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The Impact of Regulatory Focus on the Effects of Two-sided Advertising

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Abstract

The authors examined the impact of regulatory focus on the persuasive effects of two-sided advertisements. Since individuals in a prevention focus are more sensitive to negative information than individuals in a promotion focus, the authors predicted that two-sided ads would have less positive effects than one-sided ads in prevention-focused as compared to promotion-focused recipients. In Experiment 1, the chronic regulatory focus of participants was measured. In Experiment 2, a promotion or prevention focus was experimentally induced. In Experiment 3, participants with an experimentally induced prevention focus were compared to a control group. Supporting the predictions, two-sided ads led to less positive product evaluations in prevention-focused participants than in promotion-focused participants or participants of a control group. Analysis of cognitive responses show that the moderating effect of regulatory focus on the impact of two-sided ads on product evaluations is mediated by the positivity of thoughts elicited by the ad.

The Impact of Regulatory Focus on the Effects of Two-sided Advertising

Most advertisements praise the advantages of the advertised products and keep quiet about the disadvantages. Sometimes, however, it might be beneficial to rely on two-sided ads and to mention shortcomings of the products. Indeed, a few studies found that two-sided communication can be superior to one-sided communication (Crowley & Hower, 1994; Eisend, 2006; Etgar & Goodwin, 1982; Insko, 1962; Kamins & Assael, 1987; Lumsdaine & Janis, 1953; Pechmann, 1992). Golden and Alpert (1987), for instance, reported that participants perceived two-sided ads as more honest and useful for judgments than one-sided ads. Kamins and Assael (1987) found that participants were less likely to be persuaded by counterarguments when they had previously been confronted with two-sided arguments.

However, especially the findings concerning the effects of two-sided ads on product evaluations are mixed. While some studies demonstrated that two-sided communication might enhance product evaluations (e.g., Etgar & Goodwin, 1982), other studies found only limited effects of two-sided advertising or no positive effects on product evaluations, at all (e.g., Belch, 1981; Golden & Alpert, 1987; Hovland, Lumsdaine, & Sheffield, 1949). For instance, even if participants in the mentioned study by Golden and Alpert (1987) appreciated two-sided ads as honest, they did not evaluate the advertised products more positively when they had seen two-sided ads compared to one-sided ads. In contrast, Etgar and Goodwin (1982) found that two-sided ads led to more positive product evaluations and increased purchase intentions.

The main objective of the current research was to examine whether the concept of regulatory focus might help understanding the conditions under which two-sided

advertising has positive effects on the evaluation of products. In particular, we tested whether two-sided advertising is less effective for prevention-focused individuals than for promotion-focused individuals.

Theoretical Background

Some of the heterogeneous results about the effectiveness of two-sided ads can be explained if we bear in mind that while two-sided messages may enhance the credibility of an ad, they also contain negative product-related information. Since companies and advertisers have a strong interest in presenting a product in a favorable light, ads are often perceived as a biased source of information. If an ad contains a product's shortcomings, this is unexpected and might increase an ad's high credibility. Indeed, the effects of two-sided ads on the credibility of ads are well documented (Golden & Alpert, 1987; Kamins & Marks, 1987; Settle & Golden, 1974; Smith & Hunt, 1978; Sternthal, Phillips, & Dholakia, 1978). However, the product shortcomings that are mentioned might cancel out positive effects of credibility, which might explain why only a few studies found effects of two-sided ads on the evaluation of the products (see for a recent meta-analysis Eisend, 2006). Thus, it seems reasonable to assume that positive effects of increased credibility might be offset by the negative content of two-sided ads.

To understand effects of two-sided advertising, it is important to get more insights into the factors that determine the impact of the negative features mentioned in two-sided ads. Generally, the impact of negative features on judgments and decisions should depend on the specific goals people pursue. For example, for someone with the goal of consuming a very delicious ice cream, the taste of the ice cream may be more important than the calories. In contrast, for someone with the goal of avoiding calories, the taste might be less important than the caloric content.

Besides specific goals, more general motivational orientations – such as the regulatory focus of individuals – also influence which information individuals consider relevant for their judgments and decisions.

According to regulatory focus theory (Higgins, 1997, 1998, 2002), judgments and behavior are regulated by two distinct motivational systems: promotion and prevention. The two systems serve different functions. While the promotion system is concerned with accomplishment and advancement, the prevention system is concerned with obtaining security. When the promotion system is active, the presence and absence of positive outcomes is important to the individual, and judgments and behavior are regulated relative to these positive outcomes. When the prevention system is active, negative outcomes serve as reference. Hence, individuals rely on the kind of information that allows them to regulate their behavior relative to these references (Florack & Scarabis, 2003; Florack & Hartmann, 2007; Wang & Lee, 2006). For example, Florack and Hartmann (2007) found that participants discussing investment decisions in a group put forth more loss-relevant (e.g., the risk of falling share prices) and fewer gain-relevant arguments (e.g., the chance of very high profits) when a prevention focus was induced. Wang and Lee (2006) asked participants to select dimensions for comparing different toothpaste brands. Prevention-focused participants were more likely to choose dimensions related to the avoidance of negative outcomes (e.g., plaque prevention), while promotion-focused participants were more likely to choose dimensions related to positive outcomes (e.g., teeth whitening). Also, the findings of several other studies reveal selective attention or weighting by promotion-focused and prevention-focused individuals (e.g., Chernev, 2004; Safer, 1998; Werth & Förster, 2003). Thus, it seems that promotion-focused individuals highlight desired properties of a product and those

that are related to approaching positive outcomes. In contrast, prevention-focused individuals are more likely to seek information related to the product's shortcomings and to product-related features that do or do not help them avoid negative outcomes.

