Running Head: MOOD AND INTERGROUP EVALUATIONS

Mood and the impact of individuating information on the evaluation of ingroup and outgroup

members: The role of mood-based expectancies

René Ziegler

Eberhard Karls Universität Tübingen, Germany

Axel M. Burger

Universität Mannheim, Germany

Abstract

This research investigates the role of mood-based expectancies regarding a target's group membership for the impact of individuating information on target judgments. We argue that target judgments in both positive and negative mood may be more or less affected by individuating information depending on whether the target is an ingroup member or an outgroup member. Specifically, in a competitive intergroup setting it should be less congruent with mood-based expectancies when individuals in positive (negative) mood learn that an outgroup (ingroup) member rather than an ingroup (outgroup) member has succeeded. Hence, unexpected (i.e., mood-incongruent) category information should elicit more attention than expected (mood-congruent) category information. More important, subsequent individuating information (high vs. low target competence) should be processed more effortful and influence target judgments more strongly given mood-incongruent (vs. mood-congruent) category membership. Findings of an experiment support these predictions. Results are discussed in regard to implications for different research domains.

Keywords: mood, intergroup judgments, ingroup-outgroup, individuating information, processing, expectancies

Mood and the impact of individuating information on the evaluation of ingroup and outgroup

members: The role of mood-based expectancies

A number of studies has investigated the role of transient affective states in intergroup

evaluations. In particular, existing research has examined the role of affective states with respect

to simple (e.g. Forgas & Fiedler, 1996) or crossed categorization (e.g. Crisp & Hewstone, 2000;

Kenworthy, Canales, Weaver, & Miller, 2003; Urada & Miller, 2000). Surprisingly, however, the

interplay of mood and both categorical and individuating information in an intergroup context

has hardly been investigated (Abele, Gendolla, & Petzold, 1998). Hence, currently we know very

little about whether people in positive or negative mood differ in the extent to which

individuating information affects evaluations of ingroup and outgroup targets. Given the paucity

of research on this issue, the present research examines whether and when individuating

information affects target evaluations made by individuals in positive or negative mood. In this

respect, we first describe what may be predicted on the basis of existing research regarding

impression formation of ingroup and outgroup members in combination with research on affect

and cognition. We then outline a recently proposed mood-based expectancies approach (Ziegler,

2010) which leads to departing predictions. These predictions are tested in an experiment on the

role of categorical and individuating information in positive and negative mood in the context of

intergroup competition (Sherif, Harvey, White, Hood, & Sherif, 1961).

Impression formation about ingroup and outgroup members

Impressions formed about outgroup members are less based on individuating information

than impressions about ingroup members (e.g. Ruscher, Miki, Fiske, & Van Manen, 1991).

Relatedly, outgroups are often perceived as more homogeneous than ingroups (e.g. Linville,

Fisher, & Salovey, 1989; Quattrone & Jones, 1980). At the same time, research on affect and

cognition has shown that when people process information or make judgments and decisions,

positive mood is associated with more reliance on abstract, categorical knowledge structures such as stereotypes (Bodenhausen, Kramer, & Süsser, 1994), scripts (Bless, Clore, Schwarz, Golisano, Rabe, & Wölk, 1996) or heuristics (Mackie & Worth, 1989). In comparison, negative mood is associated with a tendency to process concrete details of available information (Bless et al., 1996) and to invest substantial effort in the processing of such information (e.g. Bless, Bohner, Schwarz, & Strack, 1990; cf. Schwarz & Clore, 2007).

Based on these lines of research one could expect that the effects of a perceiver's mood and of a target's ingroup or outgroup status simply add up. That is, in positive mood processing effort in regard to individuating information about a target person might be relatively low (Schwarz, 1990), particularly so with respect to an outgroup member (Ruscher et al., 1991). In contrast, in negative mood, processing effort in regard to individuating information might be relatively high (Schwarz, 1990), particularly so with respect to an ingroup member (Ruscher et al., 1991).

More generally, existing models regarding the impact of mood on information processing such as the mood-as-information approach (Schwarz, 1990, 2001; see also Bless, 2001; Clore, Wyer, Dienes, Gasper, Gohm, & Isbell, 2001) suggest differential effects of positive versus negative mood on processing strategies. Specifically, while the informative function of positive mood is assumed to lead to top-down processing strategies, the informative function of negative mood is assumed to lead to more data-driven processing strategies. Moreover, the impact of sad mood on processing style is presumed to be less easy to override than the impact of happy moods (Schwarz, 1990; 2001; see also Wegener, Petty, & Smith, 1995). Hence, processing under sad moods is presumed to be less flexible than processing under happy moods (e.g. Schwarz, 2001).

