Cutright, 2012; Whitson & Galinsky, 2008), we pretested it on a separate sample of 75 respondents drawn from the same population as the main experiment. In this pretest, after completing the recall task, we asked respondents to rate their agreement with two items drawn from past research (i.e., "I feel that sometimes the events in my life are out of my control", and "I feel that sometimes whether or not I am able to get what I want is out of my hands"; 1 = strongly disagree, 7 = strongly agree; see Cutright, 2012). Scores on these two items were reversed and then combined ($r = 0.53$) to form an index of sense of control with higher values representing greater feelings of control. Supporting the effectiveness of the manipulation, participants in the need to restore control present condition reported feeling a lower sense of control ($M = 2.86$, $SD = 1.50$) than respondents in the need to restore control absent condition ($M = 3.74$, $SD = 1.23$), $F(1, 73) = 7.84$, $p = 0.007$.

After completing the recall task, participants in the main experiment were presented with a final, and ostensibly unrelated, study. Specifically, respondents were asked to recall a positive experience they had with a product or service, and write about it as if they were sending an e-mail to a friend. We explicitly asked respondents to write about positive experiences to hold valence constant as this allowed us to guard against the need to restore control manipulation affecting the valence of the content, which in turn might provide an alternative explanation for any differences in advice giving.

After the completion of the experiment, respondents' messages were coded by two research assistants blind to the research design and hypotheses. The coders assessed whether the messages contained a piece of advice, defined as any prescriptive recommendation for the recipient to purchase or try the product or service (e.g., "I have just bought this Fifa 2012. It is great, it is the best on the market. *You should try it too.*"), or a mere description of the experience with no prescriptive advice as to how to behave (e.g., "Recently I bought a Logitech controller for my computer. I am very happy with the product. It works well and is so easy to install."). Inter-coder agreement was 99% with the handful of disagreements resolved through discussion. This coding scheme yielded a binary variable coded as 1 when participants provided any advice and 0 when no advice was present in their messages.

To complement our binary measure of advice giving, we asked two additional independent coders, blind to the aim of the research, to rate the extent to which each message contained a mere description of the experience versus an explicit recommendation (1 = the message contains a mere description of the experience, 7 = the message contains explicit advice). The ratings provided by the two coders on this scale were combined to create a continuous measure of advice giving ($r = 0.79$).

7.2. Results and discussion

7.2.1. Binary measure of advice giving

The binary measure of advice (coded as 1 when advice was present and 0 when advice was absent) was analyzed with a binary logistic regression model that included need to restore control (coded as 1 when present and -1 when absent), chronic desire for control (measured as continuous variable and mean-centered), and their interaction. Results revealed a main effect of need to restore control ($b = 0.46$, Wald $\chi^2(1) = 3.72$, $p = 0.054$); participants gave more advice when the need to restore control was present compared to when it was absent (55% vs. 35.7%). The main effect of chronic desire for control was non-significant ($b = 0.33$, Wald $\chi^2(1) = 1.48$, $p > 0.20$). Furthermore, the main effect of need to restore control was qualified by an interaction between this variable and chronic desire for control ($b = 0.53$, Wald $\chi^2(1) = 3.75$, $p = 0.053$).

Because chronic desire for control was a continuous variable, we explored this interaction using the Johnson-Neyman "floodlight" technique (Spiller, Fitzsimons, Lynch, & McClelland, 2013). The obtained results revealed a positive and significant effect of need to restore control on advice giving for levels of chronic desire for control (mean-centered, $SD = 0.92$) higher than 0.015 ($b_{JN} = 0.47$, $SE = 0.24$, $p = 0.050$; see Fig. 1, Panel A; see also Appendix B, Table B1, for detailed results of the "floodlight" analysis). Respondents with a level of chronic desire for control higher than 0.015 gave more advice when the need to restore control was present compared to when it was absent. In contrast, respondents with a level of chronic desire for control lower than 0.015 did not differ in their tendency to give advice as a function of whether a need to restore control was present or absent.

As an alternative analysis, we also performed a simple slope analysis (Aiken & West, 1991) to explore whether chronic desire for control was associated with advice giving in each of our two experimental conditions. When a situational need to restore control was present, participants' chronic desire for control was positively associated with advice giving ($b = 0.87$, Wald $\chi^2(1) = 4.35$, $p = 0.037$). In contrast, when a need to restore control was absent, participants' chronic desire for control was not associated with advice giving ($b = -0.20$, Wald $\chi^2(1) = 0.30$, $p > 0.50$).

