HAL
open science

Mood, Source Characteristics, and Message Processing: A Mood-Congruent Expectancies Approach

Rene Ziegler

To cite this version:

Rene Ziegler. Mood, Source Characteristics, and Message Processing: A Mood-Congruent Expectancies Approach. Journal of Experimental Social Psychology, 2010, 46 (5), pp.743. 10.1016/j.jesp.2010.04.014 . hal-00851024

HAL Id: hal-00851024

https://hal.science/hal-00851024v1

Submitted on 12 Aug 2013

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Accepted Manuscript

Mood, Source Characteristics, and Message Processing: A Mood-Congruent Expectancies Approach

Rene Ziegler

PII: S0022-1031(10)00099-5
DOI: 10.1016/j.jesp.2010.04.014
Reference: YJESP 2456

To appear in: *Journal of Experimental Social Psychology*

Received Date: 10 November 2009
Revised Date: 10 March 2010

Please cite this article as: R. Ziegler, Mood, Source Characteristics, and Message Processing: A Mood-Congruent Expectancies Approach, *Journal of Experimental Social Psychology* (2010), doi: 10.1016/j.jesp.2010.04.014

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Mood, Source Characteristics, and Message Processing:

A Mood-Congruent Expectancies Approach

Rene Ziegler

Eberhard-Karls-Universität Tübingen, Germany

ACCEPTED MANUSCRIPT

Author Note

René Ziegler, Psychologisches Institut, Universität Tübingen.

I would like to thank Michael Diehl for helpful comments. I would also like to express my gratitude to John Skowronski and three anonymous reviewers for enormously thoughtful and helpful suggestions. I also thank Franziska Drogla, Mandy Raumschüssel, Monika Stoll, and Katharina Wais for their help in conducting this research.

Correspondence concerning this article should be addressed to René Ziegler, Psychologisches Institut, Universität Tübingen, Friedrichstr. 21, D-72072 Tübingen, Germany; E-mail: Rene.Ziegler@uni-tuebingen.de

ACCEPTED MANUSCRIPT

Abstract

Based on two lines of research, a model is proposed to explain when individuals in a positive mood as well as individuals in a negative mood invest more or less effort in message processing. First, research has shown that moods affect likelihood estimates. That is, positive (negative) mood leads to a mood-congruent increase regarding the occurrence of positively (negatively) valenced events. Second, research has shown that mood-unrelated expectancies affect message processing. Combining both lines of research, I argue that mood-congruent expectancies also affect message scrutiny, that is, more effortful processing given expectancy disconfirmation rather than expectancy confirmation. This prediction was tested in two experiments involving initial information regarding source honesty and likability, respectively. As predicted, individuals in both positive and negative moods evinced more effortful message processing when initial information disconfirmed rather than confirmed expectancies. Thus, these results are consistent with a quite flexible view of individuals in both positive and negative moods regarding the effort invested in information processing.

Keywords: mood, information processing, expectancies, source honesty, source likability

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Mood, Source Characteristics, and Message Processing:

A Mood-Congruent Expectancies Approach

As has been shown in a number of studies, mood affects the extent to which people think about a persuasive message (e.g. Bless, Bohner, Schwarz, & Strack, 1990; Bohner, Crow, Erb, & Schwarz, 1992; Bohner & Weinerth, 2001; Handley & Lassiter, 2002; Mackie & Worth, 1989; Wegener, Petty, & Smith, 1995; Worth & Mackie, 1987). Several accounts have been proposed to explain message processing differences between individuals in happy as compared to neutral or sad mood. Specifically, these approaches aim to explain why individuals in a positive affective state have often been found to invest less effort in message elaboration than individuals in a neutral or a negative affective state (Mackie & Worth, 1991; Schwarz, 1990; Wegener et al., 1995). In addition, research has identified circumstances under which even individuals in a negative affective state may refrain from investing much effort in message processing (Bohner & Weinerth, 2001; Handley & Lassiter, 2002). Against the background of these empirical findings and theoretical accounts, I propose an account that suggests a mechanism which leads both happy and sad individuals to elaborate a persuasive message more or less extensively. Specifically, the present approach builds on two lines of research regarding (1) the effects of mood on expectancies (e.g. Johnson & Tversky, 1983) and (2) the role of expectancies for message processing (e.g. Ziegler, Diehl, & Ruther, 2002). Integrating these lines of research, I propose that individuals in a positive affective state as well as individuals in a negative affective state may evince higher or lower amounts of message scrutiny. Specifically, higher message scrutiny is predicted when mood-congruent expectancies are disconfirmed rather than confirmed. In the following, I depict the relevant models and empirical findings that form the basis of the present approach. Next, I describe predictions derived from this approach in regard to expectancies about characteristics of the message source. These predictions are tested in two experiments.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Existing Findings and Accounts Regarding Mood Effects on Message Processing

In an early study on mood and message processing, Worth and Mackie (1987) found that people in a neutral mood processed a message more thoroughly than people in a happy mood. That is, when people were in a neutral mood, strong arguments led to more attitudinal agreement than weak arguments. In comparison, attitudes of people in a happy mood were not affected by argument strength. In a similar vein, Bless et al. (1990) found that happy people were less likely to engage in message elaboration than sad people.

Three major accounts have been proposed to explain why happy people might process persuasive messages less thoroughly than people in neutral mood (e.g. Worth & Mackie, 1987) or sad mood (e.g. Bless et al., 1990). According to the cognitive capacity approach (Mackie & Worth, 1989, 1991), happy mood (as compared to neutral mood) activates knowledge which takes up capacity and thus decreases cognitive resources available for systematic message processing. More important, with respect to positive versus negative mood, two motivational accounts have been offered. According to the feelings-as-information approach (Schwarz, 1990; Schwarz, Bless, & Bohner, 1991) happy moods inform people that the environment is safe and benign, thereby reducing motivation for extensive information processing. In contrast, sad moods signal that the current situation is problematic, therefore triggering more extensive information processing. Lastly, the hedonic contingency view (Wegener & Petty, 1994; Wegener et al., 1995) suggests that happy moods (as compared to sad moods) may not invariably lead to decreased message processing. Rather, happy moods are assumed to lead to high levels of mood management (Clark & Isen, 1982). In particular, happy people may be more sensitive to the hedonic consequences of message processing than sad people. Thus, positive moods are predicted to lead to decreased processing only when thinking about the message is mood threatening. In comparison, if message processing allows a person to maintain or enhance a pleasant state then

ACCEPTED MANUSCRIPT

positive moods need not lead to lower levels of message scrutiny than negative moods.

In sum, existing models regarding the effects of mood on message processing predict either that positive moods may lead to less extensive message elaboration for cognitive (Mackie & Worth, 1989, 1991) or for motivational reasons (Schwarz, 1990) or that positive moods may lead to less extensive message elaboration only in the case when thinking about the message has negative hedonic consequences (Wegener et al., 1995). More important in the present context, for individuals in a negative mood, both the mood-as-information model and the hedonic contingency approach predict high message scrutiny. In particular, these models predict that negative mood leads to effortful processing regardless of the factors that these models suggest as determinants of effortful processing in a positive mood (e.g. hedonic tone of the message).[1]

More recent research, however, has shown that certain factors may give rise to low message scrutiny even of individuals in negative affect states (Bohner & Weinerth, 2001; Handley & Lassiter, 2002). Such findings point toward an important next step in research on the effects of positive versus negative affective states on message scrutiny. That is, they make obvious the current lack of a model that explains not only when happy people invest more or less effort in message scrutiny but also when sad people invest more or less effort in message elaboration.

In the following, such a model is proposed. In particular, the current approach draws on two lines of research. First, it builds on findings with respect to the influence of mood on expectations (e.g. Mayer, Gaschke, Braverman, & Evans, 1992). Second, it is based on previous persuasion research regarding the role of expectancies for message processing (e.g. Baker & Petty, 1994; Ziegler et al., 2002).