Mood-congruent expectancies and processing effort

Divergent predictions, however, may be derived from the mood-congruent expectancies

model (MEM) which has been developed and tested with respect to persuasion processes (Ziegler, 2010). The MEM suggests a single mechanism according to which both positive and negative mood may lead to more or less effortful information processing as long as other factors unrelated to mood do not constrain processing motivation and ability to be high or low (cf. Wegener & Petty, 2001). This approach is based on findings regarding the effects of mood on expectancies, that is, more positive (negative) expectations in positive (negative) mood (e.g. Bower, 1981; Mayer, Gaschke, Braverman, & Evans, 1992), and on research regarding the role of mood-unrelated expectancies for the processing of persuasive messages (e.g. Ziegler, Diehl, & Ruther, 2002). Integrating these lines of research, Ziegler (2010) argued that moods also entail mood-congruent expectancies regarding factors involved in persuasive communication (cf. Petty & Wegener, 1998). For instance, mood may implicate expectations regarding the valence of source characteristics (cf. Mayer et al., 1992). Conceiving of persuasive communication as a sequential process (e.g. Kruglanski & Thompson, 1999), the MEM holds that such mood-based expectations impact message processing when pertinent information is salient in an early phase of the communication process (Higgins, 1996). Specifically, processing effort then depends on whether such early information confirms or disconfirms mood-based expectancies. As a result, both individuals in an elated mood and individuals in a slightly depressed mood may evince surprise and more effortful processing of a subsequent persuasive message when mood-based expectancies are disconfirmed rather than confirmed (cf. Olson, Roese, & Zanna, 1996; Reisenzein, 2000).

Consistent with this mood-based expectations perspective, two experiments showed that people in both positive and negative mood processed a message more thoroughly when initial source information suggested the source to have a mood-incongruent characteristic rather than a mood-congruent characteristic (Ziegler, 2010; see also Ziegler & Diehl, in press). For instance,

while argument strength affected attitudes and the favorability of message-related thoughts (cf. Cacioppo & Petty, 1981; Petty & Cacioppo, 1986) of individuals in a positive mood confronted with a dislikable source, it did not affect their reactions when the source was likable. In contrast, while argument strength affected reactions of individuals in a negative mood when the source was likable, it did not affect their reactions when the source was dislikable.

Mood-congruent expectancies and intergroup judgments

We propose that mood-congruent expectancies also play a role for judgments regarding ingroup and outgroup targets. Specifically, we argue that mood-based expectancies regarding category membership of a target affect the impact of individuating information on person perception (Fiske & Neuberg, 1990). For example, in a competitive intergroup context (Sherif et al., 1961) mood may affect expectancies regarding group membership of a successful person. As a consequence, when processing motivation and ability due to mood-unrelated factors are neither particularly high nor low (cf. Forgas & Fiedler, 1996; Wegener & Petty, 2001), an expectancy-incongruent (vs. congruent) group membership of the successful competitor should lead perceivers to invest more effort in thinking about subsequent individuating information on the winner. As a result, individuating information should have a higher impact on target evaluations and target-related thoughts (cf. Fleming, Petty, & White, 2005) when target category membership is mood-incongruent (vs. mood-congruent).

Thus, diverging from what other models on mood and information processing (Bless, 2001; Clore et al., 2001; Schwarz, 2001) would predict, the MEM suggests a symmetrical role of group membership for the processing of subsequent individuating information in positive and negative mood. In particular, processing should be flexible in both positive and negative mood, that is, a systematic (vs. non-systematic), data-driven processing strategy should be adopted given mood-incongruent (vs. mood-congruent) group membership. It is also worth noting that

these predictions refer to a context in which the same experimenter-provided instructions prompt the exact same goal in individuals in different affective states (Martin, Ward, Achee, & Wyer, 1993; Schwarz, 1990, 2001).

The MEM further allows for the prediction that individuals in both positive and negative mood will attend more to mood-incongruent as compared to mood-congruent group membership information. This should be the case because mood-incongruent information is assumed to be less expected than mood-congruent information (cf. Schützwohl, 1998). In this respect, it is worth noting that mood research has found higher attention in regard to mood-congruent (vs. mood-incongruent) information. For instance, Forgas and Bower (1987) found that participants in sad (happy) mood spent more time reading negative (positive) as compared to positive (negative) details about a stranger. However, mood-unrelated research has shown that more attention may be devoted to expectancy-inconsistent (vs. expectancy-consistent) information. For instance, Belmore (1987) found longer reading times in regard to behavior information that was inconsistent (vs. consistent) with trait-based expectancies. In the present research, in comparison, expectancies are assumed to depend on participants' mood and to refer to category membership. Hence, reading times should be longer given mood-incongruent (i.e., unexpected) category information rather than mood-congruent (i.e., expected) category information.[1]

It is important to point out the difference between the current mood-based expectancies perspective and extant studies that have investigated the role of expectancies for target evaluations in intergroup contexts. In particular, expectancy-violation theory (Jussim, Coleman, & Lerch, 1987) assumes that when target characteristics violate expectations based on target group membership, target evaluations become more extreme in the direction of the expectancy violation (e.g. Bettencourt, Dill, Greathouse, Charlton, & Mulholland, 1997). Thus, research guided by expectancy-violation theory is concerned with category-based expectancies regarding

individuating information. In comparison, the present research deals with the role of mood-based expectancies regarding categorical information.

The present research

The current research employed a competitive election scenario in which an ingroup and an outgroup member competed for a certain post. Participants in positive or negative mood got informed whether the successful target person was an ingroup or an outgroup member. Thereafter, individuating information regarding the winner's competence was presented to participants. Based on the MEM (Ziegler, 2010), we predicted that it would be less congruent with positive (negative) mood to learn that an outgroup (ingroup) member rather than an ingroup (outgroup) member has been elected. Hence, reading times were predicted to be longer given unexpected (i.e., mood-incongruent) as compared to expected (i.e., mood-congruent) information regarding the winner's group membership. Of greater importance, subsequent individuating information regarding target competence (high or low) was predicted to be processed more effortful and, hence, to have a stronger impact on target evaluations and target-related thoughts in mood-incongruent (as compared to mood congruent) conditions.

