

Discerning the Role of Optimism in Persuasion: The Valence-Enhancement Hypothesis

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The valence-enhancement hypothesis argues that because of their active coping strategies, optimists are especially likely to elaborate on valenced information that is of high personal relevance. The hypothesis predicts that as a result, optimists will be more persuaded by personally relevant positive messages and less persuaded by personally relevant negative messages than pessimists. It also predicts that when the message is not personally relevant, optimism and persuasion will not be related in this manner. The results of 3 studies support these predictions and supply evidence against several alternative hypotheses. The possibility that the observed effects are not due to optimism but to the confounding influence of 7 additional variables is also addressed and ruled out. Implications are discussed.

It is not usually our ideas that make us optimists or pessimists, but it is our optimism or pessimism, of physiological or perhaps pathological origin . . . that makes our ideas.

—Miguel de Unamuno, *The Tragic Sense of Life*

Almost 2 decades of research have demonstrated the power of optimistic thinking (Peterson, 2000). Indeed, many of these studies point to the potential health benefits of optimism (for reviews, see Peterson, Maier, & Seligman, 1993; Scheier, Carver, & Bridges, 2001). Although numerous mechanisms likely contribute to the relationship between optimism and physical and mental health, considerable research has demonstrated that the relationship is due, in part, to optimists' ability to cope better with unwanted and stressful information than pessimists (see Scheier et al., 2001).¹

Although understanding of the optimism construct is growing, relatively few investigations have considered how dispositional optimism influences social judgments (Geers & Lassiter, 2002). In this article, we attempt to demonstrate that optimism is an important component of the attitude-change process. Few, if any, studies have directly examined the influence of either dispositional or situation-specific optimism on persuasion. This lack of information is unfortunate because understanding the association between

optimism and persuasion could add significantly to the expanding database on optimism. For instance, regarding the literature on optimism and health, it would be advantageous to know how and when optimism influences an individual's decision to follow a physician's advice, to heed a spouse's appeal to see a doctor, or to order questionable remedies advertised on television. Moreover, as many placebo studies indicate, merely convincing someone that a treatment will work can have positive health benefits all on its own (e.g., Jensen & Karoly, 1991). Thus, if optimists are more likely than pessimists to believe various persuasive appeals, this may be another route by which optimism influences health.

If optimism is related to persuasion, the question turns to the nature of this relationship and the mechanism(s) responsible for such an association. Below, we outline our primary hypotheses concerning the connection between optimism and persuasion. Next, we discuss several potential alternative hypotheses that could also be derived from the literature. Afterward, three experiments are presented that tested these predictions.

Optimism, Attention, and Information Processing

Our hypothesis regarding the role of optimism in persuasion stems from two seemingly divergent perspectives of optimism. The first view posits that optimists generally expect and focus on positive outcomes and events. Indeed, many optimism researchers implicitly or explicitly define the construct as a generalized positive-outcome expectancy (e.g., Scheier, Carver, & Bridges, 1994). Consistent with this view, Segerstrom (2001), using an emotional Stroop task, has found that optimists, as compared with pessimists, have an attentional bias for positive stimuli. Also,

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¹ Throughout this article, we refer to individuals low on optimism as *pessimists*.

Abele (2002) found that optimists presented with information concerning the health benefits of exercise and more neutrally valenced information were better able to recall the health-benefit information.

It has also been argued, however, that optimism increases one's attention to and consideration of negative and unpleasant information (e.g., Aspinwall & Brunhart, 1996). From this perspective, optimists are seen as individuals who believe that they can overcome negative events and thus face them head on. A considerable amount of evidence supports this perspective. First, numerous correlational studies have revealed that when given the opportunity, optimists deal with negative or threatening events by actively engaging the problem, whereas pessimists use more avoidant and passive styles of coping (e.g., Aspinwall & Taylor, 1992; Scheier, Weintraub, & Carver, 1986; for reviews, see Aspinwall, Richter, & Hoffman, 2001; Peterson et al., 1993; Scheier et al., 2001). Additionally, in an experimental investigation, Aspinwall and Brunhart (1996) have found that relative to pessimists, optimists attend longer to risk-related information.

These two perspectives seem quite contradictory at first; whereas one suggests that optimists are more likely to attend to and process positive information, the other suggests that optimists are more likely to attend to and process negative information. We can resolve this inconsistency by recognizing that both of these effects are a product of the active coping strategies used by optimists. As Aspinwall et al. (2001) have recently noted, optimists' active coping style affords them greater flexibility in their mode of processing than pessimists. That is, when presented with positive information, optimists seem to attend to and process the pleasant aspects more than do pessimists. By reacting in this manner, optimists likely incur maximal benefits from the positively valenced information (cf. Scheier et al., 1986). However, when a situation presents threatening or negative information, optimists are more likely than pessimists to focus their efforts on fully appraising the extent of the threat so as to deal with and prepare for the potential unpleasantness. It is proposed in this article that this propensity of optimists to engage valenced information generates systematic differences in the social judgments of optimists and pessimists. We argue that in an effort to cope with their environment, optimists frequently elaborate on and in fact mentally enhance the positive and negative information they encounter. In particular, it is anticipated that optimists often elaborate extensively on the positive information within a positive context but also elaborate extensively on the negative information within a negative context. We contend that as a result of their valence enhancement strategy, optimists' social judgments are often affected more by incoming positive and negative information than are the social judgments of their pessimistic counterparts. This proposal is paramount in the formulation for our hypotheses regarding optimism and persuasion.

Persuasion and Optimism

The two most prominent models of persuasion, the elaboration likelihood model (Petty & Cacioppo, 1986) and the heuristic-systematic model (Chaiken, 1987), suggest that attitude change can occur through both effortful and noneffortful processes. Both models argue that the motivation and ability of a recipient to analyze a message determines which of these processes is most

influential. When motivation or ability is high, individuals tend to engage in effortful processing wherein cognitive elaboration of message content is extensive and is a predominant influence on attitude change. When motivation or ability is low, individuals primarily engage in noneffortful processing wherein attitude change is strongly influenced by peripheral cues. It is important to note that in addition to affecting attitude change when individuals are engaging in noneffortful processing, peripheral cues such as how the message is framed (positively or negatively) can also influence attitude change in high-effortful processing conditions by biasing the favorability of a recipient's cognitive elaborations (e.g., Petty, Schumann, Richman, & Strathman, 1993).