Since two-sided ads contain information related to a negative outcome, it can be assumed that prevention-focused individuals rely not only on the enhanced credibility of the ads, but also on the evaluation of the ad content when judging a product after the presentation of two-sided ads. In contrast, promotion-focused individuals should weigh the negative content of two-sided ads less strongly and should rely more on their affective response to the ad (Pham & Avnet, 2004). Hence, two-sided ads should lead to more positive product evaluations than one-sided ads in promotion-focused recipients, but less so in prevention-focused recipients.

In three experiments, we examined the predicted moderating impact of the regulatory focus on the effects of two-sided advertising. In Experiment 1, we studied the impact of chronic regulatory focus, which we measured with a questionnaire. In Experiment 2, we induced a promotion and a prevention focus with a priming method and tested hypotheses about processes that we expected to underlie the regulatory focus effects. In Experiment 3, we compared the effects of the induction of a prevention focus to a control group.

Experiment 1

Promotion and prevention focus are motivational states of individuals which are determined by situational factors as well as by factors that are formed during socialization (Pham & Higgins, 2005). The latter factors lead to a chronic regulatory focus that affects self-regulation in different situations. In Experiment 1, we measured the chronic regulatory focus and tested whether the positive effects of two-sided ads

compared to one-sided ads increase, the more the recipients are chronically promotion-focused and the less they are prevention-focused.

H1: The positive effect of two-sided ads on product evaluations increases the more individuals are chronically promotion-focused and the less they are chronically prevention-focused.

Method

Design and participants. Seventy-three undergraduate students of the University of Basel took part in the experiment for course credit. They were randomly assigned to two experimental conditions in which they were exposed either to four one-sided or four two-sided ads. We measured chronic regulatory focus, and product evaluations.

Procedure. When participants entered the laboratory, the experimenter greeted them and provided them with a questionnaire that included all instructions, the measure of chronic regulatory focus, the presented ads, and product-related questions. The presented ads were for a car, fruit salad, juice, and a cleaning agent. The ads were composed of a drawn portrait of a consumer and his or her statement about the product. The product advantages in the one-sided ads were the same as in the two-sided ads. The product shortcomings were only mentioned in the two-sided ad condition. The car was said to fit in every parking spot with the disadvantage of having space for only small hand luggage. The fruit salad was advertised as having no preservatives, but a short expiration date. The juice was said to be natural, but expensive. The cleaning agent supposedly cleaned stubborn stains, but consumers were advised to apply it only with gloves to protect their skin. After the presentation of each ad, participants evaluated the product on three scales (“I suppose that the product is of high quality;” “I could imagine buying the product;” “I find the product

attractive”). Participants indicated their answers for all judgments on a nine-point scale (1 = *not at all*; 9 = *very much*). The Cronbach Alpha scores ranged from .85 to .94. High values indicate a positive evaluation of the product.

Regulatory focus measure. We applied a measure of chronic regulatory focus which was tailored to the domain of consumer behavior. It included five prevention items (“I am often afraid of buying or consuming things that could be harmful;” “I often have the concern that products do not fulfill my expectations;” “If I opt for a product, I carefully examine whether everything is ok;” “I am often concerned that I might buy a product and discover later that it is not useful;” “I often think how to avoid wrong decisions when I shop”), and four promotion items (“I often dream about buying this or that product;” “I often have certain wishes and think about how to realize them;” “I often think what cool things I could buy;” “I often think about nice things and hope that I can afford them some day”). Participants indicated their answer to all items on a nine point scale (1 = *not at all*; 9 = *very much*). In a pretest with a sample of 45 participants, the measure showed good reliability for the promotion focus scale (Cronbach’s alpha = .77) and the prevention focus scale (Cronbach’s alpha = .81). A principal component analysis with oblique rotation resulted in two factors with eigenvalues greater than 1. These two factors accounted for 67 % of the variance. The first factor corresponded to a prevention focus and the second to a promotion focus. The loadings of the prevention focus items were between .69 and .88 on the first factor and between .03 and .25 on the second factor. The loadings of the promotion focus items were between .08 and .12 on the first factor and between .77 and .89 on the second factor. Furthermore, we obtained correlations between the consumer specific regulatory focus measure and a short form (Ineichen, Florack & Keller, 2007) of the regulatory focus measure by Lockwood, Jordan, and Kunda

(2002). The correlations were $r = .39, p < .01$, for the prevention scales, and $r = .22, p < .07$, one-tailed, for the promotion scales. The scales measuring different constructs were uncorrelated, $r_s < .18, p_s > .23$. We expected only moderate correlations between our consumer specific regulatory focus scale and the more general scale, because we assumed the regulatory focus to vary between different domains. In the sample of the present study, the Cronbach's alpha values were .74 for the promotion scale and .86 for the prevention scale. Since we were interested in effects of the presented ads on those participants who were predominantly in a promotion or prevention focus, we computed a difference score by subtracting the prevention score from the promotion score (cf. Cesario, Grant, & Higgins, 2004). High values of this score indicate a strong promotion focus and a weak prevention focus.