Method

Participants and Design. Participants were 106 students (51 male, 55 female, age: $M = 23.10$, $SD = 2.64$) at the University of Tuebingen. They participated in the study in return for a small reward worth about 1.20 Euro. They were randomly assigned to one of the experimental conditions in a Mood (positive vs. negative) x Group Membership (ingroup vs. outgroup) x Competence (high vs. low) between-subjects factorial design.

Procedure and independent variables. Students were asked for participation in the university cafeteria building by a research assistant. In a quiet area, up to four participants took part in parallel. All materials were presented on a laptop. In an ostensible first study, participants

were asked to spend eight minutes on writing a vivid report of either a happy or a sad life event (Bless, Schwarz, & Wieland, 1996). Embedded within several questions about this task were two manipulation check items which measured participants' current mood (1 = *not at all happy / sad* to 9 = *very happy / sad*).

The second study was said to be concerned with how people form impressions of others. Participants read that they would be presented with information regarding a student who had been elected recently as a student representative in a board of the (fictitious) *Future Trust of Baden-Wuerttemberg*. Allegedly, a new support programme for student initiatives would be announced the following year which was open to groups of students proposing innovative project ideas settled at their own university. Each year, one or two of the submitted project proposals would be selected and get funded generously. Evaluation of the submitted proposals would be made by a committee which should also include one student member. Participants read that when the election of the student representative was about to take place, just two final candidates remained competing for the position, one from their own university and one from another university (University of Freiburg, both in the state of Baden-Wuerttemberg).

To manipulate group membership, on the next page participants read that the student from their own university (*ingroup condition*) or from the other university (*outgroup condition*) had been elected. Further, they were informed that after the election an interview with the elected student had been published in a journal which they would get to read in order to form an impression of the student.

Information contained in the article differed so as to manipulate the elected student's level of competence. Specifically, the interview contained one of two sets of five pieces of competence information . Selection of these pieces of information was based on a pretest. In the *high competence condition*, all five pieces of information portrayed the student as very competent. In

the *low competence condition*, all five pieces of information portrayed the student as hardly competent. For example, in the high competence version of the article, one of the student's answers read "I am interested in politics and could well imagine to become engaged in party politics. I always take the time to keep informed about ongoing political events by reading newspapers." In contrast, in the low competence version one answer read "I am not really interested in politics and could not really imagine to become engaged in party politics. Yet, I do read newspapers. I always take the time to keep informed about ongoing sports events by reading newspapers."

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

Dependent measures. All ratings were made on scales ranging from 1 to 7. To measure job suitability, participants were asked to respond to the item "The election of the student into the committee is ..." (*unjustified* to *justified*). Further, they indicated their agreement with the statement „The information in the journal article clearly speaks in favor of the suitability of the student for the committee position" (*do not agree at all* to *fully agree*). To check whether participants had accurately perceived the elected student's university affiliation, they were asked to write down from which university the chosen student came. All participants wrote down the affiliation actually presented to them. To provide evidence that the election of an ingroup member is more positively valenced than the election of an outgroup member, participants were asked "How happy did you feel about learning that a student of the mentioned university was elected into the committee?" (*not at all happy* to *very happy*). The question "How important was it to you to get an impression of the student representative" (*not at all important* to *very important*) assessed the importance of the impression formation task.

Participants were also asked to spend three minutes on writing down their thoughts while reading the information. Two independent raters blind to conditions coded thoughts as to whether they were related to the student's qualification or to something else. Qualification-related thoughts were further coded as favorable, unfavorable, or neutral. Interrater agreement was satisfactory (74%); disagreements were resolved by discussion.

Results

Unless noted otherwise, the data were analyzed by three-factorial Mood x Group Membership x Competence ANOVAs. As preliminary analyses including participants' gender as a factor did not reveal any gender effects, gender will not be discussed further.

Mood. Happiness and sadness responses were highly correlated ($r = -.69$, $p < .0001$) and averaged after reversing sadness scores. A t-test showed that participants' mood was more elated in happy mood conditions ($M = 6.86$; $SD = 1.57$) than in sad mood conditions ($M = 4.50$; $SD = 1.91$), $t(104) = 6.92$, $p < .0001$.

Valence of election outcome. Responses on felt happiness about the elected student's university affiliation revealed a group membership main effect, $F(1, 98) = 14.78$, $p < .0001$ (all other ps > .12). Participants felt happier when an ingroup member ($M = 4.83$; $SD = 1.18$) rather than an outgroup member had been elected ($M = 4.06$; $SD = 0.89$).

