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On Being Tense Yet Tolerant: The Paradoxical Effects of Trait Anxiety and Aversive Mood on Intergroup Judgments

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This study evaluated whether aversive affect increased, decreased, or had no effect on the negativity of intergroup judgments, depending on level of trait anxiety and the kind of processing strategy adopted by judges. Following negative affect induction, high or low trait-anxious White participants made judgments and recalled information about a threatening Black empowerment group. A negative affect-congruent bias in judgments was found but only for more self-confident, low trait-anxious people. In contrast, aversive affect produced more positive judgments and recall in high trait-anxious people, suggesting a motivated strategy. Finally, affect had no effect on highly crystallized judgments related to well-learned general civil rights principles. The findings are interpreted in terms of J. P. Forgas's (1995) multiprocess affect infusion model, and their implications for research on the dynamics of intergroup discrimination and prejudice are considered.

It has long been recognized that affect and anxiety play critical roles in many group processes, such as group performance, group cohesion, and intergroup behavior (Forgas, 1990, 1998). Our objective in this study was to explore the influence of aversive affect on intergroup judgments and, in particular, the role of trait anxiety in moderating these effects. Despite long-standing applied and theoretical interest in the dynamics of intergroup relations, there has been little prior research on how trait variables may moderate mood effects on intergroup judgments. Negative evaluations of outgroups appear to be a recurring theme throughout human history (Tajfel & Forgas, 1981). Serbs and Croats, Jews and Arabs, Turks and Greeks, Blacks and Whites—all of these groups have known conflict and intergroup discrimination. What are the psychological mechanisms that facilitate such an enduring pattern of intergroup enmity?

Recent research suggests that aversive affective states can play an important role in creating and maintaining negative intergroup reactions. For example, Forgas and Fiedler (1996) demonstrated that negative mood could motivate people to deny rewards to an out-group, even when such denial reduced in-group benefits as well. Other studies have shown that different affective states can interfere with people's ability to adequately process group-related information, increasing the likelihood of prejudice and discrimination (Berkowitz, 1993; Bodenhausen, 1993; Stephan & Stephan, 1985; Sullivan, Pierson, & Marcus, 1982; Wilder, 1993). However, recent theories suggest that such mood effects on intergroup judgments may also depend on personality characteristics and the processing strategy adopted by a judge in particular (Fiedler, 1991; Forgas, 1995; Forgas & Fiedler, 1996; Mayer & Salovey, 1988; Smith & Petty, 1995). This study examined the possibility that aversive affect may produce more negative intergroup judgments only in low trait-anxious people. In contrast, persons who score high on trait anxiety may react to aversive affect in a paradoxical manner, adopting a controlled, motivated processing strategy, lead-

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ing to reduced negativity in their judgments of an out-group.

The Affect Infusion Model and Group-Related Processes

It seems intuitively plausible that negative affect should produce more negative group-related judgments and behavior. For example, one might expect people in a negative mood to be more likely than others to refuse to participate in groups, to react negatively to group outcomes, to process feedback from group members in a negative fashion, and to engage in negative interpersonal behaviors within groups. These effects are most likely to occur because negative affect selectively primes negative information and memories that are more available to be used in constructive judgments (Bower, 1991; Forgas & Bower, 1987).

However, recent multiprocess models of affect and cognition specifically suggest that such mood effects on judgments and behavior may critically depend on what kind of judgmental strategy a person adopts (Fiedler, 1991; Forgas, 1995; Sedikides, 1994). In terms of Forgas's (1995) affect infusion model (AIM), four alternative processing strategies may be identified: (a) direct access judgments, based on the retrieval of preexisting, stored, and crystallized evaluations; (b) motivated processing in service of a specific goal; (c) simplified or heuristic processing; and (d) systematic or substantive processing. According to AIM, processing strategies are determined by a combination of variables such as personality traits, cognitive capacity, affective state, the motivational objectives of the judge, and the nature of the task.