Mood and Expectancies

In his seminal work on mood and memory, Bower (1981) suggested that “it seems likely

ACCEPTED MANUSCRIPT

that mood affects the way people elaborate on or draw inferences from interpersonal events and that their expectations and predictions are positive or negative depending on their mood" (p. 139). In fact, research has found that positive moods lead to more positive expectations than negative moods (e.g. Forgas & Moylan, 1987; Johnson & Tversky, 1983; Mayer et al., 1992). Collectively, this research has shown that positive and negative moods lead individuals to view the world as a place of mood-congruent valence. This holds for both short-term and long-term events, and in regard to the personal, interpersonal, and impersonal spheres. Overall, it appears that happy individuals believe the world to be a place where people are good, and good things happen for good reasons. In contrast, sad individuals believe the world to be a place where people are bad, and bad things happen for bad reasons.

Expectancies and Message Scrutiny

Persuasion research has shown that recipients' expectancies play a role for the extent of message processing when the elaboration likelihood (cf. Petty & Cacioppo, 1986) is neither particularly high nor low, that is, when the elaboration likelihood is unconstrained. For instance, Ziegler et al. (2002) showed that different combinations of two source factors (e.g. expertise and likability) may be more or less expectancy-congruent. Specifically, two source characteristics of the same valence were more expectancy-congruent than two source characteristics with opposing valence. Thus, a likable expert (both positively valenced characteristics) and a dislikable nonexpert (both negatively valenced) were judged less surprising than a dislikable expert and a likable nonexpert (opposite valence of the two characteristics). Further, expectancy-incongruent combinations led to higher message scrutiny than expectancy-congruent combinations (see also Baker & Petty, 1994; Smith & Petty, 1996).

Mood-Congruent Expectancies and Message Processing

Based on findings regarding mood and expectancies (e.g. Mayer et al., 1992), and

ACCEPTED MANUSCRIPT

expectancies and message scrutiny (e.g. Ziegler et al., 2002), I suggest that the effects of different affective states on message processing depend on whether mood-congruent expectancies are confirmed or disconfirmed. This is assumed to be the case as long as factors unrelated to mood do not constrain elaboration likelihood to be high or low (cf. Petty, DeSteno, & Rucker, 2001). Specifically, more effortful processing is predicted when mood-congruent expectancies are disconfirmed as compared to when mood-congruent expectancies are confirmed. Given the pervasive effect of mood on expectancies (e.g. Mayer et al., 1992), however, the question arises as to which expectancies are relevant regarding message elaboration. In this respect, message-related expectancies as well as source-related expectancies may be of particular interest (cf. Petty & Wegener, 1998). Given that the focus of the present research is on source characteristics, in the following I will center on source-related expectancies (see General Discussion for message-related expectancies). Specifically, I refer to the numerous factors that have been shown to function as a peripheral cue when the elaboration likelihood is low, and to affect the extent of message scrutiny when the elaboration likelihood is unconstrained (cf. Eagly & Chaiken, 1993; Petty & Wegener, 1998).

Previous findings

Cue effects. Various source characteristics such as likability, trustworthiness, expertise, and consensus status have been shown to affect attitudes directly when ability and / or motivation for argument processing are low as a result of non-mood factors (Chaiken, 1980; Eagly, Wood & Chaiken, 1978; Martin, Hewstone, & Martin, 2007; Petty, Cacioppo, & Goldman, 1981). More precisely, a positive value of these factors (i.e., a likable, trustworthy, expert or majority source) leads to more attitudinal agreement than a negative value (i.e., a dislikable, untrustworthy, nonexpert or minority source). Similarly, positive versus negative mood has been shown to serve as a peripheral cue affecting attitudes via a “How do I feel about it?” heuristic (Schwarz, 1990)

ACCEPTED MANUSCRIPT

under low elaboration conditions (Petty, Schumann, Richman & Strathman, 1993; Schwarz & Clore, 1983).

Level of scrutiny effects. Given unconstrained elaboration likelihood, these same source factors have been shown to affect the effort invested in thinking about a persuasive message. For instance, research has found higher message scrutiny in the case of an expert (vs. a nonexpert) source, a minority (vs. a majority) source, and a dishonest (vs. an honest) source (e.g. Heesacker, Petty, & Cacioppo, 1983; Martin et al., 2007; Priester & Petty, 1995). More important, further research has shown that message scrutiny effects of these single source factors are moderated by yet another source factor (Ziegler et al., 2002; Ziegler, Diehl, Zigon & Fett, 2004). Thus, less message scrutiny has been found when an expert (vs. a nonexpert) source is likable rather than dislikable, when a minority (vs. a majority) source is inconsistent or nondistinctive rather than consistent or distinctive (cf. Kelley, 1967), and when a dishonest (vs. an honest) source is nonexpert rather than expert. More generally, this research has shown that valence-congruent combinations of two source factors lead to less effortful processing than valence-incongruent combinations.

Implications for mood and message processing

Similar to these latter findings regarding the effects of different combinations of two mood-unrelated (source) factors on processing effort, I suggest that mood affects the extent of message processing in combination with other factors. More specifically, this should hold for factors that have been shown to affect the extent of message processing given both unconstrained elaboration likelihood and unconstrained / uncontrolled mood. In particular, I propose that source factors may lead to more or less message scrutiny of individuals in either positive or negative mood because these moods entail mood-congruent expectations regarding source valence (cf. Mayer et al., 1992). Further, the current approach holds that the mood-congruency of these

ACCEPTED MANUSCRIPT

source factors is most likely to affect processing effort when certain conditions are met. That is, information regarding these factors needs to be available and accessible for recipients prior to the message proper (Higgins, 1996). In addition, information regarding these factors affects message processing when it plays a role for a recipient's mood-unrelated goal, when it is of high salience, or both. Accordingly, the present research aims to provide evidence for the proposed role of either clearly mood-congruent or clearly mood-incongruent information for message processing when such information is presented prior to receipt of the persuasive message.

Overview of the Current Research

Two studies were conducted to test predictions derived from the present approach. In particular, these studies focus on the interplay of an individual's mood and initial information regarding source characteristics for message scrutiny. In both studies, participants are first put into a positive or negative mood. Next, in the context of an impression formation task, initial source-related information suggests either high or low source trustworthiness (Study 1) or high or low source likability (Study 2). Last, participants read a persuasive message containing either strong or weak arguments.

It is assumed that initial information regarding the source either confirms or disconfirms mood-congruent expectations. Specifically, a positive mood may lead to more positive expectations concerning source trustworthiness or likability than a negative mood. As a consequence, people in a positive mood should be more surprised when they encounter an untrustworthy or dislikable source rather than a trustworthy or likable source. In contrast, people in a negative mood may be more surprised given a trustworthy or likable source rather than an untrustworthy or dislikable source. As a result, message scrutiny should be higher given an expectancy-incongruent as compared to an expectancy-congruent source (cf. Pyszcynski & Greenberg, 1981; Reisenzein, 2000; Tiedens & Linton, 2001). In both studies, the effect of

ACCEPTED MANUSCRIPT

message strength on attitudes and thoughts serves as an indicator of processing effort.

Evidence consistent with these predictions would suggest an important amendment regarding the role of affective states for message elaboration. More specifically, it would commend a quite flexible view of the processing efforts of individuals in both a positive and a negative mood. In particular, not only individuals in a positive mood may invest more or less effort in message scrutiny. Rather, individuals in a negative mood may also invest more or less effort in message scrutiny.

Study 1

According to the hedonic contingency view (Wegener et al., 1995), the nature of the advocacy (counterattitudinal vs. proattitudinal) determines to what extent happy people elaborate a persuasive message. Specifically, their research showed that happy people scrutinized a proattitudinal ("uplifting") message more thoroughly than a counterattitudinal ("depressing") message. Sad people scrutinized both a pro- and a counterattitudinal message. In light of these findings, the first empirical test of the present mood-congruent expectancies approach employed a non-discrepant message. I predicted three-way interactions showing that the effect of argument strength on attitudes and thought valence is stronger given valence-incongruent combinations of mood and initial source information (positive mood / untrustworthy source and negative mood / trustworthy source) as compared to valence-congruent combinations (positive mood / trustworthy source and negative mood / untrustworthy source).[2]

Method

Participants and design. Eighty-two male students (age: M = 23.85; SD = 3.20) at the University of Tuebingen participated in the study in return for a small reward worth about 1.50 Euro. They were randomly assigned to one of the experimental conditions in the 2 (positive vs. negative mood) x 2 (honest vs. dishonest source) x 2 (strong vs. weak arguments) between-

ACCEPTED MANUSCRIPT

subjects factorial design.