Target Evaluation. Job suitability ratings were averaged ($r = .65$, $p < .001$). An ANOVA revealed two effects (all other Fs < 1). First, the student was rated as more suitable for the position given high competence ($M = 4.58$; $SD = 1.18$) versus low competence ($M = 3.49$; $SD = 1.21$), $F(1, 98) = 22.03$, $p < .0001$. More important, the three-way interaction was significant, $F(1, 98) = 4.08$, $p < .05$. As the pattern of means shows (Figure 1, top panel), this interaction is in line with predictions. Specifically, target evaluations appear to be strongly affected by competence given mood-incongruent group membership (positive mood / outgroup member and

negative mood / ingroup member). In comparison, target evaluations appear less affected by competence given mood-congruent group membership (positive mood / ingroup member and negative mood / outgroup member). In fact, an analysis of effects in incongruent conditions of mood and group membership showed, as predicted, that job suitability was affected by the level of competence, $F(1, 98) = 22.92$, $p < .001$. High competence led to more positive ratings ($M = 4.79$; $SD = 1.23$) than low competence ($M = 3.24$; $SD = 1.24$). This competence effect on job suitability was similar across the two mood-incongruent group membership conditions ($F < 1$ for the condition by competence interaction). In comparison, in mood-congruent conditions the effect of competence was less reliable, $F(1, 98) = 3.52$, $p = .064$ (high competence: $M = 4.35$; $SD = 1.09$; low competence: $M = 3.74$; $SD = 1.14$).[2] Further, in line with the present hypotheses, planned comparisons within each combination of mood and group membership were conducted. They showed that high competence led to higher suitability ratings than low competence given positive mood / outgroup target (high competence: $M = 4.96$; $SD = 0.93$; low competence: $M = 3.25$; $SD = 1.18$), $t(98) = 3.66$, $p < .001$, and given negative mood / ingroup target (high: $M = 4.63$; $SD = 1.48$; low: $M = 3.23$; $SD = 1.35$), $t(98) = 3.11$, $p < .003$. In the case of positive mood / ingroup target, the effect was less reliable (high: $M = 4.62$; $SD = 1.02$; low: $M = 3.73$; $SD = 1.15$), $t(98) = 1.89$, $p = .061$. No difference was found given negative mood / outgroup target (high: $M = 4.11$; $SD = 1.13$; low: $M = 3.75$; $SD = 1.18$), $t < 1$.[3]

Target-related thoughts. A thought favorability index was computed by subtracting the number of unfavorable thoughts from the number of favorable thoughts (cf. Fleming et al., 2005). An ANOVA on this index (see Figure 1, bottom panel) revealed a competence main effect, $F(1, 98) = 15.55$, $p < .001$. High competence ($M = 1.05$; $SD = 2.00$) led to more favorable thoughts than low competence ($M = -0.32$; $SD = 1.49$). Further, the ANOVA revealed the predicted three-way interaction, $F(1, 98) = 4.22$, $p < .05$. As expected, in mood-incongruent conditions, only the

competence effect was significant, $F(1, 98) = 18.28$, $p < .001$. High competence led to more favorable thoughts ($M = 1.55$; $SD = 2.15$) than low competence ($M = -0.52$; $SD = 1.26$). In contrast, thought valence was unaffected by competence in mood-congruent conditions ($p > .18$).[4] Further, planned comparisons within each combination of mood and group membership showed that high competence led to more favorable thoughts than low competence given positive mood / outgroup target (high: $M = 1.29$; $SD = 1.86$; low: $M = -0.42$; $SD = 1.31$), $t(98) = 2.46$, $p < .02$, and given negative mood / ingroup target (high: $M = 1.80$; $SD = 2.43$; low: $M = -0.62$; $SD = 1.26$), $t(98) = 3.62$, $p < .001$. No difference was found given positive mood / ingroup target (high: $M = 0.31$; $SD = 1.97$; low: $M = 0.31$; $SD = 1.93$), $t < 1$. In the case of negative mood / outgroup target, the competence effect was less reliable (high: $M = 0.86$; $SD = 1.66$; low: $M = -0.58$; $SD = 1.31$), $t(98) = 1.87$, $p = .064$.[5]

Importance. The ANOVA on ratings of the importance of forming an impression about the target did not reveal any significant effect. Overall, ratings indicated moderate importance ($M = 4.04$; $SD = 1.88$). This suggests that the likelihood of effortful processing due to mood-unrelated factors in the experimental setting was neither high nor low.

Reading times for group membership information. We analyzed the amount of time participants spent reading the page disclosing which of the two competing candidates had been elected. We controlled for individual differences in general reading speed by using reading time for prior instructions (i.e. up to the information that just two candidates had remained competing for the position) as a covariate. The competence factor was not included in this analysis because it was manipulated only after participants read about the election outcome. An ANCOVA with mood and group membership as factors revealed that the covariate was a significant predictor of reading time for group membership information, $F(1, 101) = 115.09$, $p < .0001$. Of greater interest, the Mood x Group Membership interaction was significant, $F(1, 101) = 3.96$, $p < .05$.

Estimated marginal means show that reading times were longer given mood-incongruent combinations (positive mood / outgroup member: $M = 18.46$; negative mood / ingroup member: $M = 17.09$; combined: $M = 17.77$) than given mood-congruent combinations (positive mood / ingroup member: $M = 15.69$; negative mood / outgroup member: $M = 16.25$; combined: $M = 15.97$). Neither the mood main effect nor the group membership main effect was significant (both $ps > .28$).[6]

Mediation analysis. According to the MEM, reading times for group membership information should mediate the impact of mood (in)congruency on the effort invested in the processing of individuating information. In this respect, it is important to note that processing effort is inferred from the impact of competence (high vs. low) on target ratings. Hence, in this regard reading times are assumed to serve as a moderator of the impact of competence on target ratings. Accordingly, the three-way interaction of mood, group membership, and competence should turn non-significant once the product of reading times with competence is controlled. Instead, the reading times by competence interaction should be significant, showing that competence affects suitability ratings more strongly given long as compared to short reading times.