Results and Discussion

Evaluation of the products. To examine whether the effect of two-sided advertising was moderated by the chronic regulatory focus of the recipients, we computed a multiple regression analysis with the product evaluations averaged across all four products as dependent measure (Table 1). Ad type, chronic regulatory focus, and the interaction between ad type and chronic regulatory focus were included in the regression as predictors. The ad type was dummy coded (one-sided ad = 0; two-sided ad = 1). As expected, the regression analysis yielded a significant interaction between ad type and chronic regulatory focus, $\beta = .33, t(68) = 2.11, p = .04$. The regression lines are depicted in Figure 1. The stronger the promotion focus, the stronger the positive effect of the two-sided ads compared to the one-sided ads. In the regression without the interaction term, the main effect of ad type was not significant, $\beta = .01, t(69) < 1, ns$. There was only an effect of the chronic regulatory

focus, $\beta = .24$, $t(69) = 2.08$, $p = .04$, which was moderated by the interaction as described above.

Thus, the results provided support for the hypothesis that the positive effect of two-sided ads on product evaluations increases the more individuals are chronically promotion-focused and the less they are prevention-focused.

Experiment 2

In Experiment 1, we found evidence that the effect of two-sided advertising is moderated by the chronic regulatory focus of the recipients. However, regulatory focus theory also proposes that regulatory orientations can be determined by situational factors and are susceptible to priming methods (Pham & Higgins, 2005). In Experiment 2, we applied a priming procedure to induce a promotion or prevention focus and examined whether a primed regulatory focus moderates the effect of two-sided advertising the same way chronic regulatory focus does. We predicted that there is a stronger positive effect of two-sided ads when a promotion focus is primed than when a prevention focus is primed.

In addition, we tested predictions about the processes underlying the regulatory focus effects. Research has shown that promotion-focused individuals rely predominantly on their affective response to an ad and often disregard substantive information of the ad content (Florack, Scarabis, & Gosejohann, 2005; Pham & Avnet, 2003). Therefore, we assumed that the enhanced credibility of two-sided ads is a major driver of the positive effects of two-sided ads on product evaluations in promotion-focused individuals. Furthermore, we assumed that credibility should be important for prevention-focused individuals, as well. However, we predicted that prevention-focused individuals rely more than promotion-focused individuals on ad content. This prediction is based on three arguments. First, substantive arguments

that can be derived from the ad content allow for a safer judgment than does reliance on an affective response to the appeal of an ad. Hence, the motivation of prevention-focused individuals to avoid a risky judgment should lead to an increased reliance on the ad content. Findings of Florack et al. (2005) and Pham and Avnet (2003) support this argument. Second, for prevention-focused individuals it should be of importance that two-sided ads contain information about undesired product features. There are several findings showing that prevention-focused individuals attend more to such features than promotion-focused individuals (e.g., Florack & Hartmann, 2007; Wang & Lee, 2006, Werth & Förster, 2002). Third, there is evidence that a promotion focus leads to global processing whereas a prevention focus leads to local processing (Förster & Higgins, 2005). Mentioned shortcomings as well as other concrete product information can be regarded as details which might be more relevant when individuals are in a local processing mode. Therefore, possible positive effects of two-sided ads should be more likely to be cancelled out or reduced by negative effects of the mentioned shortcomings for prevention-focused recipients than for promotion-focused recipients. When the positive effects of credibility are controlled for, we indeed expected a negative net effect of two-sided ads compared to one-sided ads. Based on this reasoning, we examined the following hypotheses in Experiment 2.

H2: The positive effect of two-sided ads on product evaluations compared to one-sided ads is stronger when a promotion-focus is primed than when a prevention-focus is primed.

H3a: Two-sided ads are perceived as more credible than one-sided ads.

H3b: For promotion-focused individuals, the positive effect of two-sided ads on product evaluations is mediated by the credibility of the ad.

H4a: Recipients evaluate the content of two-sided ads more negatively than the content of one-sided ads.

H4b: Prevention-focused individuals rely more on the evaluation of the ad content than promotion-focused individuals when evaluating products advertised in two-sided ads.

H4c: For prevention-focused individuals, the net effect of two-sided ads compared to one-sided ads is more negative when positive effects of the credibility of the ads are controlled for.

Method

Design and participants. To test our hypotheses, we conducted an experiment in which we induced a promotion or prevention focus before we presented either one-sided or two-sided ads. Thus, we applied a 2x2 Design with the factors *regulatory focus* (prevention vs. promotion) and *ad type* (one-sided vs. two-sided). Both factors were manipulated between participants. We measured the credibility of the ads, the evaluation of the products, and, separately, the evaluation of the ad content. Participants were eighty-five undergraduate students who participated for partial course credit. They were randomly assigned to one of the four conditions.

Procedure and materials. Upon entering the laboratory, the experimenter greeted the participants and provided them with a questionnaire that included all instructions, tasks, and questions. The first task was a modified version of an attention test (*d2*, Brickenkamp, 2002) and was applied to induce a promotion focus or a prevention focus. Participants were instructed to detect and indicate certain letters within lines with similar-looking letters under time pressure. The difficulty of the task resulted from the differentiation of targets and non-targets. To induce a promotion or a prevention focus, the task was differently framed (for a similar framing

procedure see Florack & Hartmann, 2007). In the promotion focus condition, participants were asked to proceed as quickly as possible, while still trying to identify as many targets as possible. In the prevention focus condition, participants were instructed to proceed as quickly as possible while being careful not to commit any mistakes. To foster the effects of the framing manipulation, participants completed an example and counted all correctly indicated target letters in the promotion focus condition, and all falsely indicated non-target letters in the prevention condition. Furthermore, participants in the promotion focus condition assumed that they would receive a nice pencil as a reward if they indicated more than 70% of the targets correctly. In the prevention focus condition, they got a pencil and assumed that they would lose it if they do not indicate more than 70% of the targets correctly. Similar manipulations were successfully applied by Higgins, Shah, and Friedman (1997) and by Sengupta and Zhou (2007). To further strengthen the respective focus we referred to errors (avoiding more than 30% errors) in the prevention focus condition instead of correct responses (approaching more than 70% correct responses) in the promotion focus condition. In the promotion focus condition, participants read the following instruction: "If you perform on more than 70% of the tasks correct, you will receive a pencil at the end of the Experiment." In the prevention focus condition, participants read the following instruction: "If you do not avoid errors on more than 30% of the tasks, you will lose the pencil you received at the beginning of the experiment." Finally, all participants completed a shortened version of the original attention test.