Applying this theory to the domain of group-related judgments, a central prediction of AIM is that affect infusion into intergroup judgments should occur only when people use a constructive, substantive information-processing strategy that allows affectively primed information to be incorporated in a judgment (Fiedler, 1991; Forgas, 1990; Forgas & Moylan, 1991). In contrast, affect should have no influence on intergroup judgments that do not require a degree of open, constructive processing. Specifically, affect is not expected to influence intergroup judgments when people can directly access preexisting attitudes and evaluations to produce a response. Affect is also not expected to infuse intergroup judgments—and may even result in mood-incongruent outcomes—when people engage in motivated processing in the service of a preexisting goal. In the context of intergroup judgments, this may occur, for example, when high trait-anxious people in an aversive mood think about a threatening or controversial issue such as racial judgments (Berkowitz & Troccoli, 1990; Clark & Isen, 1982; Devine, 1989; Forgas, 1990, 1991; Sedikides, 1994).

Personality and Affect in Intergroup Judgments

The fact that personality and temperament may influence how people deal with temporary affective states is by no means a new proposition. Indeed, the very concept of temperament suggests an intimate link between trait and state aspects of affectivity. Despite convincing arguments for greater attention to the interaction of trait and state aspects of affect (Mayer & Salovey, 1988; Salovey & Mayer, 1990), few experiments thus far have looked at how personality traits may moderate mood effects on intergroup judgments. There are some indications that affective influences on judgments tend to be reduced when individuals have a strong personal disposition to respond in a particular way. In one suggestive study, Rhodewalt, Strube, and Wysocki (1988) found a significant mood-congruent influence on perceptions of control by Type B, but not Type A, individuals. The absence of mood effects for Type A individuals is consistent with their greater use of dispositional, motivated processing strategies. Traits such as self-esteem may play a somewhat similar role in moderating mood effects on judgments (Smith & Petty, 1995).

In another series of experiments, Forgas (1998) found that mood had a significant mood-congruent effect on the way people planned and executed an intergroup negotiating task. However, these mood effects were again markedly reduced for individuals who scored high on traits such as need for approval and Machiavellianism and who thus were more likely to approach the task from a predetermined, motivated perspective. Consistent with the recent AIM (Forgas, 1995), these studies

suggest that a mood-congruent bias in intergroup judgments is less likely when a trait-based motivation produces a controlled processing strategy, constraining open and constructive information processing. Trait anxiety is one personality characteristic that is likely to play an important role in many group contexts, yet its effects in moderating affective biases in intergroup judgments have not been explored previously.

Extrapolating from the aforementioned theories and results, we predicted that aversive affect would result in a mood-congruent bias when participants were judging a dangerous out-group, but only for low-anxious and more self-confident persons, who would be less likely to adopt a defensive, motivated processing strategy. We expected aversive mood to have the opposite paradoxical effect on high trait-anxious persons, motivating them to become particularly cautious and defensive when computing judgments about a threatening group, leading to more positive evaluations. This effect should occur because of the different processing strategies adopted by high and low trait-anxious people when thinking about a threatening out-group.

For low trait-anxious persons, aversive affect should result in more negative intergroup judgments and recall because of the selective priming and greater accessibility of negative information when producing a judgment. If more negative evaluations of a racial out-group are indeed due to mood-congruent priming and greater use of negative information in the course of substantive processing, this should also be reflected in better recall memory for such negative details. However, recall of mood-congruent details should not improve if people use simple heuristic rather than substantive processing, directly relying on their mood as information to construct a judgment (Forgas, 1995). Similarly, no memory benefit for target details is predicted if judges simply rely on their preexisting negative stereotypes when producing a judgment (Ellis & Ashbrook, 1988; Wilder, 1993).

In contrast, we expected that affect infusion into intergroup judgments would be absent for high trait-anxious people because their processing strategies and judgments were more likely to be controlled by a strong motivational objective (Erber & Erber, 1994; Forgas & Fiedler, 1996; Sedikides, 1994). Several lines of evidence suggest that high trait anxiety should be a powerful source of motivated thinking, especially when it comes to forming potentially controversial and critical judgments about a racial out-group (Devine, 1989).