Procedure and independent variables. Students were approached in the university cafeteria building by a research assistant and were asked whether they would be interested in taking part in two independent studies. In a quiet area of the building, five tables were prepared so that up to five participants could take part in parallel. In the ostensible first study, participants were asked to provide a vivid written report of either a happy or a sad life event, purportedly to help with the construction of a "Life Event Inventory". This induction method has been employed successfully in numerous previous mood studies (e.g. Bless et al., 1990; Schwarz & Clore, 1983). Participants were asked to spend eight minutes on this report. Afterwards, they were asked several questions about this task. Embedded within these questions were two manipulation check items which asked participants to indicate the extent to which they felt happy and sad right now (1 = *not at all happy / sad* to 9 = *very happy / sad*).

In regard to the second study, participants read that it was their task to form an impression of a person based on written information about this person. Note that this instruction aimed to insure that the information participants were about to read would be relevant for the goal of forming an impression of the person. Participants read that the information concerned a person who had presented his opinion on a planned project in a public discussion meeting. They were then informed that the opinion had to do with the construction of a tunnel underneath the Antwerp harbor. In order to make salient the mood-congruent or mood-incongruent information regarding the source, the next booklet contained only an introductory description of the person.

According to the short introductory description of the source, Mr. Maarten van E. was 53 years old, married, and father of two children. Further, it was said that he was working for the city of Antwerp on the planning board for transportation and infrastructure, and that he had expressed his support for the tunnel construction in Antwerp in a public discussion meeting.

ACCEPTED MANUSCRIPT

In the *honest source* conditions, participants then read that the source's integrity and honesty was indisputable. For example, on the occasion of an anniversary of service, he received an excessive bonus payment. Already prior to the detection of this error by the city treasury, he reported it in order to return the amount that he was not entitled to. In the *dishonest source* conditions, it was stated that the source's integrity and honesty was disputable. For example, on the occasion of an anniversary of service, he received an excessive bonus payment. When this error was realized by the city treasury, he refused to return the amount that he was not entitled to.

In the third booklet, participants were presented with a statement of the person regarding the tunnel construction project. This statement served as the persuasive message consisting of arguments in favor of building the tunnel. The source first stated that he believed that there were a number of considerations speaking in favor of building the tunnel. This was followed by one of two sets of four arguments. According to a pretest, one set consisted of four strong arguments; another set consisted of four weak arguments (see Ziegler, Dobre, & Diehl, 2007, for details regarding the argument selection procedure). Previous research has successfully employed these two sets of arguments to manipulate argument strength (Ziegler et al., 2004).

In the *strong-argument* conditions the first argument read:

> To begin with, measurements of the noise level indicate that residents in the suburbs on the water-front are extremely stressed by traffic noise on the existing feeder road. Calculations show that the construction of a by-pass road and the tunnel will lead to a 70 % reduction of the noise level for these residents.

Further strong arguments concerned (a) a 60 % reduction in air pollution, (b) advantages for freight traffic due to a shortening of transportation time by 20 %, and (c), the possibility of building playgrounds for children in renatured areas. In the *weak-argument* conditions the first argument was:

ACCEPTED MANUSCRIPT

To begin with, the new filter elements already employed in modern heating power stations that are supposed to be built into the tunnel function like a catalytic converter. This way the stale air in the tunnel will be purified so that the volume of exhaust fumes will be reduced by 2 %.

Other weak arguments were related to (a) a 5 % subsidy from a European Community fund for the advancement of the European infrastructure, (b) a reduction of the risk of accidents by 3 %, and (c) a small reduction in the number of unemployed laborers in the local building trade.

Further booklets were made up of the dependent measures, demographic questions, and an open-ended suspicion probe. The last booklet contained a debriefing sheet. Participants then went to the experimenter, selected their reward, were thanked and dismissed.

Dependent measures. Unless noted otherwise, ratings were made on scales ranging from 1 to 7.

Attitudes. Participants first indicated their agreement with the statement ”I think it is a good idea to build the tunnel“ (*do not agree at all* to *fully agree*). Moreover, they rated the tunnel construction on two semantic differential scales ranging from *disadvantageous / pointless* to *advantageous / meaningful*.

Source honesty and involvement. Perceived source trustworthiness was measured by asking participants to indicate their agreement with two statements according to which Mr. van E. “leaves an honest impression” and “appears to be trustworthy” (*do not agree at all* to *fully agree*). Involvement with the topic was measured by an item asking whether they would like to be in on the tunnel construction topic (*unwillingly* to *willingly*).

Cognitive responses. After completion of the attitude and manipulation check measures, participants were asked to write down the thoughts they had while reading the information

ACCEPTED MANUSCRIPT

presented to them. These thoughts might relate to the person, to the tunnel construction, or to other matters. Twelve lines were provided; participants were asked to start a new line for each thought and to spend three minutes writing them down. Two independent raters blind to conditions coded thoughts as to whether they were message-related or other-related. Message-related thoughts were further coded as favorable, unfavorable or neutral with respect to the tunnel construction. Interrater agreement was satisfactory (76%); disagreements were resolved by discussion.

Results

Unless noted otherwise, data were analyzed by means of three-factorial Recipient Mood x Source Honesty x Argument Strength analyses of variance (ANOVA).

Mood. Happy and sad responses were highly correlated ($r = -.62$, $p < .0001$) and averaged after reversing sadness-scores. A *t*-test showed that participants' mood was more elated in the positive mood condition ($M = 6.30$; $SD = 1.73$) than in the negative mood condition ($M = 3.89$; $SD = 1.73$), $t(80) = 6.29$, $p < .0001$, $d = 1.39$.

Source honesty and involvement. Responses on the two items to measure perceived trustworthiness were highly correlated ($r = .84$, $p < .0001$), so they were averaged. An ANOVA on these scores revealed a source honesty main effect, $F(1, 74) = 59.73$, $p < .0001$, $d = 1.67$. The source was rated as more trustworthy in honest source conditions ($M = 5.47$; $SD = 1.18$) than in dishonest source conditions ($M = 3.35$; $SD = 1.36$). Thus, the manipulation of source honesty was successful. Regarding involvement with the message topic, no effects emerged (all *ps* > .13). The overall mean ($M = 3.76$; $SD = 1.82$) indicates neither very high nor very low involvement.

Attitudes. Each participant's responses to the attitude items were averaged (*alpha* = .88). An ANOVA on these attitude scores (see Table 1) revealed three effects. As shown by a significant argument strength main effect, $F(1, 74) = 15.99$, $p < .001$, $d = 0.83$, strong arguments

ACCEPTED MANUSCRIPT

led to more positive attitudes (M = 5.94; SD = 0.79) than weak arguments (M = 5.04; SD = 1.31). Further, attitudes were more favorable given the honest source (M = 5.75; SD = 1.14) rather than the dishonest source (M = 5.21; SD = 1.17), $F(1, 74) = 5.64$, $p < .03$, $d = 0.47$. Of greater interest, the predicted three-way interaction was also significant, $F(1, 74) = 4.53$, $p < .04$. Decomposition of this interaction showed, as predicted, that attitudes in conditions with a mood-incongruent source were only affected by argument strength, $F(1, 74) = 18.35$, $p < .001$, $d = 1.36$ (for the source honesty main effect and the source honesty by argument strength interaction: ps > .20). Strong arguments led to more positive attitudes (M = 6.14; SD = 0.80) than weak arguments (M = 4.73; SD = 1.23). In contrast, in conditions with a mood-congruent source, only the source honesty main effect was found significant, $F(1, 74) = 4.33$, $p < .05$, $d = 0.63$ (both other ps > .18). Attitudes were more favorable given positive mood / honest source (M = 5.88; SD = 0.77) than given negative mood / dishonest source (M = 5.21; SD = 1.29). Further, simple effects tests showed that strong arguments led to more positive attitudes than weak arguments in the case of positive mood / dishonest source, $t(74) = 2.33$, $p < .03$, $d = 1.15$, negative mood / honest source, $t(74) = 3.70$, $p < .001$, $d = 1.61$, but not given positive mood / honest source ($t < 1$, $d = 0.18$) or given negative mood / dishonest source, $t(74) = 1.62$, $p = .11$, $d = 0.58$.