A significant amount of persuasion research has found that the personal relevance of a message affects individuals' motivation to process that message and therefore alters the type of impact that many variables have on a message recipient (e.g., Petty, Cacioppo, & Goldman, 1981). In general, individuals are motivated to process personally relevant messages, and therefore, attitude formation tends to occur primarily through effortful processing. We argue that optimism influences persuasion because the valenced framing of a personally relevant message initiates optimists' active coping strategies. When a relevant message is favorable to an optimist, he or she will deal with this incoming information by elaborating on its contextually positive features. Thus, optimists will likely engage in positively biased effortful processing and therefore form increasingly favorable attitudes. However, when a relevant message is unfavorable to an optimist, he or she will likely engage in more negatively biased effortful processing and therefore form increasingly unfavorable attitudes. On the other hand, because individuals are not motivated to process personally irrelevant messages, we anticipate that messages having no direct bearing on an individual should not evoke such active mental processing from optimists (cf. Aspinwall et al., 2001). Instead, if attitude formation is to occur under these conditions, we suspect that optimists and pessimists are both likely to base their attitudes on peripheral cues and therefore form more favorable attitudes about a positively framed message than a negatively framed message. This prediction is consistent with several prior studies in which optimism was found to influence participants' attention to and recall of valenced information only when that information was relevant to the participants (Abele, 2002; Aspinwall & Brunhart, 1996).

Prior research also has indicated that several individual-difference variables influence the extent to which one processes a message (for a review, see Petty & Wegener, 1998). These variables interact with the argument-quality manipulations such that individuals who tend to think more carefully form more favorable attitudes when a message is supported by strong arguments rather than by weak arguments (e.g., Petty, Cacioppo, & Morris, 1983). Our conceptualization of the relationship between optimism and persuasion, however, suggests that argument quality is unlikely to moderate the effect of optimism on persuasion. This is because optimism is not expected to affect how closely individuals scrutinize the merit of persuasive arguments. Instead, it is predicted that optimism enhances the extent to which one elaborates on valenced information within a persuasive message, regardless of argument quality. Thus, unlike several individual-difference variables in the literature, we suspect that optimism often does not interact with argument quality.

Predictions for the Valence-Enhancement Hypothesis

Extrapolating from the above ideas and research, the following predictions can be derived regarding the role of optimism within persuasion contexts, which we refer to as the *valence-enhancement hypothesis*. It is predicted that when presented with a positively framed and personally relevant persuasive appeal, optimists will elaborate on and mentally enhance the appeal's positive attributes. As a result of this biased processing, persuasion will increase (i.e., attitudes will be increasingly favorable) with one's level of optimism. Conversely, it is predicted that when presented with a negatively framed and personally relevant persuasive appeal, optimists will elaborate on and mentally enhance the appeal's negative attributes. As a result of this biased processing, it is predicted that persuasion will decrease (i.e., attitudes will be increasingly less favorable) with one's level of optimism. If the message is irrelevant to participants, optimism is not expected to have this effect. Finally, it is anticipated that the effect of optimism on persuasion is at least partially mediated by the favorability of participants' thoughts (Petty & Cacioppo, 1986).

Alternative Hypotheses

The valence-enhancement hypothesis is not the only possible account that could be conceived in predicting the relationship between optimism and attitude change. In this section, we describe two competing hypotheses that could also be derived from the literature.

First, it could be hypothesized that optimists will be more easily persuaded than pessimists by weak arguments. A reason for this prediction stems from the literature on positive mood and persuasion. A great deal of research indicates that individuals experiencing positive moods often engage in a cursory analysis of persuasive messages and therefore are equally persuaded by strong and weak arguments. In contrast, individuals in neutral or sad moods tend to form more favorable attitudes about strong arguments than weak arguments (for a review, see Schwarz, Bless, & Bohner, 1991). Because optimism is often correlated with positive moods (e.g., Scheier et al., 1989), it may be anticipated that optimists will also be equally persuaded by strong and weak arguments whereas pessimists will not. We shall refer to this alternative as the *optimism-mood hypothesis*. It is important to note that data indicating that pessimists do not form more favorable attitudes about strong as opposed to weak arguments relative to optimists would cast doubt on this competing hypothesis.

A second alternative hypothesis that could be proposed is a simple association-based hypothesis. For a variety of reasons (e.g., optimists have a predisposition toward positive information over negative information), it could be argued that optimists will always be biased in favor of positive messages. If this position is correct, one would anticipate that optimists are always more persuaded by positive messages than negative messages. This view is similar to our main hypothesis in that it predicts an Optimism \times Message Valence interaction, with optimists being more persuaded by positively valenced appeals. This alternative hypothesis differs from the valence-enhancement hypothesis, however, in respect to its prediction concerning message relevance. If this simple association-based hypothesis is correct, one would expect that optimism affects attitudes concerning both relevant and irrelevant

messages. From our perspective, however, optimists' thoughts and attitudes should only be biased by the valence of a message when it is relevant to them. Thus, data indicating that optimism does not significantly alter attitudes toward a valenced message that is not self-relevant would counter this simple *optimism-association hypothesis*.

Potential Confounding Variables

It has been suggested that the effects found with measures of optimism are not actually due to optimism per se but are often the product of a third variable (e.g., Smith, Pope, Rhodewalt, & Poulton, 1989). The argument maintains that optimism instruments tap into other constructs such as trait anxiety and negative affectivity and that one of these variables is primarily responsible for the effects typically attributed to optimism. It should be noted that a number of studies testing for the confounding influence of such third variables have not supported this claim (e.g., Scheier et al., 1994; Segerstrom, 2001). Given the lack of previous data on the relationship between optimism and persuasion, however, we decided to assess (in Studies 2 and 3) the potential confounding influence of seven additional variables.

Study 1

Study 1 was designed to provide an initial test of the valence-enhancement hypothesis. In this experiment, students who varied in their level of optimism were asked to read and evaluate one of four personally relevant articles concerning a fictitious tuition plan. Half of the participants were given an article describing a tuition plan that would be favorable to students, whereas the other half received an article describing a tuition plan that would be unfavorable to students. Orthogonal to this message-valence manipulation, half of the participants read an article supported by strong arguments, whereas the other half read an article supported by weak arguments. On the basis of the valence-enhancement hypothesis, it was predicted that because the messages were personally relevant, there would be an Optimism \times Message Valence interaction. That is, it was anticipated that optimists would be more persuaded by a positive message and less persuaded by a negative message than their more pessimistic counterparts, regardless of argument quality. It was further predicted that highly optimistic individuals would generate more positive thoughts concerning the positively valenced message than the negatively valenced message, relative to less optimistic individuals. Finally, it was anticipated that the positivity of participants' thoughts would at least partially mediate the influence of optimism and message valence on attitude change.

This design also provided us with an opportunity to test the viability of the optimism-mood hypothesis described above. This alternative hypothesis argues that optimists will not differentiate between strong and weak arguments, whereas pessimistic individuals will. That is, this perspective, in contrast to the valence-enhancement hypothesis, predicts there will be an Optimism \times Argument Quality interaction on the attitude measure.