Trait Anxiety as a Moderator of Mood Effects on Intergroup Judgments

Several studies have suggested that trait anxiety moderates mood effects on information processing and intergroup judgments. High trait-anxious people have particularly negative self-evaluations or schemas (Beck & Emery, 1985; Breck & Smith, 1983), have lower self-esteem, and are more likely to feel vulnerable and act defensively (Spielberger, 1983). In fact, Spielberger's trait anxiety and low self-esteem are strongly and consistently related constructs ($r = .72$). Aversive affect seems to disproportionately increase the accessibility of negative self-evaluations among high trait-anxious people, who show a bias toward more negative self-descriptions when anticipating a social encounter (Breck & Smith, 1983) and are more inclined to lower their self-evaluations (e.g., I am not smart) when in a negative mood (Brown & Mankowski, 1993). These findings strongly suggest that aversive affect is particularly likely to trigger a controlled, motivated processing strategy in high trait-anxious people, leading them to become more defensive and cautious, especially when performing a risky and socially undesirable task such as evaluating a threatening (Black) out-group (Devine, 1989; Lambert, Khan, Lickel, & Fricke, 1997). By limiting constructive processing, such a motivated processing style should control and reverse mood-congruent influences on intergroup judgments. This is also suggested by previous studies that found an absence of mood congruity when open, constructive processing was constrained by motivated thinking (Berkowitz & Troccoli, 1990; Erber & Erber, 1994; Forgas, 1990, 1991; Sedikides, 1994). Consistent with this view, Moylan and Ciarrochi (1997) recently found that negative mood led high, but not low, trait-anxious people to make more cautious and lenient appraisals of questionable job candidates. It seemed as if a bad mood made high trait-anxious judges more motivated

to avoid appearing too negative in their evaluations.

Aims and Hypotheses

This study predicted that personality characteristics such as trait anxiety can play a critical role in moderating mood effects on intergroup judgments. Specifically, we expected that as a result of automatic affect-infusion processes during substantive processing, aversive mood would produce a mood-congruent, negative bias in judgments in low trait-anxious people only. A better recall of mood-congruent information would specifically support this prediction. Alternatively, if greater negativity in intergroup judgments is caused by either a reduction in processing resources (cf. Ellis & Ashbrook, 1988; Wilder, 1993) or people directly using their affect as information as part of a simple heuristic strategy, recall memory for mood-congruent details should be impaired rather than improved.

In contrast, aversive affect was expected to have the opposite paradoxical influence on intergroup judgments by high trait-anxious persons. We predicted that negative mood would trigger a defensive, motivated processing strategy in high trait-anxious people, resulting in more lenient judgments and reduced recall of negative information about a threatening outgroup. Finally, mood should have no influence on judgments that can be performed by the direct access and retrieval of previously formed and highly crystallized information, such as questions that touch on well-learned general principles of civil rights and intergroup tolerance (rights to free assembly, free speech, etc.; see, e.g., Sullivan et al., 1982). Consistent with AIM, previous studies also support the prediction that familiar and strongly cued direct access judgments (e.g., about well-known products, familiar health states, or core aspects of the self) are unlikely to be influenced by temporary moods (Forgas, 1995; Salovey & Birnbaum, 1989; Sedikides, 1995).

Method

Overview and Participants

This experiment examined the interactive effects of aversive affect and trait anxiety on intergroup judgments (White people's judgments about a threatening Black group). After an aversive mood or a control mood was induced, White participants read and rated the importance of threatening and nonthreatening information about a fictitious Black out-group called the "National Black Empowerment Movement" (NBEM). Next, they performed a series of judgments indicating their evaluative impressions about and civil rights attitudes toward the group. Finally, they were asked to recall all the positive and negative information about the NBEM.

Participants were 160 White (90 female and 70 male), native English-speaking undergraduates at the University of Pittsburgh. One hundred thirteen of them participated for course credit, and the other 47 participated for a payment of $12. Participants were divided into high and low trait-anxious groups on the basis of a median split of their Spielberger (1983) trait-anxiety scores. The dividing median score was 40, and the high trait- and the low trait-anxious group had mean trait-anxiety scores of 48 and 33, respectively.

Design and Procedure

The experiment was a 2 (aversive mood vs. control mood) × 2 (high vs. low trait anxiety) design administered by two experimenters. Equal numbers of men and women and of those scoring in the top half and the bottom half of the trait-anxiety measure were assigned to each of the aversive mood and control mood groups. At least 1 week before the experimental session, participants were administered a measure of trait anxiety, were given a brief description of the NBEM, and then were given a premeasure of their impressions of the NBEM (see below). This premeasure was used as a covariate in all analyses to ensure that any observed mood effects were not confounded by preexisting attitudes related to controversial Black groups like the NBEM.