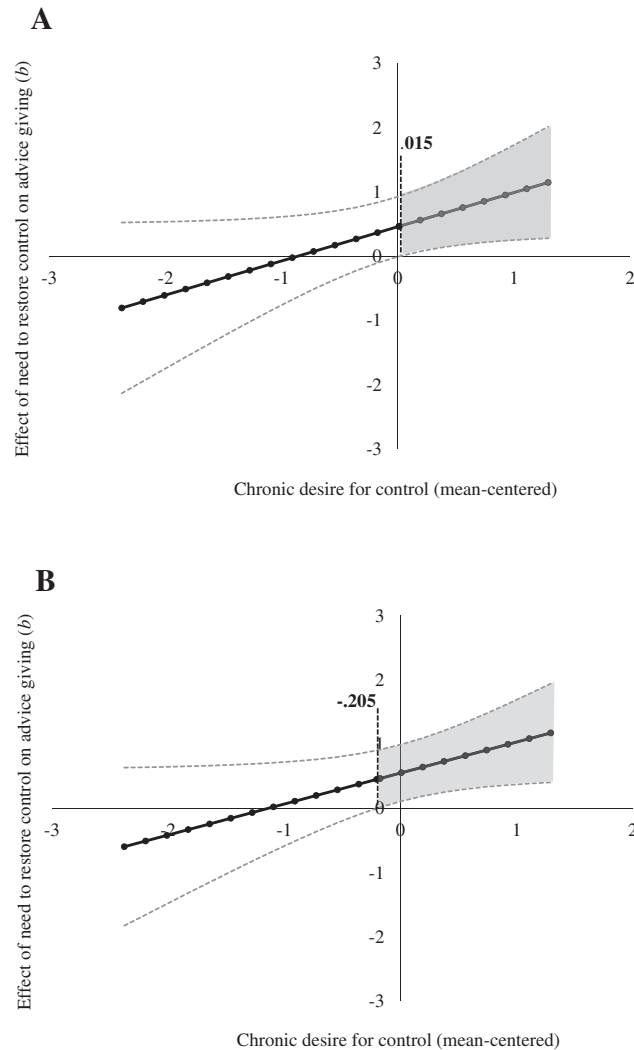


Fig. 1. Floodlight analysis (Experiment 2). Panel A: Effect of need to restore control on the binary measure of advice giving for all values of chronic desire for control. Panel B: Effect of need to restore control on the continuous measure of advice giving for all values of chronic desire for control. *Note:* Graphs illustrate the effect of need to restore control on advice giving across all values of chronic desire for control. The shaded area between confidence bands indicates the region within which the effect of need to restore control on advice giving is statistically significant.

7.2.2. Continuous measure of advice giving

The data for the continuous measure of advice giving were analyzed using a regression model that included need to restore control, chronic desire for control, and their interaction. Consistent with the results on the binary measure, this analysis revealed a positive main effect of need to restore control ($b = 0.55$, $t(78) = 2.48$, $p = 0.015$), whereas the main effect of chronic desire for control was non-significant ($b = 0.28$, $t(78) = 1.15$, $p > 0.20$). More importantly, the main effect of need to restore control was qualified by an interaction between need to restore control and participants' chronic desire for control ($b = 0.48$, $t(78) = 1.98$, $p = 0.051$).

Consistent with the results of the binary measure of advice giving, the results of the floodlight analysis revealed a positive and significant effect of need to restore control on advice giving for levels of chronic desire for control (mean-centered, $SD = 0.92$) greater than -0.205 ($b_N = 0.45$, $SE = 0.23$, $p = 0.050$; see Fig. 1, Panel B; see also Appendix B, Table B2).

Furthermore, we also performed a simple slope analysis to examine whether chronic desire for control was associated with advice giving in each of our two experimental conditions. When a situational need to restore control was present, participants' chronic desire for control was positively associated with advice giving ($b = 0.76$, $t(78) = 2.20$, $p = 0.031$). Conversely, when a need to restore control was absent, participants' chronic desire for control was not associated with advice giving ($b = -0.20$, $t(78) = -0.59$, $p > 0.50$).

One might wonder why a chronic desire for control did not exert any effect on advice in the absence of a situational need to restore control. In addition, one might ask why a situational need to restore control did not exert any influence on advice giving for respondents with a lower desire for control. As for the first issue, one simple explanation is that participants in the need to restore control absent condition might have satisfied their chronic desire for control through the episodic recall task, which involved writing about an episode in their own life in which they felt in control. As for the second issue, it is possible that participants low in chronic desire for control are either less responsive to control threats or respond to control threats in a different way (Cutright, Wu, Banfield, Kay, & Fitzsimons, 2011).

Overall, Experiment 2 provides further support for our hypotheses. Individuals exposed to a situational need to restore control were more inclined to give advice compared to individuals without such a need. Moreover, the tendency to give advice under a threat to control was greater among those with a higher chronic desire for control. Put simply, consistent with our compensatory account, those with a higher chronic desire for control were more responsive to a situationally activated need for control. Of note, we observed a significant main effect of need to restore control collapsing across chronic desire for control; this finding suggests that assessing individuals' chronic desire for control is not critical to observing differences in situational manipulations of one's need to restore control. As such, as in Experiment 1, in the remaining experiments we did not include measures of participants' chronic desire for control.