Cognitive responses. A cognitive response index was computed by subtracting the number of unfavorable thoughts from the number of favorable thoughts. An ANOVA on this index (see Table 1) revealed an argument strength main effect, $F(1, 74) = 4.57$, $p < .04$, $d = 0.46$. Strong arguments led to more favorable message-related thinking (M = .44; SD = 1.02) than weak arguments (M = -.07; SD = 1.20). Moreover, the ANOVA revealed the predicted three-way interaction effect, $F(1, 74) = 3.90$, $p = .052$. For mood-incongruent conditions, only the expected argument strength main effect emerged, $F(1, 74) = 8.27$, $p < .01$; $d = 1.09$ (both other Fs < 1). Message-related thoughts were more favorable in the case of strong arguments (M = .63; SD =

ACCEPTED MANUSCRIPT

0.68) as compared to weak arguments (M = -.38; SD = 1.12). In contrast, no effect was found for congruent conditions (all three ps > .15). Further, simple effects tests showed that strong arguments led to more positive thinking than weak arguments in the case of positive mood / dishonest source, $t(74) = 2.16$, $p < .04$, $d = 1.18$, and negative mood / honest source, $t(74) = 1.92$, $p = .059$, $d = 0.99$ but not given either positive mood / honest source or negative mood / dishonest source, (both ts < 1, ds = -.08 and 0.16, respectively).

Discussion

The results of Study 1 are consistent with the hypothesis that both positive and negative moods can lead to more or less extensive message processing contingent on the extent to which the source confirms mood-based expectancies. As predicted, argument strength determined recipients' attitudes and the favorability of their message-related thoughts only in the case of a mood-incongruent source. Strong arguments led to more agreement with the advocated position than weak arguments when recipients in an elated mood encountered a dishonest source and when recipients in a mildly depressed mood encountered an honest source. In contrast, argument strength had no effect on attitudes and message-related thinking when recipients were in a positive mood and the source was honest as well as when recipients were in a negative mood and the source was dishonest.

Study 2

In the first study, participants read a non-discrepant message, that is, the advocacy was presumably neither very proattitudinal nor very counterattitudinal for them (tunnel construction in a distant city). Hence, a first objective of Study 2 was to test the generality of the proposed approach by the use of a more controversial attitude topic. To the same end, Study 2 introduced a female source rather than a male source, and focused on another source factor, that is, likability. Perhaps more important, a measure of surprise was included in order to test the assumption that

ACCEPTED MANUSCRIPT

the subjective experience of surprise is higher given mood-incongruent as compared to mood-congruent source information. From the current perspective, positive moods should lead people to expect that a message source is likable rather than dislikable. Accordingly, in a positive mood it should be more surprising to learn that the source appears to be a rather dislikable (versus likable) person. In contrast, in a negative mood it should be more surprising to learn that the source appears to be rather likable (versus dislikable). Message scrutiny should then be higher given positive mood / dislikable source as well as negative mood / likable source as compared to positive mood / likable source and negative mood / dislikable source. As a result, three-way interactions are predicted to show that the effect of message strength on attitudes and the valence of issue-relevant thinking is stronger in conditions with incongruent (versus congruent) combinations of mood and source likability.

Method

Participants and design. Participants were 103 students (54 male, 49 female; age: M = 23.39; SD = 3.13) at the University of Tuebingen. They participated in the study in return for a small reward worth about 1.20 Euro. Participants were randomly assigned to one of the experimental conditions in the 2 (positive vs. negative mood) x 2 (likable vs. dislikable source) x 2 (strong vs. weak arguments) between-subjects factorial design.

Procedure and independent variables. The procedure and cover story was similar to Study 1, except that the ostensible second study was conducted on a laptop. In particular, participants were again instructed that the study was concerned with the processes involved in how people form impressions of others. They were informed that they would read a short description of a person and then an interview that had been conducted with this person. Allegedly, this interview had taken place in the course of an opinion poll concerning several policy change proposals at the University of Tuebingen. All participants then read that in their

ACCEPTED MANUSCRIPT

case the interview transcript would concern the topic of the introduction of an additional comprehensive exam at the end of the bachelor studies. As in previous research testing predictions in unconstrained elaboration likelihood settings, no mention was made of any specific number of years until such a policy change might take effect (e.g. Martin et al., 2007; Priester & Petty, 1995).

Information regarding source likability was made salient by providing a short introductory description of the source. This source description first stated that Mrs. S. was 52 years old, married, and living in Tuebingen. Formerly, she was said to have lived in Gießen, working at the University. Now she would be working at the administration of the University of Tuebingen and be in contact with students regularly. Following this background information, source likability was manipulated by the interviewee's response regarding her impression of Tuebingen and the students. In conditions with a *likable (dislikable) source* participants read:

> Well, as a matter of fact, I like (don't like) Tuebingen very much. That is true for both the city as well as the vicinity. And with respect to the students, my impression has become very positive (very negative) in recent years. In Tuebingen, this impression has grown even stronger. I feel that the students nowadays are really reliable and responsible (rather unreliable and hardly responsible). In particular, (even) in view of the (already) rather critical public opinion lately, I think that the students are underrated (still overrated) by the general public.

After this introductory description, the persuasive message was presented to participants. Specifically, the source stated that she believed that there were a number of considerations speaking in favor of the introduction of a comprehensive exam. This was followed either by four *strong* or by four *weak arguments* (selected on the basis of a pretest; cf. Ziegler et al., 2007).

Dependent measures. All ratings were made on scales ranging from 1 to 7. Apart from

ACCEPTED MANUSCRIPT

the different topic, the same items as in Study 1 were employed to measure attitudes. Perceived source likability was measured by responses to the question ”How likable is Mrs. S. to you?“ (*hardly likable* to *very likable*). To measure involvement with the topic, the extent to which they would like to be in on the comprehensive exam topic (*unwillingly* to *willingly*) and agreement with a statement that the comprehensive exam topic was personally relevant to them (*do not agree at all* to *fully agree*) were assessed. Finally, surprise was measured by the item “The statements of Mrs. S. on Tuebingen and the students were surprising to me” (*no, not surprising at all* to *yes, very surprising*).

Two independent raters blind to conditions coded thoughts as to whether they were message-related, or other-related. Message-related thoughts were further coded as favorable, unfavorable, or neutral with respect to the comprehensive exam. Interrater agreement was satisfactory (76%); disagreements were resolved by discussion.

Results

Unless noted otherwise, the hypotheses were examined by three-factorial Recipient Mood x Source Likability x Argument Strength ANOVAs. Preliminary analyses also including participants’ gender did not reveal any effects involving gender, so gender will not be discussed further.

Mood. Happiness and sadness responses were highly correlated ($r = -.64$, $p < .0001$). Sadness scores were reversed and averaged with happiness scores. As shown by a *t*-test, participants’ mood was more elated in happy mood conditions ($M = 6.49$; $SD = 1.98$) than in sad mood conditions ($M = 4.34$; $SD = 1.83$), $t(97) = 5.59$, $p < .0001$, $d = 1.13$.

Source likability and involvement. Responses on the two items to measure perceived likability were highly correlated ($r = .90$, $p < .0001$), so they were averaged. An ANOVA on these scores revealed a source likability main effect, $F(1, 95) = 75.62$, $p < .0001$, $d = 1.72$. The

ACCEPTED MANUSCRIPT

source was rated as more likable in likable source conditions (M = 4.98; SD = 1.37) than in dislikable source conditions (M = 2.73; SD = 1.24). Further, the source was rated as more likable by individuals in positive mood conditions (M = 4.11; SD = 1.75) as compared to individuals in negative mood conditions (M = 3.53; SD = 1.66), $F(1, 95) = 4.33$, $p < .04$, $d = 0.34$. No other significant effects were found. Regarding involvement with the topic, no effects emerged (all *ps* > .14). The overall means were M = 4.72 (SD = 1.70) and M = 3.15 (SD = 2.01) for the items measuring whether participants would like to be in on the topic and whether it was personally relevant, respectively. Viewed together, these two ratings indicate neither particularly high nor low involvement with the message topic.