At the beginning of the experimental session, aversive mood was experimentally induced by selectively informing participants that they would soon be required to give a 3-min speech on "what I dislike about my body and physical appearance" to be recorded live by a video camera. They were instructed to "try to be as open and honest as possible" when making the

speech. In the control mood condition, participants were simply told that they could expect to fill out a questionnaire about their memories and that all of their responses would be anonymous. This mood induction procedure was used because it has been used extensively in past research and has been shown to result in a strongly aversive, tense mood, as indicated by both self-report and physiological measures (Forgas, 1995; Sayette & Wilson, 1991; Steele & Josephs, 1988). Another advantage of this mood induction is that it tends to last longer than other mood inductions (Forgas, 1995), which was important in the present context, given the number of dependent variables we wanted to measure.

After the mood induction, the experimental group was told,

> We share a camera with another lab. The other lab is currently using the camera, and it will be ready in about 15 minutes. So we will go ahead and get you started on the other study. Then in 15 minutes you'll come back into this room and give the speech.

In the control condition, participants were told that copies of the questionnaires still needed to be made and would take about 15 min, so they might as well get started on the second task. Participants were then taken to a different room, where a second experimenter was waiting.

Participants were next informed that they would be completing a judgment task, an opinion survey about the NBEM. They first performed an information selection task. They were asked to indicate which of any two statements presented on a screen "you would be interested in examining in more detail." The two statements were either both positive or both negative, or one statement was positive and the other negative ("The NBEM believes that everybody should be treated equally," "According to the NBEM violent struggle is necessary to overcome racial prejudice," etc.). Participants were told to evenly divide $5 between the two statements, putting more money toward the statement they believed to be more important and worth considering in more detail. To allocate the money, they pressed a number between 0 and 5 to indicate the importance of the top statement. There were 5 practice trials and 40 main trials.

After reading these series of threatening and reassuring items of information about the NBEM, participants next responded to a series of questions presented on a computer screen, indicating (a) their evaluative impressions about the group and (b) their attitudes about civil rights principles applicable to the group. The procedure was concluded by an unexpected free-recall task in which participants were asked to remember as much information about the NBEM as possible. At the conclusion of these experimental tasks, participants were brought back to the first room, where they completed a short debriefing questionnaire, including a mood validation measure, the Tension subscale of the Profile of Mood States (McNair, Lorr, & Droppleman, 1981).

Measures

Trait anxiety. Trait anxiety was measured using Spielberger's (1983) State-Trait Anxiety Inventory, a measure with well-established reliability and validity in assessing stable individual differences in anxiety proneness ($\alpha = .91$).

Information selectivity. On the basis of the information selection task, the average value allocated to threatening information was subtracted from the average value allocated to reassuring information. Larger values on this index thus indicate a tendency to seek out threatening information about the NBEM as more important than reassuring information.

Impressions. Participants' overall impressions about this threatening out-group (NBEM) were first assessed on a series of six 7-point bipolar scales, anchored by the adjectives *honest–dishonest, trustworthy–untrustworthy, dangerous–safe, violent–nonviolent, good–bad,* and *racist–nonracist* (Sullivan et al., 1982). In addition, participants were asked to indicate their evaluation of the NBEM on six 5-point *strongly agree–strongly disagree* scales: "The NBEM is likely to cause a great deal of harm in the future"; "In the future, the NBEM will divide society up much more than it is divided now"; "The NBEM wants Blacks to gain power without working for it"; "The goal of the NBEM is to destroy Whites"; "The NBEM would support a Black criminal even if the NBEM knew the criminal was guilty"; and "If an NBEM member was a teacher at a public school, the member would be unlikely to present children with a racist message." On the basis of the responses in this study, these items were

combined into a single evaluative impression-formation measure that formed a highly reliable and coherent index ($\alpha = .90$).