In the next part of the study, participants saw three ads. The ads were composed of a drawn portrait of a consumer and his or her statement about the product. The ads were one-sided in one condition and two-sided in the other condition. The product advantages in the two-sided ads were the same as in the one-

sided ads. Handkerchiefs, ice cream, and cough drops were the advertised products. The handkerchiefs were said to be made entirely of recycled material, with the disadvantage of not being really white. The ice cream was praised as especially tasty, though quite rich in calories. The cough drops were advertised as being more effective than comparable drops because of a new active pharmaceutical ingredient, but having possible side effects. For every product, there was a one-sided ad that mentioned only the product advantage, and a two-sided ad that mentioned both the product advantage and the product disadvantage. The ads were introduced to the participants as drafts for the real ads. Participants saw either three one-sided or three two-sided ads.

After the presentation of each ad, participants indicated the credibility of the ad ("This ad is trustworthy") and evaluated the product on the same scales as in Experiment 1. Participants indicated their answers for all judgments on a nine-point scale (1 = *not at all*; 9 = *very much*). The product judgments on the three scales were averaged for each ad. The Cronbach alphas ranged from .85 to .92. Finally, all participants saw the statements made in the ads again on a separate page that did not include the ads. Then, they evaluated these statements (1 = *very negative*; 9 = *very positive*) and indicated how relevant they were for them (1 = *not at all relevant*; 9 = *very relevant*). In the one-sided ads condition, the ratings were made according to the product advantages. In the two-sided ads condition, the ratings were made according to the product advantages and the product shortcomings.

Results and Discussion

As in Experiment 1, we averaged the dependent measures for the three ads and computed the analyses with the aggregated score.

Evaluation of the products. We expected that participants would evaluate the products more positively when two-sided ads were presented than when one-sided ads were presented, and that this effect would be stronger for promotion-focused than for prevention-focused participants. In line with this hypothesis, an ANOVA with the factors ad type (one-sided vs. two-sided) and regulatory focus (prevention vs. promotion) and the evaluation of the products as dependent measure yielded a significant interaction between ad type and regulatory focus, $F(1, 81) = 5.16, p = .03, \eta^2 = .06$. The results are depicted in Figure 2. In the promotion focus condition, participants evaluated the products more positively when two-sided ads ($M = 5.05; SD = .79$) were presented than when one-sided ads ($M = 4.36; SD = 1.31$) were presented, $t(41) = 2.09, p = .04, d = .65$. In the prevention condition, the difference between the different types of ads was not significant, $t(40) = 1.26, p = .22, d = .40$. The main effects of ad type, $F(1, 81) = .06, p = .80, \eta^2 = .001$, and regulatory focus, $F(1, 81) = 1.56, p = .22, \eta^2 = .02$, were not significant, either.

Credibility of the ads. We further hypothesized that two-sided ads are perceived as more credible than one-sided ads. An ANOVA with the factors ad type (one-sided vs. two-sided) and regulatory focus (prevention vs. promotion) and the credibility of the ads as dependent measure yielded a significant main effect of the ad type, $F(1, 81) = 3.77, p = .05, \eta^2 = .04$. As expected, participants rated the two-sided ads ($M = 5.52; SD = 1.17$) as more credible than the one-sided ads ($M = 4.96; SD = 1.46$). The main effect of regulatory focus and the interaction between regulatory focus and ad type were not significant, $F_s(1, 81) < 1, p_s > .44, \eta^2 < .008$.

Evaluation of the ad content. To build a composite score for the evaluation of the ad content, we multiplied the evaluation rating of each statement with the indicated relevance and then computed the mean. We expected that participants

would evaluate the ad content less positively in the two-sided ad than in the one-sided ad condition. To test this hypothesis, we computed an ANOVA with the ad type and regulatory focus manipulation as independent variables and the evaluation of the ad content as dependent measure. The analysis resulted in a significant main effect of the ad type, $F(1, 81) = 16.19, p < .0001, \eta^2 = .17$, and a marginally significant effect of the regulatory focus manipulation, $F(1, 81) = 3.00, p = .09, \eta^2 = .04$. As expected, participants evaluated the ad content less positively for the two-sided ads ($M = 31.09; SD = 8.96$) than for the one-sided ads ($M = 40.51; SD = 12.35$). Also, they tended to evaluate the ad content less positively in the prevention focus condition ($M = 33.76; SD = 10.71$) than in the promotion focus condition ($M = 37.90; SD = 12.45$). The interaction between regulatory focus and ad type was not significant $F(1, 81) = .06, \eta^2 = .001, ns$.

Analyses of process assumptions. We hypothesized that the product judgments of promotion-focused individuals would be affected mainly by the enhanced credibility of the ad, while the product judgments of prevention-focused participants would be affected by ad credibility and ad content. We examined these hypotheses in three steps. First, we tested whether the reported positive effects of two-sided ads in the promotion focus condition were mediated by ad credibility. Second, we tested whether the negative effect of the mentioned shortcomings counteracted the enhanced credibility of the two-sided ads in the prevention focus condition. When prevention-focused participants relied on ad content and on ad credibility, the two-sided ads should have a more negative effect compared to the one-sided ads when we control for the effect of the credibility. Third, we tested whether the correlations between the evaluation of ad content and the product judgment were higher for two-sided ads in the prevention focus condition than in the

promotion focus condition. The experimental manipulations were dummy coded for the regression analyses (prevention = 0; promotion = 1 / one-sided ads = 0; two-sided ads = 1).