8. Experiment 3

Prior research (Cutright et al., 2013; Inesi et al., 2011; Kay et al., 2008, 2010) suggests that a need to restore control can be sated in different ways and the subsequent need for compensation reduced or eliminated. Building on this logic, if our effect on advice giving is driven by a psychological need to restore control, then this effect should be attenuated if an alternative means to restore control is provided prior to the opportunity to give advice. Consequently, to further test our account, Experiment 3 manipulated both need to restore control and whether or not participants were provided with an opportunity to restore their threatened sense of control *before* engaging in advice giving.

In Experiment 3 we gave participants a chance to restore a threatened sense of control by engaging in a categorization task used in prior research (Cutright et al., 2013). Prior research finds that categorizing objects can boost one's sense of control by providing a perception of agency in creating an ordered and structured environment (see Moskowitz, 1993; Neuberg & Newsom, 1993). If our theory is correct, participants with an initially threatened sense of control should be less inclined to provide advice when first given a chance to exert control by engaging in a categorization task.

8.1. Method

In Experiment 3 we recruited 101 participants (40 females, 61 males) from an online paid pool of respondents and randomly assigned them to a 2 (need to restore control: present vs. absent) \times 2 (initial opportunity to restore control: present vs. absent) between-participants design.

We manipulated need to restore control based on anticipatory thinking (Rutjens et al., 2010), whereby participants completed three sentences to support a specific idea about the future. In the need to restore control present condition, participants completed three sentences to support the idea that future is uncontrollable (i.e., "I feel I do not have control over my future because ..."). In the need to restore control absent condition, participants completed three sentences to support the idea that the future is controllable (i.e., "I feel I have control over my future because ..."). To verify the effectiveness of this manipulation, we conducted a pretest on a separate sample of 75 respondents drawn from the same participant population as the main experiment. Specifically, after administering the manipulation, we assessed participants' feelings of control using three items (i.e., "The future will be determined by my own actions", "The future is highly controllable", and "I can control my own future"; 1 = strongly disagree, 7 = strongly agree; $\alpha = 0.94$). Respondents in the need to restore control present condition reported feeling a lower sense of control ($M = 3.40$, $SD = 1.76$) than respondents in the need to restore control absent condition ($M = 5.62$, $SD = 1.31$), $F(1, 73) = 38.74$, $p < 0.001$.

Next, to provide an initial opportunity to restore control, we adopted a procedure used by Cutright et al. (2013). In an initial opportunity to restore control present condition, respondents organized 20 brand logos into four meaningful categories. In the condition with no initial opportunity to restore control, respondents were asked to simply count how many of the 20 brand logos they recognized (see Appendix C). Brand logos were selected to be very familiar and therefore easy to categorize for participants (i.e., five major universities, five brands of cars, five brands of soft drinks, and five brands of fast food chains), so that the categorization task would not differ from the counting task in terms of difficulty, effort required, or involvement. We pretested the effectiveness of this manipulation on a separate sample of 67 respondents drawn from the same population as the main experiment. After completing either the brand categorization or counting task, we asked respondents to rate the task on three different dimensions (i.e., "How difficult was the task", "How effortful was the task", and "How involved did you feel with the task"; 1 = very little, 7 = very much) and to indicate whether they experienced a sense of control using three items (i.e., "Did you experience a sense of control from performing the task", "Did you experience a sense of order from performing the task", and "Did you experience a sense of structure from performing the task"; 1 = very little, 7 = very much; $\alpha = 0.89$). The two tasks did not differ in perceived difficulty, effort, and involvement (all $ps > 0.20$). However, consistent with Cutright et al. (2013), the brand categorization tasks made respondents feel more in control ($M = 5.68$, $SD = 1.00$) than the counting task ($M = 3.63$, $SD = 1.62$), $F(1, 65) = 37.98$, $p < 0.001$.

Finally, respondents in the main experiment participated in what was described as an unrelated study, in which they recalled and wrote about a positive experience they had with a product or service. Participants then rated how positive that experience was (i.e., “How positive would you rate this consumption experience?”; 1 = neither positive, nor negative, 9 = very positive) and indicated their intention to advise others to buy that product or service using three items (i.e., “Whenever I have a chance, I will advise others to buy this product or service”, “I am definitely going to suggest to others to buy this product or service”, and “I would go out of my way to recommend this product or service to others”; 1 = neither agree nor disagree, 9 = strongly agree). We combined these three items to form an index of intention to give advice ($\alpha = 0.94$).

8.2. Results and discussion

Two respondents were excluded from the analysis: one who did not complete the control manipulation task, and one who did not recall and write about any consumption experience.

To test whether any differences in participants' intention to give advice might be driven by differences in the positivity of the experiences described, we first ran a two-way ANOVA where experience positivity was expressed as a function of need to restore control (present vs. absent), initial opportunity to restore control (present vs. absent), and their interaction. We found no significant effects of need to restore control, $F(1, 95) = 1.60, p > 0.20$, initial opportunity to restore control, $F(1, 95) = 2.26, p > 0.13$, or their interaction, $F(1, 95) = 0.90, p > 0.30$.