To test these predictions, job suitability was first regressed on mood, group membership, and competence (each effect-coded), their two-way and three-way products. This first step of the regression analysis, of course, exactly replicated the results of the ANOVA (i.e., significant competence main effect, $t(98) = 4.69$, $p < .001$; significant three-way interaction, $t(98) = -2.02$, p $< .05$). More important, in a second step reading times (unstandardized residuals, i.e., actual disclosure reading time minus the reading time predicted by the time spent on reading prior instructions), and the product of reading times and competence were also entered into the regression equation. This second step showed that the three-way interaction became non-

significant, $t(96) = -1,61, p > .11.$[7] Further, the interaction of reading times and competence was significant $t(96) = 2.36, p < .03$. To probe this interaction, simple effects tests were conducted regarding the effect of competence on job suitability given short reading times (i.e., one standard deviation below the mean) and long reading times (one standard deviation above the mean). Consistent with predictions, competence affected job suitability given long reading times, t(96) = 5.12, p < .001, but did not affect job suitability given short reading times, t(96) = 1.58, p > .11. In other words, the impact of competence on job suitability ratings was the higher the more attention participants had paid to target group membership information.

Discussion

The findings of this experiment show that mood-based expectancies regarding the group membership of a target person may determine the impact of individuating information on target judgments. Individuals in both positive and negative mood invested more effort in processing individuating information when their mood-based expectations regarding the target's group membership were disconfirmed (vs. confirmed). Specifically, in a competitive intergroup setting target judgments and target-related thoughts of participants in a positive mood were affected by individuating competence information when the successful target was an outgroup member, but not when it was an ingroup member. In contrast, in a negative mood, individuating information influenced these responses when the successful target was an ingroup member, but not when it was an outgroup member. Thus, results indicate more systematic processing of individuating information given mood-incongruent (vs. congruent) category information. Further in line with predictions, participants in both positive and negative mood spent more time reading group membership information when it was mood-incongruent (i.e., unexpected) rather than mood-congruent (i.e., expected).

Implications

Overall, the present research adds in a number of ways to the body of empirical findings on mood and intergroup evaluations as well as to existing accounts of mood and information processing. First of all, it adds to our scarce knowledge about the interplay of affect, categorical information, and individuating information in an intergroup context. Further, it provides an important amendment to existing research which found that individuating information has a weaker effect on intergroup target judgments by individuals in positive rather than negative mood (Abele et al., 1998). Finally, it suggests that processing effort in regard to targets of different social categories is quite flexible in both positive and negative mood (Bless, 2001; Clore et al., 2001; Schwarz, 1990).

The predictions of this study were derived from the mood-congruent expectancies model (MEM, Ziegler, 2010) which holds that the processing strategy of individuals in both positive and negative mood is flexible (see also Martin et al., 1993), that is, more or less systematic depending on the (dis)confirmation of mood-based expectancies. We believe that this approach complements (rather than opposes) existing accounts and findings on mood and information processing. On the one hand, the present approach refers specifically to circumstances under which processing motivation and ability due to non-mood factors are neither high nor low. In comparison, other accounts (e.g. Schwarz, 1990; see also Bless, 2001; Clore et al., 2001) appear to be applicable mainly to circumstances of either high or low processing motivation / ability (cf. Forgas, 1995). For instance, under conditions of low processing motivation, mood congruency effects or heuristic processing of categorical information in positive mood may dominate (e.g. Abele et al., 1998; Forgas & Fiedler, 1996). Under conditions of high processing motivation, mood and initial group membership information may not affect the impact of individuating information.

On the other hand, we certainly assent that a number of different mechanisms may also

come into play under conditions of neither very high nor very low processing motivation (e.g.

mood management: Clark & Isen, 1982; Schaller & Cialdini, 1990; Wegener & Petty, 1994;

mood as input: Martin et al., 1993). Still, the MEM suggests that mood-based expectancies may

affect processing in positive and negative mood in symmetrical ways when initial information of

clear valence confirms or disconfirms these expectancies (cf. Ziegler, 2010; Ziegler & Diehl, in

press). Previous research may not have involved conditions which allowed for such effects to be

observed. Future research may compare directly the circumstances proposed to be conducive to

the mechanisms posited by the MEM and extant models on mood and processing (see also

Ziegler, 2010, for further discussion of the MEM in relation to the MAI as well as the hedonic

contingency view, Wegener & Petty, 1994).

The mood-congruent expectancies approach can be linked with the unimodel of human

judgment (Kruglanski, Pierro, Mannetti, Erb, & Chun, 2007). Both share the perspective that

judgmental parameters such as, for instance, information order and length can be more important

determinants of the impact of information on social judgments than the type of information.

Regarding mood effects on intergroup judgments this implies, for instance, that the impact of

later appearing information may be higher when earlier information is mood-incongruent (vs.

congruent) -- regardless of whether early information concerns target group membership and late

information concerns individuating attributes, or vice versa. Accordingly, further research may

aim to show the reverse of the current findings.[8] That is, future research may provide individuals

in different affective states with short initial individuating information followed by lengthier

subsequent categorical information. To the extent that mood also entails expectations regarding

individuating information, such information may be more or less mood-congruent. Hence, given

mood-incongruent (vs. mood-congruent) prior individuating information, later appearing lengthy

categorical information may be processed more effortfully and impact target evaluations more

strongly, (cf. Chun & Kruglanski, 2006).