Method

Participants

One hundred thirty-six undergraduates from the University of Toledo were randomly assigned to the cells of a 2 (message valence: positive or

negative) \times 2 (argument quality: strong or weak) factorial design. In addition to the two manipulated variables, participants' optimism scores were recorded. In return for their participation, students received partial course credit.

Procedure

Students, participating in groups, were first asked to fill out an optimism instrument and then to read about a tuition policy said to be currently under consideration in their state legislature (Ohio). After reading about the policy, participants completed a set of dependent measures.

Predictor Variables

Optimism. The first item in the experimental packet was a measure of dispositional optimism, the Revised Life Orientation Test (LOT-R; Scheier et al., 1994). This instrument consists of six self-report items (plus four filler items) each rated on a 5-point scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). To calculate optimism scores, the three negatively worded items (e.g., "I hardly ever expect things to go my way") were reverse scored and were added to the three positively worded items (e.g., "I'm always optimistic about my future"). In this sample, scores ranged from 5 to 24, with higher numbers reflecting greater optimism ($\alpha = .71$).

Message valence. Next, participants read one of the four articles concerning a fictitious tuition plan that was said to be currently under review by the state government and thus relevant for the student participants. Half of the articles contained a relatively positive message, whereas the other half contained a relatively negative message. Briefly, within an introductory paragraph, the positive message framed the new tuition plan as a beneficial opportunity that would reduce tuition costs in exchange for optional part-time university service. In contrast, the introduction of the negative message framed the tuition plan as an unwanted burden that would require all students to work part-time for the university lest they pay out-of-state tuition. Previous data indicated that students generally liked the tuition plan described in the positive article and disliked the tuition plan described in the negative article (Handley & Lassiter, 2002; Wegener, Petty, & Smith, 1995).

Argument quality. Orthogonal to the message-valence manipulation, participants received either strong or weak arguments in support of the tuition policy. The same strong and weak arguments were used regardless of whether the message was framed positively or negatively. Previous studies have validated the effectiveness of this argument-quality manipulation with these persuasive messages (e.g., Handley & Lassiter, 2002; Wegener et al., 1995).

Dependent Variables

Attitude index. After reading the article, participants' attitudes toward the tuition plan were assessed on semantic differential scales. Participants responded to the stem "The proposal under consideration is:" on five 9-point scales. The scales were anchored at 1 (*bad, foolish, negative, unfavorable, and harmful, respectively*) and 9 (*good, wise, positive, favorable, and beneficial, respectively*). Responses to the five items were averaged ($\alpha = .95$) to create an attitude index (cf. Handley & Lassiter, 2002; Petty, Briñol, & Tormala, 2002; Wegener et al., 1995).

Positivity of thought index. The next sheet in the experimental packet instructed participants to write down all the thoughts they had while reading the article. Participants were told to write down only one thought per line and to not worry about grammar or spelling. Participants' thoughts were subsequently coded by a research assistant (blind to condition) for valence to create a positivity of thought index. To create this index, the number of positive thoughts generated by each participant was divided by the number of total thoughts listed by that participant (Petty et al., 1993,

2002). Agreement on the coding of the positivity of participants' thoughts between the main thought coder and a second research assistant (also blind to condition) on 50 of the thought-listing sheets was high (Cohen's kappa = .91).

Manipulation check. To check the argument-quality manipulation, participants were asked to rate the arguments in the article for how convincing they were on a 9-point scale (1 = *very convincing*, 9 = *not at all convincing*; Petty et al., 1993).

Results

Manipulation Check

The manipulation-check data were subjected to a hierarchical regression analysis. In this regression, message valence (consisting of two dummy-coded variables), argument quality (consisting of two dummy-coded variables), and optimism scores (centered) were included in the first step of the regression as predictor variables. In the second step of the equation, the three two-way interaction terms (i.e., Optimism \times Message Valence, Optimism \times Argument Quality, and Message Valence \times Argument Quality) and the three-way interaction term were included as predictor variables. As expected, participants who read the articles containing the strong arguments found the articles to be more convincing than those who read the articles containing the weak arguments, $F(1, 132) = 7.80, p = .006$ ($\beta = .24$). The only other effect to approach significance was that of message valence, $F(1, 132) = 3.28, p = .07$ ($\beta = .15$). This marginal effect, not entirely unexpected, indicates that participants tended to find the positive message more convincing than the negative message.

Attitude Index

To test our main predictions, scores on the attitude index were subjected to the same hierarchical regression analysis used for the manipulation-check data. This regression analysis yielded three significant effects. First, there was a main effect of message valence such that participants formed more favorable attitudes about the positive articles than the negative articles, $F(1, 132) = 20.10, p < .001$ ($\beta = .33$). In addition, the analysis revealed a main effect of argument quality such that the strong arguments led to more support for the tuition plan than did the weak arguments, $F(1, 132) = 37.53, p < .001$ ($\beta = .45$). It should be noted that this main effect indicates that participants were thinking about the messages carefully and therefore likely found the messages personally relevant, as intended. Importantly, the predicted Optimism \times Message Valence interaction was also significant, $F(1, 128) = 6.14, p = .01$ ($\beta = .19$). Specifically, as optimism increased, participants formed more favorable attitudes about the positively framed messages but formed less favorable attitudes about the negatively framed messages. Notably, the remaining terms in the regression equation produced no significant effects ($F_s < 1, p_s > .5$).² Figure 1 (left panel) presents the regression lines for the attitude index collapsed across argument quality.

² Gender did not qualify the results of this or any of the studies presented and thus will not be mentioned further.

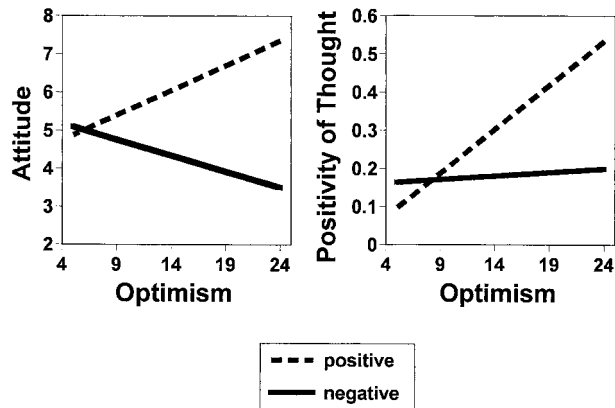


Figure 1. Regression lines predicting attitudes and positivity of thought from message valence and level of optimism in Study 1. Higher numbers indicate more favorable attitudes (left panel) and more positive thoughts (right panel).