Next, we analyzed respondents' intention to give advice using a two-way ANOVA with intention to give advice expressed as a function of need to restore control (present vs. absent), initial opportunity to restore control (present vs. absent), and their interaction. Consistent with our previous experiments, we observed a main effect of need to restore control on the intent to give advice, $F(1, 95) = 6.95, p = 0.010$. Respondents with a need to restore control were more inclined to give advice ($M = 7.58, SD = 1.68$) than respondents without this need ($M = 6.74, SD = 1.76$). This main effect was qualified by an interaction between need to restore control and initial opportunity to restore control, $F(1, 95) = 4.56, p = 0.035$ (see Fig. 2). The change in the statistic value was negligible even when positivity of the experience was included as a covariate, $F(1, 94) = 3.90, p = 0.051$.

Planned contrasts revealed that, when participants did not have an initial opportunity to restore control, those with a situationally induced need to restore control expressed a greater intention to give advice ($M = 8.29, SD = 0.94$) than participants with no need to restore control ($M = 6.69, SD = 1.72$), $t(95) = 3.36, p = 0.001$. In contrast, when an initial opportunity to restore control was provided, intent to give advice was similar regardless of whether a previous need to restore control was present ($M = 6.95, SD = 1.93$) or absent ($M = 6.78, SD = 1.84$), $t(95) = 0.36, p > 0.70$.

With a different manipulation of need to restore control and a different dependent variable, Experiment 3 replicates the main effect in Experiment 1 and Experiment 2, and provides convergent evidence for the proposed psychological mechanism. Consistent with our hypothesis that giving advice is motivated by a need to restore control, the tendency to engage in advice giving was eliminated when an initial opportunity to restore control was provided.

9. Experiment 4

Experiment 4 delves deeper into the motivations behind advice giving following a threat to one's sense of control. We have suggested that giving advice can foster a greater sense of competence, and feeling competent, in turn, offers a sense of control (Bandura, 1997; deCharms, 1968; Skinner, 1996; White, 1959). In this experiment we test whether the act of giving advice results in a corresponding increase in one's sense of competence as well as whether giving advice is associated with a greater sense of control.

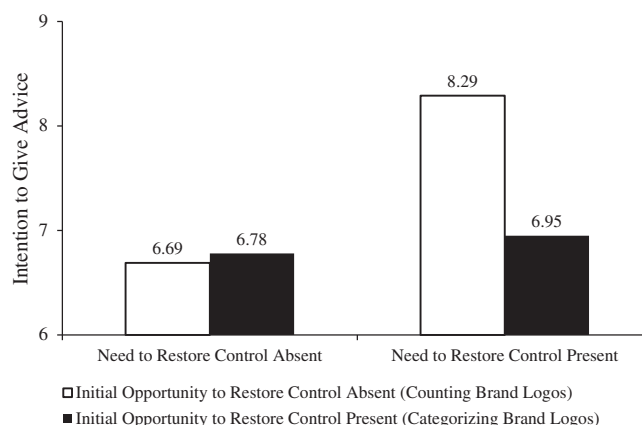


Fig. 2. Intention to give advice as a function of need to restore control and presence of an initial opportunity to restore control (Experiment 3).

In addition, we investigate two alternative accounts for why advice giving might restore control: social connection and empathy. One might argue that, when advising others, consumers might experience either a greater sense of social connection or an increased sense of empathy because they feel they are being helpful (e.g., Goldsmith, 2008; Price et al., 1995). A sense of social connection, empathy, or their combination might lead consumers to feel they live in a more ordered and structured world and thus feel more in control (e.g., Banfield, 2011).

In Experiment 4 we once again manipulate need for control. However, *after* participants were given the opportunity to give advice, we examined whether the act of giving advice is associated with greater competence and control, as our theory predicts, or whether other variables, such as social connection and empathy, follow from advice giving. Thus, although we manipulate need for control, our focal interest is how the advice that *follows* need for control predicts other criterion measures. Based on our theory, the act of giving advice should predict one's competence and one's sense of control, but not necessarily social connection or empathy.

9.1. Method

In Experiment 4 we recruited 200 participants (118 females, 82 males) from an online paid pool of respondents and randomly assigned them to one of two conditions in a 2-cell (need to restore control: present vs. absent) design.

Participants were randomly assigned to recall and write about an episode in their own life in which something bad occurred which was either out of their control and they could not have avoided (i.e., need to restore control present) or under their control and they could definitely have avoided (i.e., need to restore control absent). We instructed all participants to recall and write about a negative episode to keep the valence of information constant across experimental conditions.