Ad credibility as a mediator in the promotion focus condition. To test whether the effects of the two-sided ads were mediated by the credibility of the ads in the promotion focus condition, we ran a set of regression analyses following the recommendations of Baron and Kenny (1986). An overview of the regression analyses is depicted in Table 2. In line with the results of the ANOVAs, regression analyses showed that the ad type was significantly related to the product evaluation, $\beta = .31$, $t(41) = 2.09$, $p = .04$, and the credibility of the ad, $\beta = .30$, $t(41) = 2.04$, $p = .04$. Furthermore, the effect of ad type on the product evaluation was no longer significant when credibility was also entered into the regression equation, $\beta = .08$, $t(40) < 1$, *ns*, while the effect of the credibility of the ad was significant, $\beta = .82$, $t(40) = 9.24$, $p < .0001$. A subsequent *Sobel test* showed that the reduction of the effect of ad type on the product evaluation is significant, $Z = 2.01$, $p = .04$. Thus, the effect of the ad type on product evaluation is mediated by the credibility of the ad in the promotion focus condition.

Controlling for the effect of ad credibility in the prevention focus condition. To examine whether prevention-focused participants considered both the product shortcomings and the credibility of the ad, we computed for prevention-focused participants a regression analysis with the ad type as independent variable and the product evaluations as dependent variable, and a second regression analysis in which we also included the credibility judgments. If participants considered the product shortcomings and the credibility, the two-sided ads should have a negative effect on the product evaluations in the second regression analysis. In line with the

results of the ANOVA, the regression of the product evaluations on the ad type alone did not show a significant effect of ad type, $\beta = -.20$, $t(40) = 1.26$, *ns*. However, when the credibility of the ads was included in the analysis, both the credibility, $\beta = .84$, $t(39) = 9.71$, $p < .0001$, and the ad type, $\beta = -.35$, $t(39) = 4.02$, $p < .0001$, were significant, showing that when credibility was controlled for, the two-sided ads had a negative effect on the product evaluations in the prevention focus condition.

Correlations of the evaluation of the ad content with the product judgment in the promotion and prevention focus condition. To examine whether in the condition with two-sided ads the product judgments of prevention- and promotion-focused participants were differentially influenced by the evaluation of the ad content and the credibility of the ad, we computed a multiple regression analysis with the product evaluation as dependent measure. In this regression analysis, we included as predictors the three-way interaction of regulatory focus, ad type, and the evaluation of the ad content and the three-way interaction of regulatory focus, ad type, and the credibility of the ad, as well as all relevant lower order terms. An overview of the regression results is presented in Table 3. In order to facilitate the interpretation of lower order terms, hierarchical regression equations are also depicted. The results relevant to our hypothesis concern the three-way interactions. In support of our hypotheses, we obtained a significant three-way interaction of regulatory focus, ad type, and evaluation of the ad content, $\beta = -.37$, $t(73) = 2.42$, $p = .02$. There was an interaction between the regulatory focus and the evaluation of the ad content that was significant only when participants saw the two-sided ads, $\beta = -.96$, $t(36) = 2.37$, $p = .02$, but not when they saw the one-sided ads, $\beta = -.34$, $t(37) < 1$, *ns*. For the two-sided ad condition, the interaction between regulatory focus and evaluation of the ad content is shown in Figure 3. Generally, the more positively participants evaluated

the ad content, the more positively they evaluated the products. However, the interaction demonstrates that for participants in the prevention focus condition, this correlation was higher than for participants in the promotion focus condition. The interaction between the credibility of the ad, the ad type, and the regulatory focus was not significant, $\beta = -.07$, $t(73) < 1$, *ns*, and neither was the interaction between the credibility of the ad and the regulatory focus in the regression without the three-way interactions, $\beta = -.27$, $t(75) < 1$, *ns*. Thus, the correlation of the credibility of the ad with the product evaluation, observed in the regression that included exclusively the main effects, $\beta = .66$, $t(80) = 8.69$, $p < .0001$, was not moderated by the regulatory focus.

Summary of results. The results of Experiment 2 indicates that the effects of two-sided advertising on product evaluations are moderated by the regulatory focus of the recipients. The additional analyses suggest that this effect is mediated by the differential reliance on ad content, which offsets the positive effect of the increased credibility of two-sided ads in the prevention focus condition. However, a further question is what the effect of the ad would be without a manipulation of the regulatory focus. To examine this question we recruited participants from the same population and presented them the same ads as in the experiment described above, but without priming a regulatory focus. The presentation of the two-sided ads compared to the one-sided ads led to about the same effects as in the promotion focus condition. Participants evaluated the product more positively when they saw two-sided ads ($M = 4.47$; $SD = .91$) than when they saw one-sided ads ($M = 3.29$; $SD = 1.55$), $t(18) = 2.08$, $p = .05$, $d = .98$. Thus, it seems that the observed moderating effect in Experiment 2 can be mainly understood as a decrease of the effect of two-sided advertising in the prevention focus condition.

Experiment 3

The finding that an induced regulatory focus affects the effects of two-sided advertising on product evaluations should not be limited to the specific manipulation of regulatory focus we used in Experiment 2. Therefore, we applied a different manipulation of regulatory focus in Experiment 3. Since the results of Experiment 2 suggest that the observed effects are mainly driven by a prevention focus, we induced a prevention focus in one condition and compared this condition to a control condition in which we applied no focus manipulation.