Attitudes about civil rights. A second distinct set of judgments called for more general, crystallized attitude responses that tapped the extent to which participants identified with enduring global norms of civil rights and racial tolerance as applied to the NBEM (Sullivan et al., 1982). Participants rated six statements on 5-point Likert scales ranging from *strongly agree* to *strongly disagree.* The items were "Members of the NBEM should be banned from running for public office in the U.S.," "Members of the NBEM should be allowed to teach in public schools," "The NBEM should be outlawed," "Members of the NBEM should be allowed to make a public speech," "The NBEM should have their phones tapped by our government," and "The NBEM should be allowed to hold public rallies." Sullivan et al. showed that these items form a coherent and reliable combined scale ($\alpha = .81$).

Recall. The participants were asked to recall as much as possible of the information they had read about the NBEM. Each recalled item was classified as threatening, reassuring, or ambiguous. Several dependent measures were derived from these data. First, the total number of threatening items recalled was subtracted from the total number of reassuring items recalled, forming an overall negativity-of-recall index. Second, the recalled items were divided into two categories: early recall and late recall items. There was an average of 10 items recalled. Early recall referred to the first 5 items and late recall to subsequent items. Early recall is of greatest interest here, consistent with prior evidence that mood-congruent influences on recall and judgments are most likely to be detected in the first several items (Sedikides, 1994).

Mood validation. The effectiveness of the aversive mood induction was assessed by asking participants to rate, on 5-point scales (0 = *not at all,* 4 = *extremely*), the extent to which they were feeling *tense, uneasy, nervous, panicky, on edge, anxious, relaxed, restless,* and *shaky.* These terms were taken from the Tension subscale of the Profile of Mood States (McNair et al., 1981). On the basis of the present sample, the reliability (α) of the tension scale was .92.

Results

Mood Validation

The overall analysis of variance of the effect of mood group and trait anxiety on the mood self-ratings indicated that there was a significant difference between the aversive ($M = 1.42$) and control ($M = 0.73$) mood groups, $F(1, 156) = 34.00$, $p < .001$, and a significant difference between low ($M = 0.94$) and high ($M = 1.20$) trait-anxious people, $F(1, 156) = 4.84$, $p < .05$. Importantly, there was no significant interaction between the mood induction and trait anxiety, $F(1, 156) = 0.74$, $p > .3$, indicating that the mood induction had the same effect on high and low trait-anxious people. These results confirm that the aversive mood manipulation used here was indeed highly effective in inducing significantly different affective states between the experimental and control groups, as has also been found in other studies using this procedure (Sayette & Wilson, 1991; Steele & Josephs, 1988).

Information Selectivity

Impressions of the out-group on the premeasure assessment were used as a covariate in all analyses to control for preexisting racial attitudes. All analyses also were conducted using both the median-split and the continuous version of the trait-anxiety variable. These two types of analyses yielded identical results. Consequently, the median-split results are reported to promote clarity of communication. No sex differences were found in any of the analyses, so the results were collapsed across sex.

Mood effects on preference for threatening versus reassuring information were analyzed first. There was no significant effect of mood, $F(1, 155) = 0.45$, $p > .1$; trait anxiety, $F(1, 155) = 1.47$, $p > .1$; or Mood × Trait Anxiety, $F(1, 155) = 1.25$, $p > .1$, on information selectivity. However, there was a clear trend toward an interaction, with high trait-anxious people more likely to avoid threatening information when experiencing negative affect as compared with controls (see Table 1, second column from the left). Although this trend failed to reach significance on the information selectivity measure, identical and significant patterns also were found for the judgment and the recall

Table 1
Impact of Aversive Mood on the Negativity of People's Judgments About a Threatening Out-Group Among Low and High Trait-Anxious People

Trait-anxiety condition	Threat bias		Impressions		Early recall		
	M	*SE*	*M*	*SE*	*M*	*SE*	*n*
Low trait anxiety							
Control	2.60_a	0.10	4.00_a	0.10	3.12_a	0.14	41
Aversive	2.65_a	0.10	4.17_a	0.11	3.33_a	0.14	37
High trait anxiety							
Control	2.73_a	0.10	4.15_a	0.11	3.39_a	0.14	39
Aversive	2.55_a	0.09	3.89_b	0.10	3.06_b	0.13	43

Note. Higher values indicate greater negativity in information selectivity, impressions, and recall. Means within the same row and the same trait-anxiety category that do not share subscripts differ at $p < .05$, one-tailed.

data (Table 1), providing clear convergent evidence that similar underlying processes influenced all three measures.