Positivity of Thought Index

Participants' scores on the positivity of thought index were entered into the same hierarchical regression used above. This analysis revealed the same three significant effects found with the attitude index. Specifically, students generated a higher proportion of positive thoughts while reading the positive message than the negative message, $F(1, 132) = 8.10, p = .005$ ($\beta = .23$). Participants also generated a higher proportion of positive thoughts while reading the strong as compared with the weak arguments, $F(1, 132) = 13.00, p < .001$ ($\beta = .29$). The predicted Optimism \times Message Valence interaction was also significant, $F(1, 128) = 4.45, p = .03$ ($\beta = .18$). This interaction is depicted in Figure 1 (right panel). Consistent with the attitude data, the proportion of positive thoughts generated increased with optimism in the positive-message condition but not in the negative-message condition. Finally, there was also a significant Optimism \times Argument Quality interaction, $F(1, 128) = 3.92, p = .05$ ($\beta = .17$), indicating that positivity of thought increased somewhat more with optimism in the strong-argument condition than in the weak-argument condition. This analysis yielded no other significant effects ($F_s < 2.48, p_s > .12$).

Mediation Analysis

The above results demonstrate that message valence and optimism interact to determine attitudes and positivity of thought. The following analysis was conducted to test whether the positivity of participants' thoughts mediated the effect of the Optimism \times Message Valence interaction on attitudes toward the tuition plan (cf. Petty et al., 1993). Specifically, a path analysis was performed using two regression analyses (Kenny, Kashy, & Bolger, 1998). In the first regression, we included the Optimism \times Message Valence interaction as the predictor variable and the positivity of thought index as the dependent variable. This first regression yielded a significant effect ($\beta = .20, p = .02$). Next, in the second regression, the scores on the attitude index were simultaneously regressed on the Optimism \times Message Valence interaction and the positivity of thought scores. This analysis revealed a significant

path from the positivity of thought scores to the attitude scores ($\beta = .49, p < .001$). However, the Optimism \times Message Valence interaction was no longer a significant predictor of attitudes ($\beta = .06, p = .59$). This pattern of results supports the contention that positivity of thought at least partially mediates the relationship between the Optimism \times Message Valence interaction and attitude change.

Discussion

The results of Study 1 are consistent with the valence-enhancement hypothesis. When evaluating a personally relevant positive message, persuasion increased as level of optimism increased. When evaluating a personally relevant negative message, however, persuasion decreased as level of optimism increased. Therefore, for the first time, the influence of optimism on persuasion has been demonstrated. Also consistent with our hypothesis, the positivity of thought data revealed a pattern of results similar to that found with the attitude measure. Moreover, a path analysis indicated that the positivity of participants' thoughts mediated the effect of the Optimism \times Message Valence interaction on attitudes toward the tuition plan. Importantly, these data also provide evidence against the optimism-mood hypothesis discussed above, because argument quality did not interact with optimism to influence attitude change. This finding suggests that optimism does not function in the same fashion as positive moods in persuasion.

Study 2

There were four main goals for Study 2. First, Study 2 was conducted in an effort to replicate the attitude and thought results that were uncovered in Study 1. A second goal was to test the prediction that self-relevance moderates the effects observed in Study 1. To do this, we manipulated how personally relevant the persuasive appeals were to the participants. According to the valence-enhancement hypothesis, optimism should only interact with message valence when the message under consideration is relevant to the recipient. Thus, when the message is relevant to individuals (as it was in Study 1), we predicted that persuasion would increase with optimism for positive messages but decrease with optimism for negative messages. When the message is not relevant to participants, we anticipated that optimism would not produce this interaction.

The addition of the relevance manipulation also allowed for an initial test of the optimism-association hypothesis mentioned above. This alternative hypothesis predicts that optimism will interact with message valence as it did in Study 1, regardless of message relevance. Thus, whereas we predicted a three-way interaction between optimism, message valence, and message relevance, this association account predicts a two-way interaction between optimism and message valence.

A final goal of Study 2 was to test whether optimism or some third variable is responsible for the pattern of results observed in Study 1. To do this, we assessed positive moods, negative moods, and participants' level of *consideration for future consequences* (CFC; Strathman, Gleicher, Boninger, & Edwards, 1994), which refers to individual differences in the extent to which people tend to consider distant versus immediate consequences of their actions. Prior research has found CFC to be both correlated with optimism

and to influence the persuasiveness of valenced messages (Strathman et al., 1994). For these reasons, we included CFC in Study 2. Positive and negative moods were measured because they are often correlated with optimism (e.g., Scheier, et al., 1989) and, as mentioned above, a great deal of research has found that moods influence persuasion. Although Study 1 provided initial evidence against the optimism–mood hypothesis, moods were measured to corroborate this initial finding.

Method

Participants

Seventy-eight University of Toledo undergraduates participated in return for partial course credit. The participants were randomly assigned to the cells of a 2 (message valence: positive or negative) \times 2 (message relevance: relevant or irrelevant) factorial design. In addition to the two manipulated variables, participants' optimism scores, mood scores, and CFC scores were recorded.

Procedure

Students participated in groups and were told that their task was to evaluate a new tuition policy. All students were then given a packet containing measures of optimism, positive and negative moods, and CFC, followed by a persuasive appeal and a set of dependent measures.

Predictor Variables

Individual differences. The LOT-R was again used to measure optimism. Scores in this sample ranged from 7 to 24 ($\alpha = .70$). New to Study 2, participants' current moods were assessed by the state version of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS contains a list of 10 descriptors of positive affect (e.g., *interested, excited*) and 10 descriptors of negative affect (e.g., *distressed, ashamed*), all rated on 5-point scales from 1 (*very slightly or not at all*) to 5 (*extremely*). Responses to the 10 positive affect items were summed for each participant to create a positive mood index (PANAS-P; $\alpha = .86$), and responses to the 10 negative affect items were summed for each participant to create a negative mood index (PANAS-N; $\alpha = .83$). Finally, CFC was measured using the Consideration of Future Consequences Scale (CFCS) created by Strathman et al. (1994). The CFCS is composed of 12 statements (e.g., "I consider how things might be in the future, and try to influence those things with my day to day behavior") rated on 5-point scales from 1 (*extremely uncharacteristic*) to 5 (*extremely characteristic*). The scale items were reverse scored when necessary and summed to create the CFC scores ($\alpha = .77$). Higher scores on this measure indicate a greater consideration of distant future life events.

Message valence. The same message-valence manipulation and tuition plan articles used in Study 1 were used in the current study. Because argument quality did not interact with optimism in determining attitude change in Study 1, only the messages containing weak arguments were used in Study 2.

Message relevance. The articles in Study 2 also varied in how personally relevant they were to the participants. Specifically, approximately half of the articles stated that the tuition policy was under review in the participant's current state (Ohio). The other half of the articles indicated that this policy was under consideration in a different state (Iowa). Whereas the relevant articles consistently mentioned the state of Ohio, the irrelevant articles consistently mentioned the state of Iowa. Furthermore, the irrelevant article also stated that "the Ohio legislature is *NOT* considering this bill." The relevant and irrelevant articles were otherwise identical.