It may be asked whether mood-based expectancies also play a role when individuals receive individuating information about an ingroup or outgroup competitor with still unknown competition outcome. Indeed, it may be argued that this is the more common case. We believe this is a fruitful avenue for further research. Specifically, even in such circumstances, individuals may be provided with information about, for instance, the person who appears to be ahead in the competition (e.g. a newspaper article reporting who is voters' favorite). According to the MEM, the front-runner's group membership may also be more or less congruent with different moods.

Mood-based expectancies may also influence processing in non-competitive settings. For instance, it may be more congruent with positive (negative) mood when a participant learns that he or she is going to work with an ingroup (outgroup) member rather than an outgroup (ingroup) member (Ruscher et al., 1991). To the extent that the teamwork is of neither very high nor low importance, individuals may invest more effort in processing teammate-related information when the teammate's group membership is mood-incongruent rather than mood-congruent (see also Sekaquaptewa & Espinoza, 2004).

The present research may also be seen in relation to research on deservingness (Feather, 1999). That is, target evaluations concerned the suitability of a competition winner whose success was more (high competence) or less (low competence) justified. Hence, future research may examine the role of mood for hiring decisions regarding ingroup and outgroup members (Feather, 2008; Lewis & Sherman, 2003). Similarly, mood may affect reactions to decisions involving competition in institutional settings (Echebarria-Echabe & Guede, 2003; see also Boldry & Kashy, 1999). In both cases information provided to explain a decision may affect reactions differently, contingent on mood in combination with whether a positive outcome results for the ingroup (or an ingroup member) or the outgroup (or an outgroup member).

Finally, future research may also be devoted to the interplay of mood-based and category-based expectations (Bettencourt et al., 1997). While research guided by expectancy violation theory has examined the influence of expectancy violation on mood changes (Biernat, Vescio, & Billings, 1999), it appears that the influence of an existing affective state for the processing of more or less expectancy-violating information and resultant target evaluations has not yet been investigated. In this respect, perceivers may have prior information regarding, for instance, the skillfulness of an ingroup target's speech (Bettencourt et al., 1997; Marques & Yzerbyt, 1988). In positive (negative) mood, it should be more expectancy-congruent when prior information suggests that the speech is going to be skillful (unskillful) rather than unskillful (skillful).

Conclusion

The present findings are consistent with a symmetrical role of mood and category membership for the impact of individuating information on ingroup and outgroup target evaluations. Taken together with other recent research (Ziegler, 2010; Ziegler & Diehl, in press), they stress the importance of mood-based expectancies for social judgments in various domains. Hence, we hope that future research regarding intergroup relations (Sherif, 1966), stereotyping (Allport, 1954), and related areas may find it worthwhile to examine the effects of (dis)confirmed mood-based expectancies for information processing, judgments, and decisions.

References

Abele, A., Gendolla, G. H., & Petzold, P. (1998). Positive mood and in-group-out-group differentiation in a minimal group setting. *Personality and Social Psychology Bulletin, 24*, 1343-1357.

Allport, G. W. (1954). *The nature of prejudice*. Oxford England: Addison-Wesley.

Belmore, S. M. (1987). Determinants of attention during impression formation. *Journal of Experimental Psychology: Learning Memory and Cognition, 13*, 480-489.

Bettencourt, B. A., Dill, K. E., Greathouse, S. A., & Charlton, K. (1997). Evaluations of ingroup and outgroup members: The role of category-based expectancy violation. *Journal of Experimental Social Psychology, 33*, 244-275.

Biernat, M., Vescio, T. K., & Billings, L. S. (1999). Black sheep and expectancy violation: Integrating two models of social judgment. *European Journal of Social Psychology, 29*, 523-542.

Bless, H. (2001). Mood and the use of general knowledge structures. In L. L. Martin & G. L. Clore (Eds.), *Theories of mood and cognition: A user's guidebook.* (pp. 9-26). Mahwah, NJ: Lawrence Erlbaum.

Bless, H., Bohner, G., Schwarz, N. & Strack, F. (1990). Mood and persuasion: A cognitive response analysis. *Personality and Social Psychology Bulletin, 16*, 331-345.

Bless, H., Clore, G.L, Schwarz, N., Golisano, V., Rabe, C., & Wölk, M. (1996). Mood and the use of scripts: Does happy mood make people really mindless? *Journal of Personality and Social Psychology, 63*, 585-595.

Bless, H., Schwarz, N., & Wieland, R. (1996). Mood and the impact of category membership and individuating information. *European Journal of Social Psychology, 26*, 935-

959.

Bodenhausen, G. V. (1988). Stereotypic biases in social decision making and memory: Testing process models for stereotype use. *Journal of Personality and Social Psychology, 55*, 726-737.

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.

Boldry, J. G., & Kashy, D. A. (1999). Intergroup perception in naturally occurring groups of differential status: A social relations perspective. *Journal of Personality and Social Psychology, 77*, 1200-1212.

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

Branscombe, N. R., & Wann, D. L. (1994). Collective self-esteem consequences of outgroup derogation when a valued social identity is on trial. *European Journal of Social Psychology, 24*, 641-657.