Attitudes. Each participant's responses to the three attitude items were averaged (*alpha* = .91). An ANOVA on these attitude scores (see Table 2) revealed a two-way interaction of mood and likability, $F(1, 95) = 6.04$, $p < .02$, and the predicted three-way interaction, $F(1, 95) = 4.57$, $p < .04$. As predicted, in mood-incongruent source conditions only the argument strength main effect was significant, $F(1, 95) = 6.16$, $p < .02$, $d = 0.79$ (both other Fs < 1). Strong arguments led to more positive attitudes (M = 5.44; SD = 1.19) than weak arguments (M = 4.36; SD = 1.52). In contrast, in mood-congruent source conditions argument strength did not affect attitudes ($F < 1$, both other ps > .14). Further, simple effects tests showed that strong arguments led to more positive attitudes than weak arguments in the case of positive mood / dislikable source, $t(95) = 2.07$, $p = .05$, $d = 0.85$. In the case of negative mood / likable source this effect did not reach conventional levels of significance, $t(95) = 1.46$, $p = .15$, $d = 0.71$. No argument strength effect was found given either positive mood / likable source or given negative mood / dislikable source, ts < 1, ds = -0.01 and -0.23, respectively.

Cognitive responses. A cognitive response index was computed similarly to Study 1. An ANOVA on this index (see Table 2) revealed a main effect of argument strength, $F(1, 95) = 6.92$,

ACCEPTED MANUSCRIPT

$p < .01$, $d = 0.49$. Strong arguments ($M = 0.48$; $SD = 1.33$) led to more favorable thoughts than weak arguments ($M = -0.17$; $SD = 1.30$). Further, the ANOVA revealed the predicted three-way interaction of Mood, Source Likability, and Argument Strength, $F(1, 95) = 4.02$, $p < .05$. As predicted, in mood-incongruent source conditions only the argument strength main effect was significant, $F(1, 95) = 10.51$, $p < .01$, $d = 0.87$ (both other *p*s > .2). Strong arguments led to more favorable thoughts ($M = 0.88$; $SD = 1.36$) than weak arguments ($M = -0.31$; $SD = 1.38$). In contrast, thought valence was unaffected in mood-congruent source conditions (all $F < 1$). Further, simple effects tests showed that strong arguments led to more favorable thoughts than weak arguments in the case of positive mood / dislikable source, $t(95) = 2.24$, $p < .04$, $d = 0.69$, and negative mood / likable source, $t(95) = 2.34$, $p < .03$, $d = 1.26$, but not given positive mood / likable source or given negative mood / dislikable source (*t*s < 1).

Surprise. An ANOVA on participants' surprise regarding the source's opinion on Tuebingen and the students revealed only a mood by likability interaction effect, $F(1, 95) = 4.66$, $p < .04$. In line with predictions, surprise was higher in the case of positive mood / dislikable source ($M = 4.65$) and negative mood / likable source ($M = 4.54$) as compared to positive mood / likable source ($M = 3.58$) and negative mood / dislikable source ($M = 4.15$).

Mediation analysis. According to the present approach, surprise serves both as a mediator and a moderator variable. First, surprise mediates the effect of congruent versus incongruent combinations of mood and source likability on message scrutiny. Specifically, heightened surprise in incongruent versus congruent conditions leads to heightened message scrutiny in incongruent versus congruent conditions. This first part is a case of mediated moderation. That is, (1) the effect of mood on message scrutiny is moderated by source likability, and (2) surprise mediates the effect of different mood by source likability combinations on message scrutiny.

ACCEPTED MANUSCRIPT

Message scrutiny is inferred from the effect of argument strength on thought valence and attitudes (cf. Petty & Cacioppo, 1986). Therefore, second, surprise moderates the effects of argument strength on thought valence and attitudes. Specifically, due to heightened surprise in incongruent conditions these effects are higher in incongruent than in congruent conditions. Last, thought valence mediates the effect of argument strength on attitudes in incongruent conditions, but not in congruent conditions. This second part is a case of moderated mediation. That is, (1) the effect of argument strength on attitudes is mediated by thought valence, and (2) surprise moderates the extent of this mediation.

To test these assumptions, I conducted a regression analysis in which attitude scores served as the dependent variable. The manipulated independent variables, that is, mood, source likability, and argument strength, were effect-coded (i.e., positive mood, likable source, and strong arguments were each coded with 1, and negative mood, dislikable source, and weak arguments were each coded with -1). Further, all three two-way products and the three-way product of these effect-coded variables were calculated. Note that entering all these predictors into the regression equation exactly replicates the ANOVA results on attitudes reported above (cf. Aiken & West, 1991). More important, surprise ratings as well as thought valence scores were centered, and the product of these two centered variables was calculated (cf. Aiken & West, 1991). When these three predictors were included in the regression equation, the three-way interaction of mood, source likability, and argument strength was no longer significant, $t(92) = -1.43$, $p = .144$. That is, controlling for surprise and the surprise by thought valence interaction reduced the interactive effect of mood, likability, and argument strength on attitudes. Thus, these results are consistent with the presumed role of surprise for the effect of congruent versus incongruent combinations of mood and likability regarding the effect of argument strength on thoughts and attitudes.[3]

ACCEPTED MANUSCRIPT

Discussion

As the results of Study 2 reveal, different combinations of mood and source likability affect the extent of message scrutiny in a similar way as mood and source honesty. Attitudes and thought valence of individuals in a positive mood were affected by argument strength given a dislikable source, but not given a likable source. To the contrary, in the case of individuals in a negative mood these measures were affected by argument strength given a likable source, but not given a dislikable source. These effects were found with another attitude topic than in Study 1 and with a female (rather than male) source.

Of further interest are the results regarding participants' surprise. Consistent with the current approach, it was found that individuals in a positive mood presented with a dislikable source and individuals in a negative mood presented with a likable source were more surprised than individuals in a positive mood presented with a likable source and individuals in a negative mood presented with a dislikable source. Finally, results of the mediation analysis were consistent with the presumed role of surprise for message scrutiny in mood-congruent versus mood-incongruent source conditions. Thus, these findings provide support for the assumption that initial source information may confirm or disconfirm mood-based expectancies. In this respect, note however, that surprise should be higher in incongruent (versus congruent) conditions prior to the message proper. In the present study, however, surprise was measured only after the message. Future research may measure surprise closer to the moment when mood-incongruent or mood-congruent information is presented to participants.

General Discussion

The present approach integrates research on the effects of mood on expectancies and on the role of mood-unrelated expectancies for message processing. I argue that mood-based expectancies may affect the extent of message processing of individuals in either positive or

ACCEPTED MANUSCRIPT

negative mood. In line with other persuasion research, effects of mood on message processing are predicted when non-mood factors do not constrain elaboration to be very high or low (cf. Petty et al., 2001). In particular, it is assumed that a positive (negative) mood leads to positive (negative) expectations regarding factors identified in persuasion research to serve different functions depending on whether elaboration likelihood is low or unconstrained (cf. Petty & Wegener, 1998). Conceiving of persuasive communication as a sequential process, such mood-based expectations should impact message processing to the extent that pertinent information is salient in an early phase of the communication process. Processing effort should then depend on whether such information confirms or disconfirms mood-congruent expectancies. As a result, both individuals in an elated mood and individuals in slightly depressed mood are predicted to evince more effortful message processing when expectancies are disconfirmed rather than confirmed.

The current research provides evidence for this mood-congruent expectations perspective. First, both studies showed that people in positive moods as well as people in negative moods may process a message more thoroughly when initial source information suggests the source to have a mood-incongruent characteristic rather than a mood-congruent characteristic.[4] These results were found with messages on two different topics, with a male source as well as a female source, and with respect to two different source characteristics. Further, Study 2 showed that individuals in a positive (negative) mood are more surprised given a dislikable (likable) source as compared to a likable (dislikable) source.[5]

Relation to Existing Accounts of Message Processing in Positive and Negative Mood

Hedonic contingency view. According to the present approach, mood congruency of information will affect message processing in positive and negative mood when such information is available and accessible to individuals before they encounter the persuasive message. In this respect, it could be argued that this was already the case in the work by Wegener et al. (1995). In

ACCEPTED MANUSCRIPT

this research, instructions given to participants provided initial information of clear valence regarding the uplifting or depressing nature of the message. Thus, and contrary to the actual results (see above section on Study 1), the present perspective might suggest heightened message scrutiny of happy individuals when they are informed "that the primary quality of the article you are about to read is that it makes people feel SAD" (p. 10) rather than happy. In comparison, it might suggest heightened message scrutiny of sad individuals when they are informed that it makes people feel happy rather than sad. Clearly, then, the present perspective cannot explain these findings. It is important to note, however, that Wegener et al. provided such initial information to demonstrate that hedonic considerations may play a role for the effects of mood on message processing. In discussing their findings in relation to previous accounts of mood and message processing, these authors noted that mood management motives may simply "overwhelm cognitive capacity or mood-as-information processes under certain conditions" (p. 13). In fact, Schwarz and Clore (1996) have argued that the hedonic contingency model need not be seen as contradicting the mood-as-information perspective. Rather, hedonic considerations may be a secondary process that can moderate the primary effect of moods as signaling states.