Dependent Variables

The same attitude index ($\alpha = .92$) and positivity of thought index used in Study 1 were created for Study 2. Agreement on the valenced-thought ratings between two coders (both blind to condition) on 50 of the thought sheets was again high (Cohen's kappa = .93). In addition to these measures, we also included a question to verify the effectiveness of the relevance manipulation. For this item, participants indicated how likely it was that the tuition plan would affect them. Responses ranged from 1 (*not at all likely*) to 9 (*very likely*).

Results

Manipulation Check

As in Study 1, the manipulation-check data were entered into a hierarchical regression analysis. In this analysis, message valence (consisting of two dummy-coded variables), message relevance (consisting of two dummy-coded variables), and optimism scores (centered) were included in the first step of the regression followed by the three two-way interaction terms (i.e., Optimism \times Message Valence, Optimism \times Message Relevance, and Message Valence \times Message Relevance) and the three-way interaction term. This regression analysis yielded only one significant effect. Participants in the relevant condition found the articles to be more personally relevant than did the participants in the irrelevant condition, $F(1, 74) = 12.67, p = .001 (\beta = .38)$.

Attitude Index

To test the main predictions, scores on the attitude index were submitted to the same procedure described above. The analysis revealed a main effect of message valence, indicating that participants formed more favorable attitudes about the tuition plan if they read the positive articles than if they read the negative articles, $F(1, 74) = 14.72, p < .001 (\beta = .41)$. There was also an Optimism \times Message Relevance interaction, $F(1, 70) = 3.87, p = .05 (\beta = .21)$, indicating a trend for attitudes to become more positive toward the tuition plan as optimism increased in the relevant condition but not in the irrelevant condition. These effects were qualified, however, by the predicted Optimism \times Message Valence \times Message Relevance interaction, $F(1, 70) = 7.88, p = .006 (\beta = .30)$, depicted in Figure 2 (top panels). As anticipated, in the relevant condition, persuasion increased with optimism for participants who read the positive message. However, when participants in the relevant condition read the negative message, persuasion decreased as optimism increased. Also as predicted, participants' attitudes did not reveal this same interaction pattern in the irrelevant condition. This analysis yielded no other significant effects (all F s < 1).

Positivity of Thought Index

Participants' scores on the positivity of thought index were also entered into the same hierarchical regression. The results of this analysis mirrored those found on the attitude index. Specifically, participants generated a higher proportion of positive thoughts about the positive message than the negative message, $F(1, 74) = 9.97, p = .002 (\beta = .34)$. Also, as with the attitude data, there was a marginally significant Optimism \times Message Relevance interaction, $F(1, 70) = 2.96, p = .09 (\beta = .19)$. These

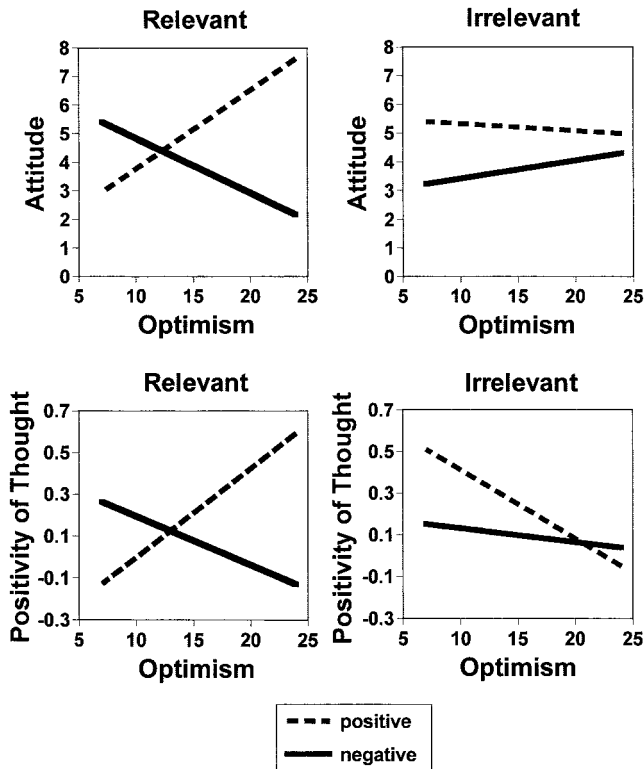


Figure 2. Regression lines predicting attitudes and positivity of thought from message valence, message relevance, and level of optimism in Study 2. Higher numbers indicate more favorable attitudes (top panels) and more positive thoughts (bottom panels).

findings were again qualified, however, by a significant three-way interaction, $F(1, 70) = 7.32, p = .009$ ($\beta = .30$). This interaction is depicted in Figure 2 (bottom panels). Consistent with predictions, in the relevant–positive-message condition, as optimism increased, the proportion of positive thoughts generated increased. However, in the relevant–negative-message condition, as optimism increased, the proportion of positive thoughts generated decreased. Also as predicted, this interaction pattern was not observed in the irrelevant conditions. Instead, positivity of thought tended to decrease with optimism in the irrelevant–positive-message condition. This analysis yielded no other significant effects (all F s < 1).

Mediation Analysis

The above results indicate that message valence, message relevance, and optimism scores interact to determine attitudes and positivity of thought. As in Study 1, a path analysis was conducted to test whether the positivity of participants' thoughts mediated the effect of this interaction on attitudes toward the tuition plan. In line with the valence-enhancement hypothesis, the path analysis was performed on the data provided by the participants in the self-relevant condition (cf. Petty et al., 1993). In the first regression, we included the Optimism \times Message Valence interaction term as the predictor variable and the positivity of thought index as the dependent variable. This regression yielded a significant effect ($\beta =$

.35, $p = .05$). Next, in the second regression, the scores on the attitude index were simultaneously regressed onto the two-way interaction term and the positivity of thought scores. This analysis revealed a significant path from positivity of thought scores to the attitude scores ($\beta = .49, p = .003$). The path from the two-way interaction to the attitude scores, however, was rendered nonsignificant ($\beta = .22, p = .15$). Consistent with Study 1, this analysis supports the view that the positivity of participants' thoughts mediates the relationship between the Optimism \times Message Valence interaction and attitude change when the argument under consideration is personally relevant.³

Potential Confounding Variables

We analyzed participants' positive mood scores, negative mood scores, and CFC scores to determine if one of these variables rather than optimism was primarily responsible for the results of Study 2. Specifically, we reran both the hierarchical regressions on the attitude index and the positivity of thought index, described above. This time, however, we also included participants' scores on the PANAS-P, PANAS-N, and the CFCS with optimism scores in the first step of the regression equation. Even after entering in these new variables, the attitude index continued to demonstrate the same main effect of message valence, $F(1, 71) = 13.34, p < .001$ ($\beta = .38$), and three-way interaction, $F(1, 67) = 6.41, p = .01$ ($\beta = .28$). The positivity of thought index also maintained the same main effect of message valence, $F(1, 71) = 4.79, p = .03$ ($\beta = .24$), and three-way interaction, $F(1, 67) = 4.31, p = .04$ ($\beta = .24$).⁴

Discussion

The results of Study 2 were consistent with the valence-enhancement hypothesis, again showing that optimism plays a significant role in persuasion. Importantly, Study 2 adds to the findings of Study 1 by demonstrating that the predicted Optimism \times Message Valence interaction occurs for relevant but not for irrelevant messages. Thus, consistent with the findings of Aspinwall and Brunhart (1996), the influence of optimism was largely limited to self-relevant situations. These results suggest that the observed effects may be due to the different strategies used by optimists to cope with positive and negative information.