We pretested the effectiveness of this manipulation on an independent sample of 90 respondents drawn from the same population as the main experiment. After completing the recall task, we asked respondents to rate their agreement with the same two items as in Experiment 2 (i.e., “I feel that sometimes the events in my life are out of my control”, and “I feel that sometimes whether or not I am able to get what I want is out of my hands”; 1 = strongly disagree, 7 = strongly agree; see Cutright, 2012). We reversed scores on these items such that higher numbers indicated greater control and combined them to form an index of sense of control ($r = 0.72$). The results of the pretest indicated that participants in the need to restore control present condition reported feeling a lower sense of control ($M = 2.37$, $SD = 1.23$) than respondents in the need to restore control absent condition ($M = 4.08$, $SD = 1.40$), $F(1, 88) = 37.97$, $p < 0.001$.

Next, respondents in the main experiment participated in an ostensibly unrelated study on their experiences with restaurants, in which they were asked to recall a positive experience they had with a restaurant and write about it as if they were sending an e-mail to a friend. Afterward, respondents completed a three-item measure assessing how competent, knowledgeable, and expert they felt after writing the message (e.g., “After writing the message, I felt competent”), a three-item measure assessing to what extent they felt socially connected, part of a group, and sociable after writing the message (e.g., “After writing the message, I felt socially connected”), and a three-item measure assessing how warm, empathic, and sympathetic they felt after writing the message (e.g., “After writing the message, I felt warm”). These measures were each assessed on a seven-point scale (1 = disagree, 7 = agree). Scores were combined to obtain an index of participants' sense of competence ($\alpha = 0.88$), sense of social connection ($\alpha = 0.88$), and sense of empathy ($\alpha = 0.73$).

Next, participants completed a three-item measure assessing the extent to which, after writing the message, they felt that they could exert control over other people, could control their environment, and were in control of the situation (e.g., “After writing the message, I felt that I could exert control over other people”). These three items were assessed on a seven-point scale (1 = disagree, 7 = agree) and their scores were combined to obtain an index of sense of control ($\alpha = 0.83$). Finally, respondents rated the positivity of the consumption experience they recalled and wrote about (i.e., “How positive would you rate the experience with the restaurant you wrote about?”; 1 = neither positive, nor negative, 7 = very positive) and their expertise with restaurants (i.e., “How would you rate your level of expertise with restaurants in general?”; 1 = very low, 7 = very high).

After the completion of the experiment, participants' messages were coded by three research assistants blind to the research design and hypotheses. The coders independently assessed whether the messages contained a piece of advice, defined as a prescriptive recommendation for the recipient to try that restaurant (e.g., “I had a really good experience at Olive Garden. It was really yummy and reasonably priced. *You should totally eat there.*”), or a mere description of experience with no prescriptive advice for the recipient (e.g., “I had a great time at Marco's the other night. Dinner was delicious and the prices were pretty good.”). Inter-coder agreement was 84.5%, yielding a PRL reliability index of 96% (Rust & Cooil, 1994), with all disagreements resolved through discussion. This coding scheme resulted in a binary variable coded as 1 when participants gave advice and 0 when participants gave no advice.

9.2. Results and discussion

We first tested whether, as in previous experiments, the need to restore control manipulation resulted in more advice giving. Implementing a binary logistic regression, we regressed the binary measure of advice giving (coded as 1 when advice was present and 0 when advice was absent) on need to restore control (coded as 1 when present and -1 when absent). Results revealed a significant effect of need to restore control on advice giving ($b = 0.40$, Wald $\chi^2(1) = 7.04$, $p = 0.008$); respondents in the need to restore control present condition were significantly more likely to give advice (45.87%) than respondents in the need to restore control absent condition (27.47%). We repeated the analysis by controlling for potential effects of the degree of positivity

of the recalled experiences and respondents' expertise with restaurants. The effect of need to restore control on advice giving remained significant ($p = 0.009$), whereas no significant effects emerged for positivity and respondents' expertise ($ps > 0.50$).

Next, we examined what downstream effects followed advice giving. To accomplish this, we regressed each of our dependent measures on whether or not individuals had given advice. First, we regressed sense of competence on advice giving (coded as described previously). The results revealed an effect of giving advice on sense of competence that was positive and significant ($b = 0.39$, $t(198) = 2.38$, $p = 0.018$); respondents felt a greater sense of competence when they had given advice than when they had shared an opinion. We also performed regression analyses to examine whether giving advice was associated with either social connection or empathy. In contrast to the positive relation with a sense of competence, we observed no evidence that advice giving had a relation with either a sense of social connection ($p > 0.50$) or empathy ($p > 0.80$). Of course, these results do not imply that empathy and social connection are not drivers of advice giving; rather, they simply suggest that giving advice within our experimental setting did not produce greater feelings of empathy and social connection in the respondents.