In a similar vein, it seems likely that hedonic considerations may override any mood-congruency effects under certain conditions. In particular, I suggest that mood-congruency plays a role for message scrutiny as long as mood management considerations are not so strong as to overwhelm mood congruency effects. Providing highly salient and explicit information regarding the mood-elevating or mood-devastating outcome of message scrutiny may be one such condition (cf. Wegener et al., 1995). In any case, note also that just like the present perspective has difficulties to account for the findings provided by Wegener et al., so does the hedonic contingency model have difficulties to account for the present findings.

Of further interest in this regard are empirical findings reported by Handley and Lassiter

ACCEPTED MANUSCRIPT

(2002). These authors conducted a study that was a methodological replication of Wegener et al.'s (1995) study with the addition of conditions in which no affective expectations were presented. Handley and Lassiter (2002) argued that sad people might process a depressing message less thoroughly than an uplifting message as long as no prior information about the uplifting or depressing nature of the message is provided. In fact, results in conditions without information about the affective quality of the message confirmed their prediction. Note that these findings are consistent with predictions that may be derived from the present approach. More precisely, a message of positive valence should be less congruent with negative mood than a message of negative valence. Thus, while the current focus is on the mood-congruency of information that is accessible prior to the message itself (e.g. source information), these findings suggest that mood may also lead to expectancies regarding message valence.

Overall, the present findings and those reported by Wegener et al. (1995) and Handley and Lassiter (2002) suggest that the current approach and the hedonic contingency view may complement each other. That is, both hedonic considerations and mood-congruent expectancies may act as moderators of the extent of message scrutiny by people in positive and negative moods. Research might profitably investigate the interplay of mood-congruent expectancies and hedonic considerations.

Mood-as-information approach. Both the mood-as-information approach (Schwarz, 1990) and the cognitive capacity approach (Mackie & Worth, 1991) assume that individuals in positive mood states are more prone to evince heuristic processing than individuals in negative or neutral mood states, respectively. Thus, these approaches predict that positive moods lead to more attitudinal agreement with, for instance, a likable source as compared to a dislikable source (Chaiken, 1980). In comparison, the present approach assumes that such source factors influence mood effects on effortful processing.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

In this regard, it is worth noting that supportive evidence for heuristic processing in positive mood is limited to persuasion research that was guided by the cognitive capacity approach and thus compared positive and neutral affective states (Mackie & Worth, 1989). Evidence for heuristic processing in positive mood as compared to negative mood, however, is lacking (e.g. Bohner et al., 1992). As the current results suggest, this may be the case because different levels of a variable assumed to function as a heuristic cue (e.g. high or low source likability) differ in the extent to which they are congruent with positive mood. Nonetheless, future research comparing positive and negative affective states may aim to delineate the circumstances under which source factors function either as heuristic cues or as determinants of message elaboration for individuals in a positive mood.

Another, perhaps more important issue pertains to the assumption of the mood-as-information approach that positive mood leads to less motivation to invest effort in message processing than negative mood (e.g. Schwarz, 1990). As noted previously, while this assumption has been contested by the hedonic contingency view, it appears that these two approaches may not be mutually exclusive (Schwarz & Clore, 1996). Similarly, the present perspective may be seen as complementing the mood-as-information approach rather than as standing in opposition to it. More precisely, the present findings may be reconciled with the accumulated research by considering the attitude topics of the present studies in comparison to the attitude topics of previous studies.

Specifically, in the first study I employed an attitude topic (tunnel construction) assumed to be uncontroversial for participants. Indeed, the attitude results suggest that the advocacy certainly was not counterattitudinal for them. Further, in the second study the attitude topic was expected to be somewhat more controversial (comprehensive exams). In fact, the results show that attitudes were less positive in the second study than in the first study. Still, in most of the

ACCEPTED MANUSCRIPT

experimental conditions of the second study attitudes were close to the scale midpoint. In fact, the mean attitude is slightly below the scale midpoint in only one of the eight conditions. Thus, overall it appears appropriate to consider both messages as neither very proattitudinal nor very counterattitudinal. Accordingly, the present findings suggest that mood-incongruent source information leads both positive and negative mood individuals to evidence more effortful processing than mood congruent source information given neither clearly proattitudinal nor clearly counterattitudinal advocacies. In comparison, previous research has investigated the role of mood for message processing of counterattitudinal messages (e.g. acid rain, fee increases; cf. Wegener et al., 1995) or has explicitly provided information regarding the hedonic consequences of message scrutiny (Wegener et al., 1995). Thus, it appears that further research may profit from comparing positive and negative mood effects on the effort invested in the processing of all three kinds of message (i.e., proattitudinal, non-discrepant, and counterattitudinal). Specifically, such research may investigate whether positive mood leads to less effortful processing than negative mood in the case of non-discrepant topics (Schwarz, 1990) as well as whether mood-congruency also affects message processing of both positive and negative mood in the case of clearly proattitudinal and clearly counterattitudinal messages. Nonetheless, the present approach and findings call into question the assumption that "the impact of negative feelings on processing style is more immune to the influence of other variables than the impact of positive feelings" (Schwarz et al. (1991, p. 194). Rather, the present results show that the effects of source valence on message scrutiny may be symmetrical. That is, just like positive mood individuals invest more effort when a source is dishonest or dislikable as compared to honest or likable, so do negative mood individuals invest more effort when a source is honest or likable as compared to dishonest or dislikable.

Future Directions

ACCEPTED MANUSCRIPT

The present approach suggests a number of avenues for future research. For one, it seems worth investigating whether the role of mood-based expectancies generalizes to other source characteristics such as, for instance, the ingroup—outgroup status of the source (e.g. Mackie, Worth & Asuncion, 1990. With respect to advertising effectiveness, the role of a source's celebrity status for the interest of individuals in product information may depend on these individuals' affective state (cf. Petty, Cacioppo & Schumann, 1983). Perhaps more important, further research may examine the extent to which factors that are unrelated to the source affect message processing of individuals in different affective states. For instance, message scrutiny effects of message framing may depend on mood (Smith & Petty, 1996). Also, it seems plausible to predict that mood might affect expectations regarding argument strength. Specifically, in light of the more recently advanced unimodel of persuasion (Kruglanski & Thompson, 1999) one might expect that the extent to which an initial argument confirms or disconfirms mood-based expectations regarding argument strength affects subsequent processing of consensus information (cf. Pierro, Mannetti, Kruglanski & Sleeth-Keppler, 2004). Finally, the present approach suggests that simply informing happy or sad individuals about the alleged number of arguments (cf. Petty & Cacioppo, 1984) contained in an upcoming message may constitute information that differs in congruency with positive versus negative mood.

Conclusion

Overall, the present mood-congruent expectancies model (MEM) suggests that both individuals in positive mood and individuals in negative mood may be quite flexible in the amount of effort they invest in information processing. In particular, in the persuasion domain, one factor that appears crucial for message scrutiny is whether mood-based expectancies are confirmed or disconfirmed. Thus, the present research may contribute to a fuller understanding of mood effects on message processing. However, the role of positive and negative mood has also

ACCEPTED MANUSCRIPT

been investigated in regard to various other social judgments (e.g. stereotyping; Bodenhausen, Kramer, & Suesser, 1994). Therefore, I hope that the present approach provides an impetus for future research on the role of affective states for information processing within and beyond the persuasion domain.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

References

Baker, S. M., & Petty, R. E. (1994). Majority and minority influence: Source-position imbalance as a determinant of message scrutiny. *Journal of Personality and Social Psychology, 67*, 5-19.

Bless, H., Bohner, G., Schwarz, N., & Strack, F. (1990). Mood and persuasion: A cognitive response analysis. *Personality and Social Psychology Bulletin, 16*, 332-346.