In addition, we assessed the cognitive responses to the presented ads with a thought listing task (cf. Cacioppo & Petty, 1981). Since prevention-focused individuals should attend more to the mentioned shortcomings in a two-sided ad than promotion-focused individuals, two-sided ads should lead to less positive cognitive responses in prevention-focused participants than in participants of a control condition. We further expected the cognitive responses to mediate the effects of two-sided ads on product evaluations.

H5a: Two-sided ads compared to one-sided ads lead to less positive cognitive responses in individuals with a temporarily increased prevention-focus than in individuals without a temporarily increased prevention-focus.

H5b: The ad-related cognitive responses mediate the differential effects of two-sided ads on product evaluations.

Method

Design and participants. We conducted the study as a web experiment and recruited female participants by email lists and web postings. As reward for participation, we raffled an iPod shuffle. One hundred and forty-two participants completed the study. The participants were mainly psychology students (63 percent).

Two participants were excluded from the statistical analyses, because they were aware of the hypotheses of the experiment. The study was based on a 2x2 design with the factors regulatory focus (prevention focus vs. control) and ad type (one-sided vs. two-sided).

Procedure and materials. Participants completed the experiment online. The first part of the experiment included questions pertaining to age, sex, and occupation. Then, participants answered a questionnaire that included the manipulation of the regulatory focus. In the prevention focus condition, participants were asked to think about their duties, obligations, and responsibilities, and to list two of their past duties, obligations, and responsibilities, and two of their current duties, obligations, and responsibilities. In the control condition, participants did not receive these questions. Previous studies have successfully applied this manipulation to induce a prevention focus (Higgins, Roney, Crowe, & Hymes, 1994; Liberman, Idson, Camacho, & Higgins, 1999; Pham & Avnet, 2004). The manipulation is based on the assumption of regulatory focus theory that the regulation of behavior according to duties, obligations, and responsibilities is a main characteristic of a prevention focus and that highly accessible duties, obligations, and responsibilities activate a prevention focus (Higgins, 1997).

In the next part of the experiment, we presented an ad for an ice-cream to participants. The claim within the ad was adapted from a study of Pechman (1992). The ad was either one-sided or two-sided. The one-sided ad stressed the good taste of the ice-cream. The two-sided ad additionally mentioned that the ice cream is rich in calories. After the presentation of the ad, participants evaluated the advertised product on five items (“I suppose that the product is of high quality;” “I could imagine buying the product;” “I find the product attractive;” “I believe the ice cream tastes

good;" "I believe the ice-cream has a good flavor."). Participants indicated their answers for all items on a nine-point scale (1 = *not at all*; 9 = *very much*). The Cronbach's Alpha for the scale was .91.

Following the product evaluation, participants were instructed to list the thoughts that occurred to them while they were looking at the presented ad (Cacioppo & Petty, 1981; Evans & Petty, 2003). Two independent raters coded the ad-related thoughts as positive, negative, or neutral. A thought positivity index was created by subtracting the number of negative thoughts from the number of positive thoughts and then dividing by the total number of positive and negative thoughts. Positive values on this index indicate a predominance of positive thoughts related to the presented ad. A value of zero on the thought positivity index was assigned if participants listed an equal number of positive and negative thoughts, and if they did not list any positive or negative relevant thoughts. Since the resulting positivity index was highly correlated for the two independent raters (Cronbach alpha = .89), the two indices were averaged.

Finally, participants answered a few questions not relevant to the current study and read a text which explained the goals of the study.

Results

Evaluation of the product. In accordance with the results of Experiment 1 and 2, an ANOVA with the factors ad type (one-sided vs. two-sided) and regulatory focus (prevention vs. control) and the product evaluation as dependent measure yielded a significant interaction between ad type and regulatory focus, $F(1, 136) = 4.07, p = .04, \eta^2 = .03$. Participants of the control group evaluated the product more positively when we presented the two-sided ad ($M = 5.25; SD = 1.73$) than when we presented the one-sided ad ($M = 3.41; SD = 1.69$), $t(72) = 4.63, p < .0001, d = 1.09$. In the

prevention focus condition, the difference in the evaluation of the product after the presentation of the two-sided ad ($M = 4.89$; $SD = 1.66$) or the one-sided ad ($M = 4.19$; $SD = 1.64$) was reduced, $t(64) = 1.71$, $p = .09$, $d = .43$. Besides the interaction, the main effect of ad type was significant, $F(1, 136) = 19.84$, $p < .0001$, $\eta^2 = .13$. As can be seen already from the inspection of the interaction effect, participants evaluated the product more positively when we presented the two-sided ad ($M = 5.07$; $SD = 1.69$) than when we presented the one-sided ad ($M = 3.76$; $SD = 1.70$). The main effect of the regulatory focus manipulation was not significant, $F(1, 136) = .57$, $p = .45$, $\eta^2 = .004$.

Cognitive responses. As expected, the regulatory focus also moderated the effects of the ad type on ad-related cognitive responses. An ANOVA with the factors ad type (one-sided vs. two-sided) and regulatory focus (prevention vs. control) and the cognitive responses as dependent measure yielded a significant interaction between ad type and regulatory focus, $F(1, 136) = 5.27$, $p = .02$, $\eta^2 = .04$. For participants in the control group, the cognitive responses to the ad were more positive when we presented the two-sided ad ($M = -.51$; $SD = .69$) than when we presented the one-sided ad ($M = -.79$; $SD = .38$), $t(72) = 2.20$, $p = .03$, $d = .52$. In the prevention focus condition, there was no significant difference in cognitive responses between the presentation of the one-sided ($M = -.58$; $SD = .50$) and two-sided ad ($M = -.72$; $SD = .57$), $t(64) = 1.07$, $p = .29$, $d = .27$.