These data also cast doubt on the optimism–association hypothesis discussed earlier. Specifically, contrary to this perspective, the results demonstrate that optimism and message valence do not

³ As may be anticipated from the valence-enhancement hypothesis, a separate path analysis for the irrelevant-message participants revealed that positivity of thought did not mediate the effect of the two-way interaction on attitudes for these individuals. In this path analysis, the interaction term was unrelated to the positivity of thought index ($\beta = .01, p = .96$).

⁴ We also used a second method to examine these potential confounding variables. Specifically, we ran both the attitude and positivity of thought hierarchical regression analyses described above with the PANAS-N, PANAS-P, and CFCS scores, respectively, in the place of optimism. None of these six separate hierarchical regressions produced the same three-way interaction observed with the LOT-R scores (for the attitude index, all F s < 1.93, $ps > .16$; for the positivity of thought index, all F s < 2.82, $ps > .10$).

interact when the message under consideration is irrelevant to the recipient. Finally, Study 2 also provides evidence that optimism but not a positive mood state, a negative mood state, or CFC can sufficiently account for the present pattern of results.

Study 3

Study 3 was designed to provide a conceptual replication of Study 2 in a more realistic context, using different stimulus materials. For Study 3, students in an undergraduate psychology course evaluated an extra-credit policy for their class. The students were presented one of three extra-credit policies to evaluate. The first policy was designed to be favorable, the second mildly unfavorable, and the third highly unfavorable for the students. In determining to whom the extra-credit policy was relevant, we examined students' grades in the course. It was predicted that the Optimism \times Message Valence interaction would be observed only when the message was relevant for the students. Thus, we anticipated that the results would be comparable to those of Study 2.

Another purpose of Study 3 was to examine the potential confounding influence of four other individual-difference variables that are often correlated with optimism: positive-trait affectivity, negative-trait affectivity, self-esteem, and trait anxiety. On the basis of the valence-enhancement hypothesis, it was anticipated that optimism would be primarily responsible for the observed pattern of results.

Method

Participants

Students in an undergraduate psychology course were given the opportunity to take part in the study in return for partial course credit. Seventy-six students completed the entire experiment. Participants were randomly assigned to read either a positive, mildly negative, or very negative persuasive message. In addition to message valence, students' grades in the course (used to determine message relevance) and optimism scores served as our primary predictor variables.

Procedure

During the 1st week of a 15-week semester, students in an undergraduate psychology class were given the opportunity to take part in a two-session study on personality. All students attending the 1st day of class agreed to participate in the two sessions and gave the experimenter permission to examine their grades later in the course. For the first session, the students completed a packet of questionnaires that assessed optimism and the four potentially confounding individual-difference variables. Later, during the 13th week of the semester, the same group of students was told that for the second part of the study, they would read and evaluate a new extra-credit policy that the instructor planned to implement. After reading and answering several questions about this fictitious policy, the students were thanked for participating and debriefed.

Predictor Variables

Individual differences. We used the Optimism–Pessimism Questionnaire (OPQ; Dember, Martin, Hummer, Howe, & Melton, 1989) instead of the LOT-R to measure optimism in Study 3. The OPQ consists of 56 Likert-type items each rated on a 4-point scale. The instrument is composed of 18 positively worded items to assess optimistic orientation, 18 negatively worded items to assess pessimistic orientation, and 20 filler

items. To compute optimism scores, we reverse scored the pessimism items and added them to the optimism items. Scores on this measure ranged from 85 to 124, with higher numbers reflecting greater optimism ($\alpha = .88$). We used the OPQ instead of the LOT-R in this study to demonstrate that the present results were not limited to the LOT-R but instead could be obtained with another optimism instrument (cf. Geers, 2000).⁵

Positive trait affectivity and negative trait affectivity were measured using the PANAS described earlier. This time, however, the trait version, not the state version, was administered (Watson et al., 1988). The trait version of the PANAS asks participants to respond to the same 10 positive descriptors (PANAS-P, $\alpha = .79$) and 10 negative descriptors (PANAS-N, $\alpha = .90$) used in the state version. For the trait version, however, participants are asked how they feel in general.

Trait anxiety was assessed using the Trait scale of the State–Trait Anxiety Inventory (STAI-Form Y; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). This scale is composed of 20 statements concerning one's feelings of tension and anxiety, each rated on a 4-point scale ranging from 1 (*almost never*) to 4 (*almost always*). This instrument measures the extent to which participants tend to respond anxiously across different situations. Responses were reverse scored when necessary and summed to create the anxiety inventory ($\alpha = .90$).

Trait self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This scale consists of 10 statements regarding one's self view, 5 positively worded and 5 negatively worded, to which participants respond on a 4-point scale (1 = *strongly disagree*, to 4 = *strongly agree*). The items were reverse scored when necessary and summed to produce self-esteem scores ($\alpha = .86$).

Message valence. As mentioned earlier, the message-valence manipulation was administered 12 weeks after participants responded to the individual-difference measures. After a class period in the 13th week, the participants were told that the instructor had chosen an extra-credit policy for the last few weeks of the course and that their second task for the study was to read a short description of the policy and to evaluate it for the instructor. At this time, the participants were randomly given one of three different one-page extra-credit policy sheets to examine. These sheets noted that the instructor typically allows students to participate in a maximum of three psychology experiments per semester, ranging from 1 to 2 extra-credit points each. The positive-message sheet continued by telling the students that the instructor had decided to change the typical policy by allowing them to gain up to 6 more extra-credit points than usual. The mildly negative extra-credit policy sheets informed the students that the instructor was going to allow them to obtain 4 more extra-credit points. To acquire these additional points, however, the students were told they would have to spend 2 hr of experiment time to gain each point rather than the typical half hour. Finally, the negative extra-credit policy told students that the instructor had thought over the extra-credit situation and decided not to allow students to obtain any more extra credit. For each of the policies, a brief explanation of the instructor's decision was provided.