Bodenhausen, G. V., Kramer, G. P., & Süsser, K. (1994). Happiness and stereotypic thinking in social judgment. *Journal of Personality and Social Psychology, 66*, 621-632.

Bohner, G., Crow, K., Erb, H.-P., & Schwarz, N. (1992). Affect and persuasion: Mood effects on the processing of persuasive message content and context cues and on subsequent behavior. *European Journal of Social Psychology, 22*, 511-530.

Bohner, G., & Weinerth, T. (2001). Negative affect can increase or decrease message scrutiny: The affect interpretation hypothesis. *Personality and Social Psychology Bulletin, 27*, 1417-1428.

Bower, G. H. (1981). Emotional mood and memory. *American Psychologist, 36*, 129-148.

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology, 39*, 752-766.

Clark, M. S., & Isen, A. M. (1982). Toward understanding the relationship between feeling states and social behavior. In A. Hastorf & A. M. Isen (Eds.), *Cognitive social psychology* (pp. 73-108). New York: Elsevier.

Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich.

Eagly, A. H., Wood, W., & Chaiken, S. (1978). Causal inferences about communicators and their effect on opinion change. *Journal of Personality and Social Psychology, 36*, 424-435.

Forgas, J. P., & Moylan, S. (1987). After the movies: Transient mood and social judgments.

ACCEPTED MANUSCRIPT

Personality and Social Psychology Bulletin, 13, 467-477.

Handley, I. M., & Lassiter, G. D. (2002). Mood and information processing: When happy and sad look the same. *Motivation and Emotion, 26*, 223-255.

Haugtvedt, C. P., Petty, R. E., & Cacioppo, J. T. (1992). Need for cognition and advertising: Understanding the role of personality variables in consumer behavior. *Journal of Consumer Psychology, 1*, 239-260.

Heesacker, M., Petty, R. E., & Cacioppo, J. T. (1983). Field dependence and attitude change: Source credibility can alter persuasion by affecting message-relevant thinking. *Journal of Personality, 51*, 653-666.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133-168). New York: Guilford Press.

Johnson, E. J., & Tversky, A. (1983). Affect, generalization, and the perception of risk. *Journal of Personality and Social Psychology, 45*, 20-31.

Kruglanski, A. W., & Thompson, E. P. (1999). Persuasion by a single route: A view from the unimodel. *Psychological Inquiry, 10*, 83-109.

Mackie, D. M., & Worth, L. T. (1989). Processing deficits and the mediation of positive affect in persuasion. *Journal of Personality and Social Psychology, 57*, 27-40.

Mackie, D. M., & Worth, L. T. (1991). Feeling good, but not thinking straight: The impact of positive mood on persuasion. In J. P. Forgas (Ed.), *Emotion and social judgment* (pp. 201-219). Oxford, UK: Pergamon.

Mackie, D. M., Worth, L. T., & Asuncion, A. G. (1990). Processing of persuasive in-group messages. *Journal of Personality and Social Psychology, 58*, 812-822.

Martin, R., Hewstone, M., & Martin, P. Y. (2007). Systematic and heuristic processing of majority- and minority-endorsed messages: The effects of varying outcome relevance and

ACCEPTED MANUSCRIPT

levels of orientation on attitude and message processing. *Personality and Social Psychology Bulletin, 33*, 43-56.

Mayer, J. D., Gaschke, Y. N., Braverman, D. L., & Evans, T. W. (1992). Mood-congruent judgment is a general effect. *Journal of Personality and Social Psychology, 63*, 119-132.

Petty, R. E., & Cacioppo, J. T. (1984). The effects of involvement on responses to argument quantity and quality: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology, 46*, 69-81.

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.

Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology, 41*, 847-855.

Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research, 10*, 135-146.

Petty, R. E., & DeSteno, D., & Rucker, D. D. (2001). The role of affect in attitude change. In J. P. Forgas (Ed.) *Handbook of affect and social cognition* (S. 212-233). Mahwah, NJ: Erlbaum.

Petty, R. E., Schumann, D. W., Richman, S. A., & Strathman, A. J. (1993). Positive mood and persuasion: Different roles for affect under high- and low-elaboration conditions. *Journal of Personality and Social Psychology, 64*, 5-20.

Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 4, pp. 323-390). New York: McGraw-Hill.

Pierro, A., Mannetti, L., Kruglanski, A. W., & Sleeth-Keppler, D. (2004). Relevance Override: On the Reduced Impact of "Cues" Under High-Motivation Conditions of Persuasion

ACCEPTED MANUSCRIPT

Studies. *Journal of Personality and Social Psychology, 86*, 251-264.

Priester, J. R., & Petty, R. E. (1995). Source attributions and persuasion: Perceived honesty as a determinant of message scrutiny. *Personality and Social Psychology Bulletin, 21*, 637-654.

Pyszcynski, T., & Greenberg, J. (1981). Role of disconfirmed expectancies in the instigation of attributional processing. *Journal of Personality and Social Psychology, 40*, 31-38.

Reisenzein, R. (2000). The subjective experience of surprise. In H. Bless & J. P. Forgas (Eds.), *The message within: The role of subjective experience in social cognition and behavior* (pp. 262-279). New York, NY: Psychology Press.

Rosenthal, R. (1991). Meta-analytic procedures for social research. Newbury Park, CA: Sage.

Schützwohl, A. (1998). Surprise and schema strength. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 24*, 1182-1199.

Schwarz, N. (1990). Feelings as information: Informational and motivational functions of affective states. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 527-561). New York: Guilford Press.

Schwarz, N., Bless, H., & Bohner, G. (1991). Mood and persuasion: Affective states influence processing of persuasive communications. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 161-199). New York: Academic Press.

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology, 45,* 513-523.

Schwarz, N., & Clore, G. L. (1996). Feelings and phenomenal experiences. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles.* (pp. 433-465). New York: Guilford Press.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Smith, S. M., & Petty, R. E. (1996). Message framing and persuasion: A message processing analysis. *Personality and Social Psychology Bulletin, 22*, 257-268.

Tiedens, L.Z. & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology, 81*, 973-988.

Wegener, D. T., & Petty, R. E. (1994). Mood management across affective states: The hedonic contingency hypothesis. *Journal of Personality and Social Psychology, 66*, 1034-1048.

Wegener, D. T., Petty, R. E., & Smith, S. M. (1995). Positive mood can increase or decrease message scrutiny: The hedonic contingency view of mood and message processing. *Journal of Personality and Social Psychology, 69*, 5-15.

Worth, L. T., & Mackie, D. M. (1987). Cognitive mediation of positive affect in persuasion. Social Cognition, 5, 76-94.

Ziegler, R., Diehl, M., & Ruther, A. (2002). Multiple source characteristics and persuasion: Source inconsistency as a determinant of message scrutiny. Personality and Social Psychology Bulletin, 28, 496-508.

Ziegler, R., Diehl, M., Zigon, R., & Fett, T. (2004). Source consistency, distinctiveness, and consensus: The three dimensions of the Kelley ANOVA Model in persuasion. *Personality and Social Psychology Bulletin, 30*, 352-364.

Ziegler, R., Dobre, B., & Diehl, M. (2007). Does matching versus mismatching message content to attitude functions lead to biased processing? The role of message ambiguity. *Basic and Applied Social Psychology, 29*, 269-278.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Footnotes

[1] The cognitive capacity account deals with positive as compared to neutral mood.

[2] A preliminary study was conducted to test the hypothesis that individuals in a positive mood have more positive expectations regarding the trustworthiness of other people than individuals in a negative mood. Fifty-two students at the University of Tuebingen were randomly assigned to either a positive or a negative mood induction task (cf. Study 1). Afterwards, participants' mood and expectations were measured (expectation items: "At present, I am rather sceptical with respect to other people"; "At the moment, I would say that most people are trustworthy" [reverse-coded]; "I do not believe in the honesty of others very much right now"; response scale for each item: 1 = *do not agree at all* to 9 = *fully agree*). The results showed that positive mood led to more positive expectations (M = 4.09; SD = 1.84) than negative mood (M = 5.22; SD = 1.93), $t(50) = 2.16$, $p < .04$, $d = -0.60$. Further, a correlation analysis showed that participants' mood scores were inversely related to expectations, $r(51) = -.43$, $p < .002$. That is, the more positive participants indicated to feel the more positive were their expectations regarding other people. Overall, then, positive moods seem to lead to more positive expectations regarding others' trustworthiness than negative moods.