Finally, we examined whether advice giving and sense of competence was associated with a sense of control, per our hypothesis. In addition, we also explored whether social connection and empathy were associated with a sense of control. Specifically, we regressed participants' measured sense of control after writing the message on their sense of competence, sense of social connection, and sense of empathy, while controlling for advice giving. The obtained results revealed an effect of sense of competence on sense of control that was positive and significant ($b = 0.51$, $t(194) = 5.51$, $p < 0.001$), which indicates that experiencing a greater sense of competence was associated with a greater sense of control. The analysis also returned an effect of sense of social connection on sense of control that was positive and significant ($b = 0.19$, $t(194) = 2.24$, $p = 0.026$), whereas the effects of sense of empathy and advice giving were non-significant ($ps > 0.35$).

Because our variables are observed, statistical predictions must be, understandably, heeded with additional caution (Preacher, 2015; Stone-Romero & Rosopa, 2008). This limitation recognized, we probed whether the associations among variables were at least consistent with our theoretical model. Specifically, we estimated the indirect relationship between advice giving and sense of control using the bootstrapping method as implemented in the PROCESS SPSS Macro, Model 4, by Hayes (2013). The obtained results revealed that advice giving was indirectly associated with a greater sense of control via competence ($b = 0.19$, 95% confidence interval = 0.05, 0.40), but not via social connection (95% confidence interval = -0.04, 0.14) and empathy (95% confidence interval = -0.02, 0.06).

Overall, these results are consistent with our argument that advice giving is positively associated with both a sense of competence and a sense of control. Of course, this experiment has two notable caveats. First, we did not directly manipulate giving advice, but, per our prior experiments, manipulated sense of control. As such, the inferences drawn between advice giving and our mechanisms remain correlational. Second, we also found evidence that feeling socially connected was associated with respondents feeling more in control, which suggests this might be an alternative mechanism to obtain a sense of control. However, because advice giving was not significantly related to social connection, it seems less likely this explains why advice giving relates to control in the present research. These limitations notwithstanding, the present experiment provides conceptual linkages of our measure of advice giving to one's sense of competence and control.

10. General discussion

10.1. Theoretical contribution

The present research finds evidence to support the hypothesis that a self-oriented motive to restore control can induce consumers to give advice. In doing so, we believe this work offers several important contributions. First, in documenting the impact of a need for control on advice giving, the present findings provide a new psychological motivator that can drive WOM. Specifically, we provide evidence for the notion of compensatory WOM in the form of advice giving designed to offset one's need for control. In doing so, we add to existing literature that suggests that WOM often arises, or is influenced by, a desire to offset one's own insecurities (De Angelis et al., 2012; Packard & Wooten, 2013). Furthermore, we add to existing research that suggests advice can be motivated by factors independent of an empathic concern for others (e.g., Constant et al., 1996; Fischhoff, 1992; Sah & Loewenstein, 2014; Sah et al., 2013).

Second, our results provide insight into why a need for control may provoke advice giving. Specifically, advising others on how to behave appears to confer a greater sense of competence, which in turn is associated with control. This finding contributes to the stream of research that indicates competence as a fundamental source of control (Bandura, 1997; deCharms, 1968; Skinner, 1996) and suggests that providing individuals with opportunities to signal or exercise competence is one means to increase their feeling of control (e.g., Cutright & Samper, 2014; Liu & Steele, 1986).

Third, although our primary contribution rests in the psychological incentives and self-focused motives behind advice giving, the current work also has implications for the control literature. Past research has shown that individuals may try to regain a lost sense of control by engaging in a wide range of behaviors, such as supporting authoritative governments or political leaders (Kay et al., 2008, 2010; Shepherd et al., 2011), seeking status (Inesi et al., 2011), endorsing the existence of a controlling God (Laurin et al., 2008), relying on superstitious rituals (Keinan, 2002), seeking structured consumption (Cutright, 2012), and preferring brand extensions that exhibit a strong fit with the parent brand (Cutright et al., 2013). This work identifies WOM communications, via advice giving, as a new compensatory strategy to restore control.

10.2. Marketing implications

The findings of this work have potential implications for different stakeholders such as companies, public organizations, and consumers. First, this research suggests that companies should consider the potential impact of their marketing actions on consumers' sense of control. Based on Experiment 1's findings, companies might consider leveraging advertising messages that activate a need to restore control to encourage advocacy (i.e., increasing participants' proclivity to offer advice). Although we provided experimental evidence for this effect with mock car insurance advertisements, we believe similar effects may occur in other industries. By showing that one's need to restore control can increase advice giving, this research suggests that companies might reduce personal control among potential *influencers* to encourage them to act as an advocate of a company's message. For example, as individuals higher in social class might have a stronger chronic desire for control (Kraus, Piff, & Keltner, 2009), companies could leverage threats to control to engage these individuals in advice giving. Of course, the ethics and applicability of such executions remain open for discussion.