Message relevance. To determine which of the students would find the extra-credit policy personally relevant, we examined their course grades. Informal polling during the semester revealed that a majority of the students thought they would only be satisfied with a grade of a B or better in the course. Thus, we divided the students into two groups: those earning a grade lower than a B (high-relevance group) and those earning a grade of a B or higher (low-relevance group).

⁵ The OPQ was originally designed to yield two separate scales: one measuring optimism and the other pessimism. The results of the separate scales are not presented because independent analyses with these Optimism and Pessimism subscales produced the same significant interactions found with the overall Optimism scale described above ($F_s > 3.20, p_s < .08$).

Dependent Variables

Attitude index. In an effort to keep the study brief and as realistic as possible, we assessed attitudes toward the extra-credit policy using only two questions (both rated on 9-point scales). The first question asked students to indicate how much they agreed with the extra-credit policy (1 = *not at all*, 9 = *very much*), whereas the second asked students how beneficial or harmful they thought the extra-credit policy would be (1 = *harmful*, 9 = *beneficial*). The two items were significantly correlated ($r = .45$, $p < .001$) and were averaged together to create an attitude index.

Comment data. Following the attitude questions, there were two lines on which participants could write down comments if they desired. We used the comment data to help verify our division of the participants into the high- and low-relevant groups. It was reasoned that if the high-relevance participants did find the extra-credit policy to be more important than the low-relevance participants, these students would be more likely to provide us with remarks in the space provided.

Results

Comment Data

As anticipated, an examination of the comment data revealed that significantly more of the high-relevance participants (71%) wrote down comments concerning the extra-credit policy than low-relevance participants (40%), $\chi^2(1, N = 76) = 4.66$, $p = .03$. These data suggest that the individuals in the high-relevance group found the policy to be more noteworthy than the individuals in the low-relevance group.

Attitude Index

An initial examination of the attitude data indicated no significant differences between the mildly negative and negative-message conditions ($M = 6.26$ and 6.37 , respectively; $t < 1$). We therefore combined these two groups in subsequent analyses.

The attitude data were analyzed with the same method used in Study 2. Specifically, message valence (consisting of two dummy-coded variables), message relevance (consisting of two dummy-coded variables), and optimism scores (centered) were included in the first step of the hierarchical regression with the four interaction terms subsequently added into the equation. This regression analysis yielded three significant effects. First, there was a main effect of message valence such that the positive policy gained more support than the negative policies, $F(1, 72) = 6.13$, $p = .01$ ($\beta = .26$). Second, there was a significant main effect of message relevance such that participants in the high-relevance group agreed with the extra-credit policies more than those in the low-relevance group, $F(1, 72) = 24.01$, $p < .001$ ($\beta = .50$). Importantly, the predicted three-way interaction also emerged, $F(1, 68) = 4.63$, $p = .03$ ($\beta = .48$). These data are depicted in Figure 3. As anticipated, in the high-relevance group, as optimism increased in the positive-message condition, persuasion also increased. However, in the negative-message condition, as optimism increased, persuasion decreased. Also as predicted, in the low-relevance group, participants' attitudes did not reveal this same pattern. Interestingly, in the positive-message/low-relevance group, persuasion decreased somewhat as optimism increased. This analysis yielded no other significant effects ($F_s < 1.95$, $p_s > .16$).

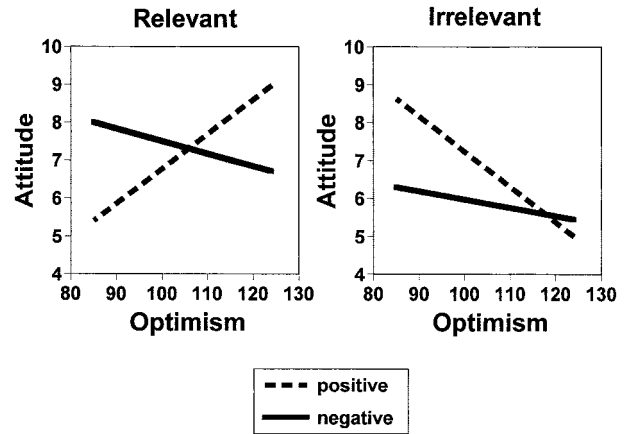


Figure 3. Regression lines predicting attitudes from message valence, message relevance, and level of optimism in Study 3. Higher numbers indicate more favorable attitudes.

Potential Confounding Variables

We measured participants' positive and negative trait affectivity, self-esteem, and trait anxiety to determine whether one (or more) of these variables, and not optimism, was primarily responsible for the results obtained on the attitude index. As in Study 2, we reran the hierarchical regression described above, this time including the potential confounding variables with optimism, message valence, and message relevance in the first step of the regression equation. This analysis continued to produce the same main effects of message valence, $F(1, 66) = 7.81$, $p = .007$ ($\beta = .28$) and message relevance, $F(1, 66) = 25.10$, $p < .001$ ($\beta = .49$). Although slightly reduced in magnitude, the three-way interaction was also still apparent, $F(1, 62) = 3.47$, $p = .06$ ($\beta = .41$).^{6,7} Thus, the persuasion effects found in the present experiment remained after we simultaneously controlled for self-esteem, trait affectivity, and trait anxiety.

Discussion

In sum, the results of Study 3 provide a strong conceptual replication of Study 2 in a more realistic setting and using different stimulus materials. Specifically, persuasion was again observed to increase with optimism scores in the positive-message/high-relevance condition but to decrease as optimism increased in the negative-message/high-relevance condition. As in Study 2, this same pattern of results did not emerge when the message was of low personal relevance to the participants. These results are in agreement with the valence-enhancement hypothesis and are inconsistent with the optimism-association hypothesis that predicts

⁶ Several participants did not complete all the items in the questionnaire packet and thus the degrees of freedom in these follow-up analyses are slightly reduced.

⁷ As with Study 2, we also conducted separate hierarchical regression analyses with the potential confounding variables in place of participants' optimism scores. None of these regression analyses produced the three-way interaction on the attitude index that was observed with optimism (all $F_s < 1.10$, $p_s > .43$).

persuasion will increase with optimism whenever a positive message is encountered. Finally, the analyses with the other individual-difference variables converge with those of Study 2 in suggesting that our results were due to optimism and not to a related construct such as self-esteem, trait anxiety, or trait affectivity.

General Discussion

The present experiments were conducted to ascertain the role of dispositional optimism in persuasion. Importantly, these results are the first to clearly demonstrate that optimism is a significant contributor to the attitude-change process. The observed results were consistent with the proposed valence-enhancement hypothesis and were inconsistent with two competing hypotheses also derived from the literature.