Impressions

Neither mood group nor trait anxiety had a significant main effect on participants' overall impressions about the NBEM ($p > .1$). However, there was a significant interaction between mood and trait anxiety, $F(1, 155) = 4.00$, $p < .05$. As predicted, temporary aversive mood significantly decreased the negativity of judgments among high trait-anxious people but increased (albeit nonsignificantly) the negativity of judgments among low trait-anxious people (Table 1). This result confirms our major prediction of trait anxiety moderating negative mood effects on intergroup judgments.

Attitudes About Civil Rights Issues

As expected, the induced aversive mood had no significant main or interaction effect on these more enduring, crystallized attitude responses touching on civil rights principles ($p > .1$). It was expected that these items assessing civil rights attitudes specifically called for highly crystallized, ready-made responses. Such attitudes about civil rights and intergroup tolerance constitute a highly rehearsed and very salient response category in contemporary U.S. culture (Sullivan et al., 1982). To the extent that participants would have previously learned about responding to such questions, and had highly available prior responses to fall back on, temporary affect is not likely to influence such direct access judgments according to AIM (Forgas, 1995). Other research also confirms that such familiar, direct access judgments tend to be impervious to temporary mood effects (Salovey & Birnbaum, 1989; Sedikides, 1995).

Negativity of Recall

The effect of aversive mood and trait anxiety on the negativity of early and late recall was examined. Early recall should have provided the most sensitive recall measure, as has been found in other experiments (Sedikides, 1994). Indeed, we found a significant Mood × Trait Anxiety interaction on the negativity of early recall, $F(1, 155) = 3.75$, $p \leq .05$ (one-tailed), but not of late recall ($p > .1$). Aversive mood led to a nonsignificant increase in the negativity of recall among low trait-anxious participants but had the opposite effect among high trait-anxious participants, significantly decreasing the negativity of their recall (Table 1). This result clearly parallels the judgmental results discussed earlier and again confirms our main prediction that trait anxiety would moderate the cognitive consequences of aversive mood on intergroup judgments.

Self-Reported Mood and Negativity of Intergroup Judgments

To further test our hypotheses, we conducted regression analyses using participants' self-reported negative mood states and trait-anxiety scores to predict the negativity of their judgments and recall. As expected, the Trait Anxiety × Mood interaction was significant and in the expected direction for information selec-

tivity, $F(1, 155) = 4.00$, $\beta = -.30$, $p < .05$, and impressions, $F(1, 155) = 6.40$, $\beta = -.33$, $p < .05$, and nonsignificant but in the expected direction for early recall, $F(1, 155) = 0.13$, $\beta = -.06$, $p > .1$. All other mood-related tests were nonsignificant ($p > .10$). Simple effects tests revealed that among low trait-anxious people, an increase in negative mood was associated with a significant increase in the negativity of impressions ($\beta = .16$, $p < .05$, one-tailed) and a nonsignificant increase in threat bias ($\beta = .06$, $p > .1$). Among high trait-anxious people, in contrast, an increase in negative mood was associated with a significant decrease in the negativity of impressions ($\beta = -.23$, $p < .05$) and a significant decrease in threat bias ($\beta = -.17$, $p < .05$). These results again confirm our major prediction that trait anxiety would moderate the impact of negative mood on intergroup judgments.

Discussion

Affect plays a central role in many kinds of group processes, and in intergroup relations in particular (Forgas, 1990, 1998). This study provides coherent evidence suggesting that personality traits such as anxiety can play a critical role in moderating the effects of aversive moods on intergroup judgments and the kind of processing strategies adopted by judges. We found three distinct kinds of mood effects. First, a clear pattern of mood congruence was identified for low trait-anxious people. When experiencing aversive affect, these individuals formed more critical and negative judgments about a threatening out-group, consistent with the more constructive and substantive processing of such mood-congruent information. Second, in contrast, high trait-anxious persons showed the opposite paradoxical pattern. When experiencing aversive mood, their judgments became more lenient and positive, consistent with their predicted more defensive, motivated processing strategies. Also, they recalled less negative and more positive information about the group than did controls. Finally, no mood congruence by either group was observed when responses concerned highly rehearsed, crystallized attitudes about civil rights issues. Participants already possessed strongly cued, preexisting responses to these items (Sullivan et al., 1982) and thus could produce an answer using a simple, direct access strategy that was incompatible with affect infusion (Salovey & Birnbaum, 1989; Sedikides, 1995).