Second, this research has potential implications for public organizations such as governmental and non-governmental institutions interested in encouraging responsible behaviors through social marketing campaigns, such as *anti*-smoking, anti-drinking or safe-driving campaigns. For example, a campaign against drunk driving might encourage people to take a stand and advise others against drinking by focusing on the inherent lack of control one has when others drink. This would add a layer beyond just publicizing to consumers the dangers of drunk driving; by emphasizing the loss of a control such announcements might serve as a catalyst to motivate individuals to advise others not to drink. Thus, public service messages that use control threats may hold the potential to have ever larger effects on society insofar as consumers both adopt the message and advise others to heed it as well.

Third, this research raises a word of caution for consumers. Consumers generally trust and often base their purchase decisions on other consumers' advice (Çelen et al., 2010; Nielsen Company, 2012). Yet, when advice is motivated by a need to restore control, it is possible it might be suboptimal. Because the advice giver is motivated by a self-focused rather than other-focused psychological motive, she might prioritize her own psychological needs over doing what is in the receiver's best interest. As a consequence, the recommendation might not be optimal, even if unintentionally so. Although the empirical evidence provided in this paper does not directly speak to this hypothesis, it suggests the possibility for bias that should make receivers cautious before taking it.

10.3. Limitations and further research

The current research is not without limitations. Although Experiment 1 provided preliminary evidence that control-threatening advertisements can increase people's propensity to give advice about the advertised service, it is important to note that companies cannot fully control the valence of advice. In addition, it is also possible that control threats might lead consumers to give advice on unrelated topics. At the same time, if companies have quality products or services that genuinely produce favorable thoughts, and they provide an immediate opportunity to offer advice (e.g., giving a post online), it may be possible to design effective ways to use control-threatening advertisements. In general, future research examining the applicability of marketing actions that undermine consumers' sense of control but also encourage the dissemination of positive recommendations is warranted.

A second limitation is that some forms of communications may involve influence without the use of prescriptive language or explicit recommendations. For example, an individual might mention a restaurant she likes with the hope that the mere mention will lead others to dine at the restaurant. An admitted limitation is that our coders would not be able to properly code such a behavior as a piece of advice. While this is a reasonable argument, prior research on social communication (DeCapua & Dunham, 1993; Kouper, 2010; Sillence, 2013) suggests the language used is critical in distinguishing between advice and mere opinions. The prescriptive language that characterizes advice suggests an intent to influence the recipient (Craven & Potter, 2010; Heritage & Sefi, 1992), whereas the descriptive language that characterizes opinions suggests an intent to self-express (Berger, 2014; De Angelis et al., 2012). Put simply, at a minimum, we believe the present findings still delineate differences between advice and opinion at one level of language. Of course, studying additional nuances in the language or approaches people use to influence others is an interesting issue for future research.

A third limitation of this work is that we conducted all of our experiments in the United States, a country characterized by an individualistic culture (Hofstede, Hofstede, & Minkov, 2010). Past research has found that people from collectivistic cultures (e.g., China, Japan) are less motivated to maintain high levels of control (e.g., O'Connor & Shimizu, 2002) and are also more inclined to care about others (e.g., Hui, 1988). Thus, perhaps when such individuals experience a threat to control, like those with a low chronic desire for control in Experiment 2, they would not have a strong need to respond. Alternatively, as they are more naturally focused on others, empathic concerns might trump a need for control in advice giving contexts. Future studies could address this issue by testing the moderating role of cultural differences (i.e., individualism versus collectivism) on compensatory WOM.

Future research could also examine the moderating role of the product being discussed. Prior research has found that certain types of products (e.g., structured goods or products that require high effort) convey a greater sense of control (Cutright, 2012; Cutright & Samper, 2014), and certain brands are associated with a personality that conveys a sense of competence (Aaker, 1997). Therefore, one possibility is that, if the product or the brand itself offers a sense of control or competence, consumers may satisfy their need for control merely by talking about the product or brand and curb the need for advice giving. Thus, product

type and brand personality may affect whether or not a need for control results in greater advice giving. Finally, future work could explore other triggers in advertising that reduce consumers' sense of control. For example, fear appeals refer to emotional appeals that are typically employed to arouse feelings of uncertainty in consumers (e.g., [Morales, Wu, & Fitzsimons, 2012](#); [Smith & Ellsworth, 1985](#)). As such, it is possible that fear appeals also undermine consumers' sense of control, which might produce effects on advice giving as in the present research.

In summary, the present research establishes a relationship between a loss of control and advice giving. In doing so, this research expands our understanding of self-focused motives behind advice giving. At the same time, the present research also invites a number of questions for future research. Indeed, we hope this work plants seeds from which additional fruits will be born.

Appendix A. Versions of the advertising message used in Experiment 1

Control-threatening version.



Inscar.com – The New Car Insurance Information Service

Our online service compares the different coverage solutions offered by the most important car insurance companies.

Choosing a car insurance can be a daunting decision that can make you feel out of control. The variety of coverages available to consumers can make you feel confused on how to customize your insurance the way you need it, and choose the best plan to protect your car.

www.inscar.com

Facebook Twitter YouTube

Control-boosting version.