Mediational analysis. The preceding analyses have shown that the cognitive responses to the presented ads differed between participants in the prevention focus condition and participants in the control group. We expected that these differences in cognitive responses mediate the interaction between regulatory focus and ad type predicting the product evaluation. To test this mediation, we computed a set of

regression analyses (cf. Baron & Kenny, 1986). An overview of the regression analyses is depicted in Table 4. Following the procedure recommended by Little, Bovaird, and Widaman (2006; see also Little, Card, Bovaird, Preacher & Crandall, in press), we orthogonalized the interaction term with respect to lower order terms. Thus, the regression coefficients can be directly interpreted as main and interactions effects. In accordance with the reported ANOVA, a regression analysis showed that the interaction between regulatory focus and ad type significantly predicted the product evaluation, $\beta = .16$, $t(136) = 2.02$, $p = .04$. However, this effect was no longer significant when the cognitive responses were also entered into the regression equation, $\beta = .09$, $t(135) = 1.18$, $p = .24$, while the effect of the cognitive responses was significant, $\beta = .37$, $t(135) = 4.97$, $p < .0001$. A subsequent *Sobel* test showed that the reduction of the effect of the interaction between ad type and regulatory focus on the product evaluation is significant, $Z = 2.11$, $p = .03$.

Discussion

Experiment 3 provided further support for the hypothesis that two-sided ads have less favorable effects on product evaluations in recipients with a predominant prevention focus than in other recipients. Since we applied a different manipulation of regulatory focus in Experiment 3 than in Experiment 2, the results suggest that the observed effects are not limited to a specific regulatory focus manipulation. Also, the results of Experiment 3 reveal differences in cognitive responses to the ad and verified that the reduced positive effect of two-sided ads in prevention-focused recipients is caused by less positive ad-related cognitive responses.

General Discussion

In this paper, we propose that regulatory focus affects how recipients of two-sided ads weigh the credibility of the ads and mentioned product shortcomings when

forming a product judgment. We argue that prevention-focused individuals should be more likely than promotion-focused individuals to rely on the content of two-sided ads and consider the product shortcomings. Hence, we hypothesized that two-sided ads should lead to more favorable product evaluations when a promotion focus prevails. The results provide support for this hypothesis. In Experiment 1, we found that the positive effect of two-sided ads increased the more participants were chronically promotion-focused and the less they were prevention-focused. In Experiment 2, the induction of a promotion focus led to better product evaluations when two-sided ads were shown than when one-sided ads were shown. In contrast, there was no positive effect of two-sided ads compared to one-sided ads on product evaluations when a prevention focus was induced. In Experiment 3, the positive effect of a two-sided ad on product evaluations was found to be reduced for participants with an induced prevention focus compared to participants of a control group.

As far as we know, the present experiments are the first to show the moderation of the effects of two-sided advertising by the regulatory focus of the recipients. In addition, Experiment 2 and 3 provide important insights into the processes that underlie this moderating effect. Experiment 3 demonstrated that the cognitive responses to a two-sided ad are less positive for individuals with a temporarily increased prevention focus than for other individuals. The analyses of Experiment 2, furthermore, suggest that while prevention-focused recipients rely on the evaluation of ad content and the credibility of the ad when forming a product judgment, promotion-focused recipients rely on the credibility of the ad, but less on the evaluation of ad content. As could be expected, all participants evaluated the content of the two-sided ads more negatively than the content of the one-sided ads, but the correlation of the evaluation of the content of the two-sided ads with the

product evaluations was higher when we induced a prevention focus than when we induced a promotion focus.

Furthermore, when we controlled for the effects of the credibility in Experiment 2, we found a negative effect of the two-sided ads for prevention-focused participants. These findings fit well with other recent research (e.g., Florack & Hartmann, 2007; Wang & Lee, 2006; Zhang & Mittall, 2007) that has demonstrated an enhanced sensitivity of prevention-focused individuals to negative product features. Indeed, it seems plausible that product shortcomings are particularly relevant for prevention-focused individuals. Therefore, mentioning product shortcomings might have forced prevention-focused participants to extensively consider the given information, resulting in a high correlation between the evaluation of the ad content and the product judgment.

It should be noted that we found in Experiment 2 that both promotion and prevention-focused participants relied on the ad credibility. While it is known that promotion-focused individuals often rely on affective cues when forming a judgment (Pham & Avnet, 2004), credibility might be of particular importance for prevention-focused individuals as well (Florack et al., 2005). Prevention-focused individuals seek for a secure judgment and credibility might help them to form one. Indeed, contexts in which credibility is even more important for prevention-focused individuals than for promotion-focused individuals are conceivable. For example, if credibility is very low, prevention-focused individuals might more intensely fear being cheated than promotion-focused individuals which might result in a stronger impact of credibility on judgments for prevention-focused individuals.

The present experiments provide important insights into the understanding of two-sided advertising, but they also contribute to the advancement of regulatory

focus theory. A recent meta-analytic review of the effects of two-sided advertising (Eisend, 2006) indicated that the mean effects of two-sided ads on credibility are strong, but that the effects of two-sided ads on product evaluations, purchase intentions, or brand attitudes are rather mixed. The present experiments help to clarify these mixed results, showing that positive effects of two-sided ads seem to be the more likely, the less individuals are prevention-focused. This knowledge might be helpful for marketing managers if they have to decide in which areas to rely on two-sided advertising. The current results clearly imply that product categories or consumer segments that are characterized by a predominant promotion-focus (e.g., luxury goods) should offer a more fruitful application field for two-sided ads, whereas two-sided ads should be avoided in areas where a prevention-focus is predominant (e.g., insurances).