[3] I thank Kristopher Preacher for his contributions to this.

[4] Given the extant literature on mood and persuasion, it may be desirable to show more versus less effortful processing within each mood group. In this respect, note that in the present studies such analyses did not reveal a significant source honesty / likability by argument strength interaction regarding either attitudes or thought valence for either positive or negative mood (all ps > .10). To obtain an overall significance estimate of the interaction of the valence of initially presented information (i.e., source honesty, likability) with subsequently presented information

ACCEPTED MANUSCRIPT

(argument strength) for individuals in a positive or negative affective state, I also performed meta-analyses of the two studies (Stouffer method of integrating results of independent studies, cf. Rosenthal, 1991). With respect to attitudes, the meta-analyses yielded hypothesis-consistent significant interaction effects of Source Valence and Argument Strength for both positive moods, $Z = 2.21$, $p < .03$, and negative moods, $Z = 1.99$, $p < .05$. With respect to thought valence, the meta-analysis yielded a hypothesis-consistent significant interaction effect of Source Valence and Argument Strength for positive moods, $Z = 2.07$, $p < .04$. In the case of negative moods, the interaction was marginally significant, $Z = 1.83$, $p < .07$.

[5] See also results of the preliminary study (Footnote 2).

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Table 1

Mean Scores on the Attitude Index and on the Thought Index as a Function of Recipient Mood, Source Honesty, and Argument Strength (Study 1)

Dependent Measures		Positive Mood				Negative Mood			
		Honest Source		Dishonest Source		Honest Source		Dishonest Source	
		Arguments		Arguments		Arguments		Arguments	
		Strong	Weak	Strong	Weak	Strong	Weak	Strong	Weak
Attitudes	M	5.96	5.82	5.77	4.70	6.56	4.77	5.58	4.85
	SD	0.48	0.97	0.83	1.02	0.53	1.48	0.91	1.54
Thought-Favorability	M	0.44	0.55	0.50	-0.55	0.78	-0.20	0.09	-0.09
	SD	1.24	1.44	0.71	1.04	0.67	1.23	1.30	0.94

Note. Attitude scores could range from 1 to 7. Higher numbers indicate greater acceptance of the position advocated in the persuasive message and more favorable message-related thinking. Cell *ns* range from 9 to 11 (from left to right: 9, 11, 10, 11, 9, 10, 11, 11).

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Table 2

Mean Scores on the Attitude Index and on the Thought Index as a Function of Recipient Mood, Source Likability, and Argument Strength (Study 2)

Dependent Measures		Positive Mood				Negative Mood			
		Likable Source		Dislikable Source		Likable Source		Dislikable Source	
		Arguments		Arguments		Arguments		Arguments	
		Strong	Weak	Strong	Weak	Strong	Weak	Strong	Weak
Attitudes	M	4.45	4.47	5.61	4.36	5.28	4.36	3.62	4.06
	SD	1.57	1.36	1.31	1.62	1.09	1.47	1.67	2.06
Thought-Favorability	M	0.09	0.07	1.08	-0.07	0.67	-0.58	0.13	-0.17
	SD	0.83	1.33	1.78	1.54	0.78	1.16	1.46	1.11

Note. Attitude scores could range from 1 to 7. Higher numbers indicate greater acceptance of the position advocated in the persuasive message and more favorable message-related thinking. Cell *ns* range from 11 to 15 (from left to right: 11, 15, 12, 14, 12, 12, 15, 12).

ACCEPTED MANUSCRIPT

Appendix: Proposed Figures 1 and 2

Figure Caption:

Figure 1. Attitudes as a function of Mood, Source Honesty, and Message Strength (Study 1).

Figure 2. Attitudes as a function of Mood, Source Likability, and Message Strength (Study 2).

Figure 1

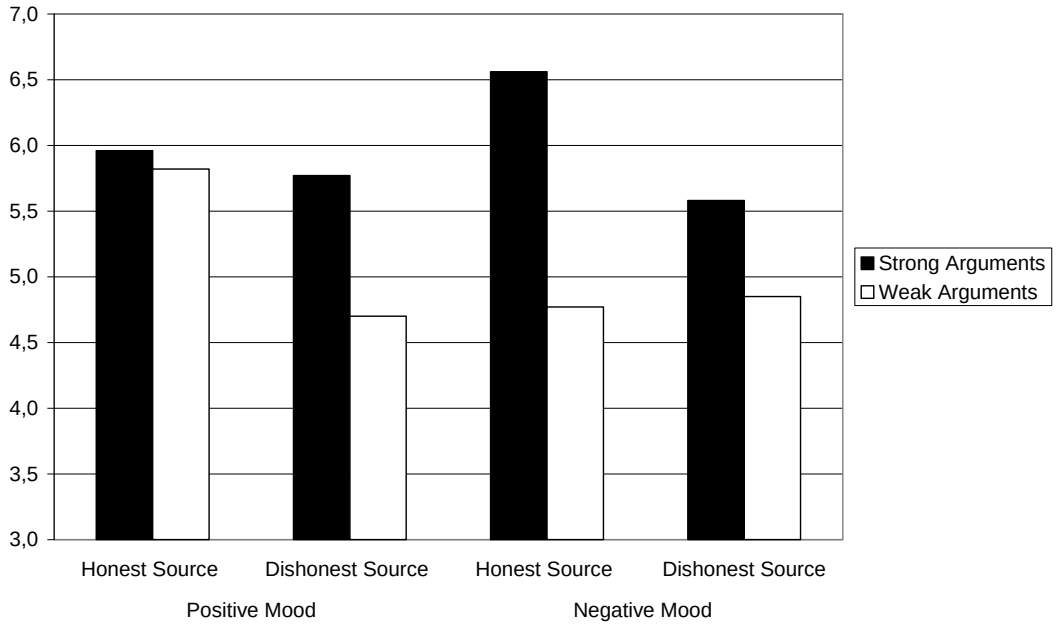
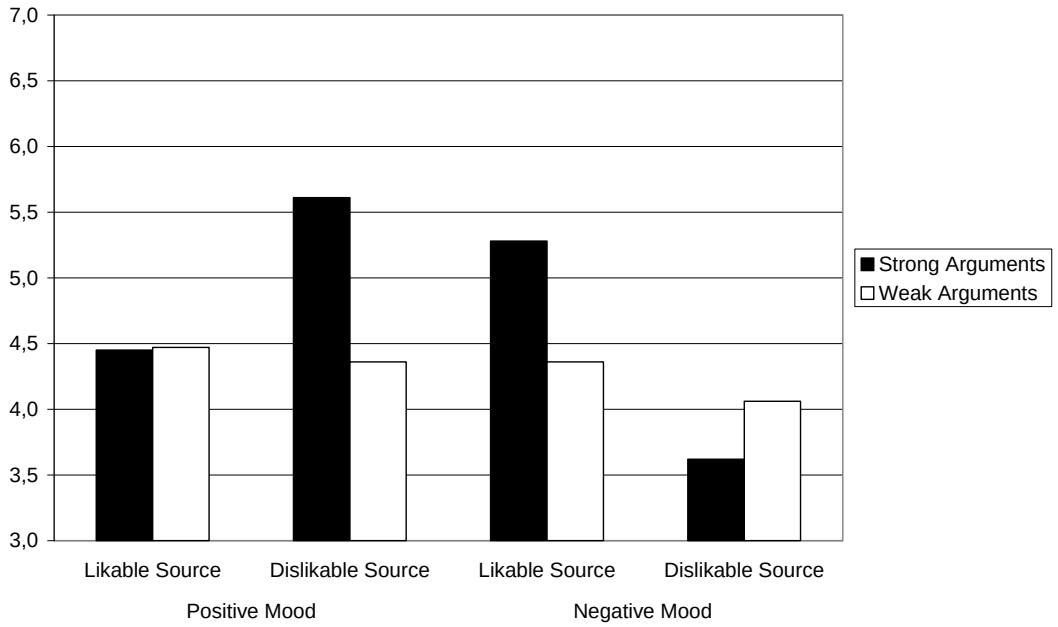
Figure 2