Inscar.com – The New Car Insurance Information Service

Our online service compares the different coverage solutions offered by the most important car insurance companies.

Choosing a car insurance can be an empowering decision that can make you feel in control. The variety of coverages available to consumers can empower you to customize your insurance the way you need it, and choose the best plan to protect your car.

www.inscar.com

Facebook Twitter YouTube

Neutral version



Inscar.com – The New Car Insurance Information Service

Our online service compares the different coverage solutions offered by the most important car insurance companies.

Choosing a car insurance can be an important decision. The variety of coverages available to consumers can help you to customize your insurance the way you need it, choose the best plan to protect your car.

www.inscar.com

Facebook Twitter YouTube

Appendix B. “Floodlight” analysis (Experiment 2)

Table B1

Effects of need to restore control on the binary measure of advice giving for all values of chronic desire for control (mean-centered).

Chronic desire for control (mean-centered)	Effect	SE	Z	p	LLCI	ULCI
–2.377	–.805	.678	–1.186	.236	–2.134	.525
–2.194	–.707	.631	–1.120	.263	–1.945	.531
–2.010	–.609	.585	–1.042	.298	–1.756	.537
–1.827	–.512	.539	–.949	.343	–1.569	.545
–1.643	–.414	.495	–.837	.402	–1.383	.555
–1.460	–.316	.451	–.702	.483	–1.200	.567
–1.276	–.219	.409	–.535	.593	–1.020	.583
–1.093	–.121	.369	–.328	.743	–.845	.602
–.909	–.024	.332	–.071	.943	–.675	.627
–.726	.074	.299	.247	.805	–.512	.660
–.542	.172	.272	.632	.527	–.361	.704
–.359	.269	.251	1.072	.284	–.223	.761
–.175	.367	.240	1.530	.126	–.103	.837
.008	.465	.239	1.946	.052	–.003	.932
.015	.468	.239	1.960	.050	.000	.936
.192	.562	.248	2.265	.023	.076	1.048
.375	.660	.267	2.472	.013	.137	1.183
.559	.757	.293	2.582	.010	.183	1.332
.742	.855	.325	2.628	.009	.217	1.493
.926	.953	.362	2.634	.008	.244	1.662
1.109	1.050	.401	2.619	.009	.264	1.836
1.293	1.148	.443	2.593	.010	.280	2.016

Note: The first column reports the values of chronic desire for control (mean-centered). The second column reports the effects of need to restore control on advice giving for the respective values of chronic desire for control. The third column shows the standard errors. The fourth and fifth columns report the Z-tests and their respective *p*-values. The sixth and seventh columns report the lower and upper limits of the 95% confidence intervals. The portion with a grey background contains the values of chronic desire for control for which the effects of need to restore control on advice giving are significant.

Table B2

Effects of need to restore control on the continuous measure of advice giving for all values of chronic desire for control (mean-centered).

Chronic desirefor control (mean-centered)	Effect	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
–2.377	–.597	.618	–.965	.337	–1.827	.634
–2.194	–.508	.577	–.881	.381	–1.656	.640
–2.010	–.420	.536	–.784	.436	–1.486	.647
–1.827	–.331	.495	–.669	.506	–1.317	.655
–1.643	–.243	.456	–.532	.596	–1.150	.665
–1.460	–.154	.417	–.369	.713	–.985	.677
–1.276	–.066	.380	–.172	.863	–.822	.691
–1.093	.023	.345	.066	.947	–.664	.710
–.909	.111	.312	.357	.722	–.510	.733
–.726	.200	.282	.708	.481	–.362	.762
–.542	.288	.257	1.122	.265	–.223	.800
–.359	.377	.238	1.587	.117	–.096	.850
–.205	.451	.227	1.991	.050	.000	.903
–.175	.465	.225	2.066	.042	.017	.914
.008	.554	.222	2.500	.015	.113	.995
.192	.642	.227	2.834	.006	.191	1.094
.375	.731	.240	3.043	.003	.253	1.209
.559	.820	.261	3.143	.002	.300	1.339
.742	.908	.287	3.165	.002	.337	1.479
.926	.997	.317	3.143	.002	.365	1.628
1.109	1.085	.350	3.096	.003	.387	1.783
1.293	1.174	.386	3.040	.003	.405	1.942

Note: The first column reports the values of chronic desire for control (mean-centered). The second column reports the effects of need to restore control on advice giving for the respective values of chronic desire for control. The third column shows the standard errors. The fourth and fifth columns report the *t*-tests and their respective *p*-values. The sixth and seventh columns report the lower and upper limits of the 95% confidence intervals. The portion with a grey background contains the values of chronic desire for control for which the effects of need to restore control on advice giving are significant.

Appendix C. Example of how brand logos appear after the categorization task compared to how they appear in a random order (Experiment 3)

Brand logos organized in meaningful categories.



Brand logos in random order.



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