In addition, the present results provide further support for the assumption that regulatory focus directs attention and processing strength to fitting features in an advertising message (cf. Aaker & Lee, 2001; Evans & Petty, 2003; Florack & Scarabis, 2006; Wang & Lee, 2006). The mere act of mentioning negative information matches the thinking style of prevention-focused individuals who are motivated to consider negative information and who search for negative information. The present results suggest that this leads prevention-focused individuals more than promotion-focused individuals to rely on the content of two-sided ads. However, since the mentioned shortcomings might hinder prevention-focused individuals from evaluating the advertised product positively, fit does not lead to a positive evaluation, in this case. Indeed, other recent research has also shown that fit does not directly lead to positive evaluations, but that the attractiveness of the processed features is of importance (Aaker & Lee, 2001; Evans & Petty, 2003; Wang & Lee, 2006). In

addition, there is evidence that fit increases processing effort (Evans & Petty, 2003) and task performance (Förster, Higgins, & Idson, 1998; Förster, Grant, Idson, & Higgins, 2001). For prevention-focused individuals, fit might lead to positive judgments if the increased processing effort is directed to the absence of undesired features rather than when it is directed to the presence of undesired features as in the case of two-sided advertising.

In future research, it might be interesting to examine the role of the regulatory focus according to further factors that have been shown to affect the effects of two-sided advertising. There is considerable evidence that shortcomings mentioned in an ad might exert a positive effect on product evaluations when recipients infer that the mentioned shortcomings are related to a desired positive effect (Bohner et al., 2003; Pechmann, 1992). For example, people might perceive a correlation between the caloric content of ice cream and taste. It seems possible that promotion-focused individuals are more likely than prevention-focused individuals to make positive inferences from product shortcomings.

To sum up, the present experiments demonstrated that two-sided advertising is more likely to enhance product evaluations for promotion-focused than for prevention-focused recipients. The reported results suggest that this difference is mainly driven by the differential reliance on the mentioned shortcomings, which makes a positive net effect of two-sided ads more likely for promotion-focused recipients than for prevention-focused recipients.

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Table 1:

*Standardized Regression Coefficients for the Prediction of the Product Evaluation**(Experiment 1)*

	Standardized Regression Coefficients	
Regulatory Focus (X_1)	.24*	.07
Ad Type (X_2)	-.01	-.11
$X_1 \bullet X_2$.33*

Note: * $p < .05$

Table 2:

Multiple Regression Analyses to Test the Mediation of the Effects of Two-Sided Ads on Product Evaluations by Credibility (Promotion Focus Condition – Experiment 2)

	β	t	p
Regression 1			
Dependent Variable:			
Product Evaluation			
Predictor:			
Ad Type	.31	2.09	.04
Regression 2			
Dependent Variable:			
Credibility			
Predictor:			
Ad Type	.30	2.04	.04
Regression 3			
Dependent Variable:			
Product Evaluation			
Predictors:			
Ad Type	.08	.87	.39
Credibility	.82	9.24	.00

Table 3:

*Standardized Regression Coefficients for the Prediction of the Product Evaluation
(Experiment 2)*

	Standardized Regression Coefficients		
Regulatory Focus (X_1)	.13+	.41	.00
Ad Type (X_2)	-.001	-.20	-.86*
Evaluation of the Ad Content (X_3)	.27**	.20	.08
Perceived Credibility (X_4)	.66***	.82***	.86***
$X_1 \bullet X_2$.24+	1.31*
$X_1 \bullet X_3$		-.18	.34
$X_1 \bullet X_4$		-.27	-.37
$X_2 \bullet X_3$.47+	1.15**
$X_2 \bullet X_4$		-.46	-.47
$X_1 \bullet X_2 \bullet X_3$			-1.02*
$X_1 \bullet X_2 \bullet X_4$			-.07

Note: Only interactions relevant for hypotheses testing and necessary for interpretation of the three-way interactions were included.

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 4:

Multiple Regression Analyses to Test the Mediation of the Effect of the Interaction between Ad Type and Regulatory Focus on Product Evaluations by Cognitive Responses (Experiment 3)

	β	t	p
Regression 1			
Dependent Variable:			
Product Evaluation			
Predictor:			
Ad Type	.36	4.57	.00
Regulatory Focus	-.07	.83	.41
Ad Type x Regulatory Focus	.16	2.02	.04
Regression 2			
Dependent Variable:			
Cognitive Responses			
Predictor:			
Ad Type	.07	.88	.38
Regulatory Focus	-.004	-.04	.97
Ad Type x Regulatory Focus	.19	2.30	.02
Regression 3			
Dependent Variable:			
Product Evaluation			
Predictors:			
Ad Type	.33	4.56	.00
Regulatory Focus	-.06	-.88	.38
Ad Type x Regulatory Focus	.09	1.18	.24
Cognitive Responses	.37	4.97	.00

Figure Captions

Figure 1. Regression lines predicting the product evaluation as a function of chronic regulatory focus and the evaluation of the ad content (Experiment 1). High values indicate a positive evaluation of the products.

Figure 2. Product evaluation as a function of regulatory focus and ad type (Experiment 2). High values indicate a positive evaluation of the products.

Figure 3. Regression lines predicting the product evaluation as a function of regulatory focus and the evaluation of the ad content (Experiment 2). High values indicate a positive evaluation of the products.