Notably, the present data are in line with the findings of Aspinwall and Brunhart (1996) and Abele (2002) with regard to the importance of considering self-relevance in the study of optimism. Taken together, these earlier studies have suggested that the coping strategies of optimists are limited to situations of high personal relevance. The present investigation adds to this line of work, because unlike these previous investigations, personal relevance was directly manipulated and thus more clearly demonstrates that self-relevance determines if optimists will initiate their coping strategies. Furthermore, it seems that optimism biases more than attention and recall as demonstrated in earlier studies (e.g., Aspinwall & Brunhart, 1996); it also biases thoughts and attitudes when the information under consideration is self-relevant. When it is not, optimism does not seem to invoke these same coping mechanisms.

The impact of optimism on persuasion was expected to occur because of differences in the type of information that optimists and pessimists elaborate on within persuasive messages. Specifically, it was anticipated that optimists would think more or less positively about a self-relevant, valenced message than pessimists. Consistent with this prediction, Studies 1 and 2 found that optimists generated more positive thoughts about the relevant-positive messages than about relevant-negative messages, whereas pessimists did not. Thus, optimism appears to be an individual-difference variable that biases the processing of valenced messages in a manner consistent with the valence-enhancement hypothesis. Furthermore, the positivity of participants' thoughts mediated the effect of optimism and message valence on attitude change in Studies 1 and 2. Thus, the type of thoughts that participants generated when evaluating a persuasive message appears to be one mechanism by which optimism influences attitude change. Future studies may profit by conducting similar analyses on the positivity of optimists' and pessimists' thoughts, because this variable may successfully mediate the effect of their coping styles on other criterion variables.

In the present investigation we tested the possibility that other variables were more directly responsible for the attitude-change effects observed with optimism. Analyses revealed that of the variables measured (optimism, CFC, positive mood, negative mood, self-esteem, trait anxiety, positive and negative trait affectivity), only optimism could account for the predicted interactions with message valence and message relevance. Thus, the current studies help distinguish optimism from these other constructs and provide evidence against the argument that the effects found with

optimism instruments are merely due to the variance they share with related constructs.

In a similar vein, the present research also indicates that the relationship between optimism and attitude change is distinct from that found with many other individual-difference variables. For example, unlike locus of control (Rotter, 1966), optimism does not produce a simple main effect of attitude change, with either optimists or pessimists being more easily persuaded than the other (Avtgis, 1998). Also, unlike the variables need for cognition (Cacioppo & Petty, 1982) and need for closure (Webster & Kruglanski, 1994), optimism does not influence the extent to which individuals effortfully process and assess a persuasive message (e.g., Klein & Webster, 2000; Petty et al., 1983). Instead, optimism influences the extent to which one elaborates in a biased fashion congruent with message valence. Furthermore, this processing bias is only exhibited when a message is of high personal relevance (Studies 2 and 3). At the moment, this complex relationship with message valence, self-relevance, and attitude change seems unique to the optimism construct.

The optimism construct may also prove valuable in the examination of how individuals resist attempts at attitude change. Prior work indicates that an individual's resistance to the persuasive influence of a counterattitudinal message can be improved by fortifying his or her existing attitude with supportive information (e.g., McGuire, 1964). Interestingly, the findings of the current studies indicate that when a message is personally relevant, optimistic individuals are predisposed to refute negative, counterattitudinal, persuasive appeals. This was observed even though participants were not given the opportunity to fortify their attitudes before reading the persuasive appeal. Thus, it may be that optimists are naturally resistant to counterarguments that are negatively framed. Furthermore, the present studies suggest that when challenging the existing attitude of an optimist, it would be best to frame the challenging message in a positive, self-relevant, manner. Doing so should instigate positive elaborations and lead optimists to endorse the countering position more than pessimists. Explorations into issues such as these should help persuasion researchers better predict the long-term consequences of persuasive appeals.

More broadly, the current data also have implications for research and theory on the underlying function of attitudes. Simply stated, it has been suggested that attitudes serve the function of enabling people to successfully execute plans and to meet individualistic needs and goals (e.g., DeBono, 1987; Katz, 1960). According to this functionalistic perspective, a persuasive communication should be most effective when the message information corresponds to the plans and goals of a particular individual. For example, several investigations have found that individuals who have a strong desire to fit into their social surroundings (i.e., individuals who are *high self-monitors*) are more attracted to and persuaded by image-oriented advertisements than individuals who are less concerned about fitting in with their social environment (i.e., *low self-monitors*; DeBono, 1987; DeBono & Harnish, 1988). Consistent with a functionalist conception of attitudes, we found that optimists' goal to successfully cope with their surroundings led them to focus on the information embedded in the persuasive appeal that was relevant to this goal. That is, in line with a functionalistic approach to attitudes, optimists seem to be influenced more by valenced information than their less coping-minded, pessimistic counterparts.

Concluding Remarks

The valence-enhancement hypothesis advanced in this article has proven useful in explaining the relationship between optimism and attitude change in the present experiments. Nevertheless, these data only represent an initial step toward a complete understanding of the role of optimism in persuasion. For instance, it is presently unknown how long the attitude changes observed in the present experiments will persist. It is possible that these effects will rapidly dissipate over time, or conversely, they may become more extreme. Additionally, although the present effects were found with dispositional optimism, the same pattern of results could exist with situation-specific optimism as well. Future studies are required to address such issues.

Ultimately, the present results may best be viewed as an early step toward integrating the dispositional optimism construct into the realm of social judgment. That is, the predictions of the valence-enhancement hypothesis may not be limited to the persuasion context but instead could be broadened to incorporate many other domains of social judgment, such as impression formation and attribution. For example, it could be that optimists form more extreme impressions of others engaging in helpful or hurtful behaviors than pessimists. Consistent with the current studies, however, we would anticipate that such effects would occur only if the behavior, or the person engaging in the behavior, is of high personal relevance to the observer. This and many related possibilities await future investigation.

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New Editors Appointed, 2005–2010

The Publications and Communications Board of the American Psychological Association announces the appointment of two new editors for 6-year terms beginning in 2005:

- *Journal of Consulting and Clinical Psychology*: **Annette M. La Greca**, PhD, ABPP, Professor of Psychology and Pediatrics, Department of Psychology, P.O. Box 249229, University of Miami, Coral Gables, FL 33124-0751.
- *Developmental Psychology*: **Cynthia García Coll**, PhD, Brown University, 21 Manning Walk, Providence, RI 02912.

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- For *Journal of Consulting and Clinical Psychology*, submit via www.apa.org/journals/ccp.html.
- For *Developmental Psychology*, submit via www.apa.org/journals/dev.html.

Manuscript submission patterns make the precise date of completion of the 2004 volumes uncertain. Current editors, Mark B. Sobell, PhD, and James L. Dannemiller, PhD, respectively, will receive and consider manuscripts through December 31, 2003. Should 2004 volumes be completed before that date, manuscripts will be redirected to the new editors for consideration in 2005 volumes.