Cacioppo, J. T., & Petty, R. E. (1981). Social psychological procedures for cognitive response assessment: The thought listing technique. In T. Merluzzi, C. Glass, & M. Genest (Eds.), *Cognitive assessment* (S. 309-342). New York: Guilford.

Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic processing within and beyond the persuasion context. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 212-252). New York: Guilford Press.

Chaiken, S., & Maheswaran, D. (1994). Heuristic processing can bias systematic processing: Effects of source credibility, argument ambiguity, and task importance on attitude judgment. *Journal of Personality and Social Psychology, 66*, 460-473.

Chun, W. Y., & Kruglanski, A. W. (2006). The role of task demands and processing resources in the use of base-rate and individuating information. *Journal of Personality and Social*

Psychology, 91, 205-217.

Clore, G. L., Wyer, R. S., Jr., Dienes, B., Gasper, K., Gohm, C., & Isbell, L. (2001). Affective feelings as feedback: Some cognitive consequences. In G. L. Clore & L. L. Martin (Eds.), *Theories of mood and cognition: A user's guidebook.* (pp. 27-62). Mahwah, NJ: Erlbaum

Crisp, R. J., & Hewstone, M. (2000). Crossed categorization and intergroup bias: The moderating roles of intergroup and affective context. *Journal of Experimental Social Psychology, 36*, 357-383.

Echebarria-Echabe, A., & Guede, E. F. (2003). Extending the Theory of Realistic Conflict to Competition in Institutional Settings: Intergroup Status and Outcome. *The Journal of Social Psychology, 143*, 763-782.

Feather, N. T. (1999). Judgments of deservingness: Studies in the psychology of justice and achievement. *Personality and Social Psychology Review, 3*, 86-107.

Feather, N. T. (2008). Perceived legitimacy of a promotion decision in relation to deservingness, entitlement, and resentment in the context of affirmative action and performance. *Journal of Applied Social Psychology, 38*, 1230-1254.

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, S. 1-74). San Diego, CA: Academic Press.

Fleming, M. A., Petty, R. E., & White, P. H. (2005). Stigmatized Targets and Evaluation: Prejudice as a Determinant of Attribute Scrutiny and Polarization. *Personality and Social Psychology Bulletin, 31*, 496-507.

Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin, 117*, 39-66.

Forgas, J. P., & Bower, G. H. (1987). Mood effects on person-perception judgments. *Journal of Personality and Social Psychology, 53*, 53-60.

Forgas, J. P., & Fiedler, K. (1996). Us and them: Mood effects on intergroup discrimination. *Journal of Personality and Social Psychology, 70*, 28-40.

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.

Jussim, L., Coleman, L. M., & Lerch, L. (1987). The nature of stereotypes: A comparison and integration of three theories. *Journal of Personality and Social Psychology, 52*, 536-546.

Kenworthy, J. B., Canales, C. J., Weaver, K. D., & Miller, N. (2003). Negative incidental affect and mood congruency in crossed categorization. *Journal of Experimental Social Psychology, 39*, 195-219.

Kruglanski, A. W., Pierro, A., Mannetti, L., Erb, H.-P., & Chun, W. Y. (2007). On the parameters of human judgment. In M. P. Zanna (Ed.), *Advances in experimental social psychology, Vol 39.* (pp. 255-303). San Diego, CA US: Elsevier Academic Press.

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

Lewis, A. C., & Sherman, S. J. (2003). Hiring you makes me look bad: Social-identity based reversals of the ingroup favoritism effect. *Organizational Behavior and Human Decision Processes, 90*, 262-276.

Linville, P. W., Fisher, F. W., & Salovey, P. (1989). Perceived distributions of characteristics of ingroup and outgroup members: Empirical evidence and a computer simulation. *Journal of Personality and Social Psychology*, 42, 193-211.

Mackie, D. M. & Worth, L. T. (1989). Cognitive deficits and the mediation of positive

affect in persuasion. *Journal of Personality and Social Psychology, 57*, 27-40.

Marques, J. M., & Yzerbyt, V. Y. (1988). The black sheep effect: Judgmental extremity towards ingroup members in inter- and intra-group situations. *European Journal of Social Psychology, 18*, 287-292.

Martin, L. L., Ward, D. W., Achee, J. W., & Wyer, R. S. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of Personality and Social Psychology, 64*, 317-326.

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.

Olson, J. M., Roese, N. J., & Zanna, M. P. (1996). Expectancies. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 211–238). New York: Guilford Press.

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

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.

Quattrone, G. A., & Jones, E. E. (1980). The perception of variability within ingroups and outgroups. *Journal of Personality and Social Psychology*, 38, 141-152.

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.

Ruscher, J. B., Fiske, S. T., Miki, H., & Van Manen, S. (1991). Individuating processes in competition: Interpersonal versus intergroup. *Personality and Social Psychology Bulletin, 17*, 595-605.

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. (2001). Feelings as information: Implications for affective influences on information processing. In L. L. Martin & G. L. Clore (Eds.), *Theories of mood and cognition: A user's guidebook* (pp. 159-176). Mahwah, NJ: Lawrence Erlbaum.

Schwarz, N., & Clore, G. L. (2007). Feelings and phenomenal experiences. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (2nd ed., pp. 385-407). New York, NY: Guilford Press.

Sekaquaptewa, D., & Espinoza, P. (2004). Biased processing of stereotype-incongruency is greater for low than high status groups. *Journal of Experimental Social Psychology, 40*, 128-135.

Sherif, M., Harvey, O. J., White, B. J., Hood, W. R., & Sherif, C. W. (1961). Intergroup cooperation and competition: The Robbers Cave experiment. Norman, OK: University Book Exchange.

Urada, D. I., & Miller, N. (2000). The impact of positive mood and category importance on crossed categorization effects. *Journal of Personality and Social Psychology, 78*, 417-433.

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.

Wegener, D. T., & Petty, R. E. (2001). Understanding effects of mood through the elaboration likelihood and flexible correction models. In L. L. Martin & G. L. Clore (Eds.), *Theories of mood and cognition: A user's guidebook* (pp. 177-210). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Ziegler, R., (2010). Mood, source characteristics, and message processing: A mood-congruent expectancies approach. *Journal of Experimental Social Psychology, 46*, 743-752.

Ziegler, R., & Diehl, M. (in press). Mood and multiple source characteristics: Mood congruency of source consensus status and source trustworthiness as determinants of message scrutiny. *Personality and Social Psychology Bulletin*.

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.

Footnotes

[1] We conceive of attention as an indirect index of surprise. That is, research on surprise has established that focusing of attention on the surprising event is a manifestation of surprise at the behavioural level (Schützwohl, 1998). Different from asking individuals for their subjective experience of surprise (Ziegler, 2010) such an indirect measure allows to unobtrusively ascertain surprise at the moment in time when mood-(in)congruent information is presented to individuals.

[2] Note that this decomposition is most in line with the current mood and group membership congruence perspective. However, it might be argued that the decomposition should look at interactions either within mood conditions or within group conditions. Within mood analyses did not reveal a significant Group Membership x Competence interaction in either positive mood, $F(1, 98) = 1.57$, $p = .21$, or negative mood, $F(1, 98) = 2.58$, $p = .11$. Within group analyses revealed a significant Mood x Competence interaction in outgroup conditions, $F(1, 98) = 4.19$, $p < .05$, which showed that the effect of competence on target ratings was stronger given positive mood as compared to negative mood. In ingroup conditions, this interaction was not significant, $F < 1$ (but see also Footnote 4).

[3] We also measured participants' identification with Tuebingen University through ratings on seven items (e.g. "It means a lot to me to be a student of Tuebingen University"; *alpha* = .92). Identification was unaffected by the manipulated independent variables (all *p*s > .15; overall *M* = 4.13, *SD* = 1.44). A regression analysis on job suitability with identification (centered), mood, group membership, competence, and all products as predictors showed that the three-way interaction remained significant (for the four-way interaction: *t* < 1). Hence, the role of group membership for the effect of mood on the processing of individuating information did not depend on identification with the university.

[4] Analyses within mood conditions did not reveal a significant Group Membership x Competence interaction in either positive mood, $F(1, 98) = 3.02$, $p = .085$, or negative mood, $F(1, 98) = 1.35$, $p = .25$ (cf. Footnote 2). Within group analyses revealed a significant Mood x Competence interaction in ingroup conditions, $F(1, 98) = 6.31$, $p < .02$, which showed that the effect of competence on thought favorability was stronger given negative mood as compared to positive mood. In outgroup conditions, this interaction was not significant, $F < 1$.

Viewed together with the results on target evaluations (cf. Footnote 2), then, within group analyses once revealed an enhanced effect of competence given positive mood / outgroup member (vs. negative mood / outgroup member) and once given negative mood / ingroup member (vs. positive mood / ingroup member). Overall, then, the most parsimonious account of these results is that the effects of mood on the processing of individuating information regarding an ingroup or outgroup target are symmetric.

[5] We also analyzed the overall amount of valenced thoughts (favorable and unfavorable combined). A competence main effect showed that high competence ($M = 1.91$; $SD = 1.96$) elicited more thoughts than low competence ($M = 1.16$; $SD = 1.39$), $F(1, 98) = 4.88$, $p < .03$ (all other ps > .3). In this regard, note that the overall number of thoughts is a poor measure of processing effort. That is, persuasion research has often shown that thought favorability may help to distinguish between conditions with high versus low processing effort when the overall number of thoughts does not (e.g. Petty & Cacioppo, 1986).

[6] Further analyses showed that, as predicted, reading times regarding the outgroup member tended to be longer given positive mood as compared to negative mood, $F(1, 101) = 2.95$, $p = .09$, and reading times regarding the ingroup member tended to be longer given negative mood as compared to positive mood $F(1, 101) = 1.21$, $p = .28$.

[7] A similar analysis on thought valence also showed that the three-way interaction was no longer

significant, $t(96) = -1,67$, $p = .10$.

[8] In this respect, note that research by Abele et al. (1998) already showed that categorical information has a stronger impact on intergroup judgments than individuating information (given low processing motivation). However, the current approach suggests a different mechanism given specific circumstances.

Figure caption

<u>UU</u>Figure 1. Dependent measures as a function of recipient mood, target group membership, and target competence. Positive mood / outgroup member and negative mood / ingroup member represent mood-incongruent conditions; positive mood / ingroup member and negative mood / outgroup member represent mood-congruent conditions. Top panel: Target evaluation (job suitability). Bottom panel: Valence of target-related thoughts.

Figure 1