Affect Infusion

The results showed a significant negative mood-congruent bias in intergroup judgments but only for low trait-anxious people. Theoretically, these effects could have been produced by a variety of processes. As a result of affect-priming effects, aversive mood may have selectively primed access to and the use of negative thoughts and categories in judgments (Bower, 1991; Forgas & Fiedler, 1996). Alternatively, judges may have relied on their mood as a direct source of information about the out-group, using the "how do I feel about it?" heuristic. Finally, aversive mood may have reduced attention and working memory capacity, producing a greater reliance on simple, well-learned negative stereotypic information about Blacks (Bodenhausen, 1993; Ellis & Ashbrook, 1988; Wilder, 1993). The superior recall of mood-congruent information found here uniquely supports the first affect-priming explanation. It appears that mood-congruent judgments were also remembered better, consistent with the more detailed and substantive processing of negative, affectively primed information by low trait-anxious judges. Neither the affect heuristic nor the reduced-attention explanations can account for such a memory effect. This result is also broadly consistent with prior studies reporting mood-congruent judgments due to affect priming in circumstances in which an open, substantive processing strategy is likely to be adopted (Forgas & Bower, 1987; Forgas & Moylan, 1991).

The "Tense and Tolerant" Pattern

The most interesting finding is that aversive mood had a qualitatively different influence on intergroup judgments by high and low trait-anxious people. Negative affect decreased the extent to which high trait-anxious people judged the group to be racist, untrustworthy, and dangerous. In contrast, negative mood increased the extent to which low trait-anxious people judged the group to be racist, untrustworthy, and dangerous. How can these surprising effects be explained? Could it be, for example, that high

trait-anxious people responded to the mood manipulation with disproportionate intensity, producing something like a rebound effect? The data do not support this account. The correlation between aversive mood and trait anxiety was a modest .18, and the mood scores of high and low trait-anxious participants who were placed in the highest aversive-mood quartile were virtually identical (2.19 vs. 2.20, respectively). Thus, the mood induction produced mood effects of comparable intensity in high and low trait-anxious people, yet these similar moods resulted in very different reactions to a threatening out-group.

Trait Anxiety and Motivated Thinking

The most likely explanation is that in high trait-anxious persons, aversive affect selectively triggered motivated processing. This account not only is consistent with our theoretical predictions but also is supported by prior evidence for the role of personality traits in moderating mood effects on cognition (Mayer & Salovey, 1988; Salovey & Mayer, 1990). Several studies found that personality characteristics such as Machiavellianism, social desirability, and Type A behavior pattern may be a significant source of motivated thinking, and high scorers on these measures were found to be less influenced by affect-infusion effects (Forgas, 1998; Rhodewalt et al., 1988). Our results suggest that trait anxiety has a similar effect on intergroup judgments, reducing people's self-assurance (Brown & Mankowski, 1993) and leading to more motivated, cautious, and defensive judgmental strategies about out-groups. These differences in trait anxiety resulted in not only the elimination but the complete reversal of the usual mood-congruent pattern (Devine, 1989).

Could our results be due to aversive mood selectively motivating high trait-anxious people to engage in automatic mood-repair strategies (Clark & Isen, 1982; Erber & Erber, 1994; Smith & Petty, 1995) that involve avoiding aversive information to improve mood? Although this possibility cannot be excluded, we believe that, on balance, the answer is likely to be no. It is not clear how making more positive judgments about a threatening out-group could help to improve mood. Indeed, previous research has suggested that people actually denigrate out-groups to alleviate negative mood (Forgas & Fiedler, 1996). Furthermore, previous research on trait anxiety also has failed to support the mood-repair hypothesis. High trait-anxious individuals generally fail to behave in adaptive ways suitable for reducing their level of anxiety or controlling their exposure to aversive stimuli when in a negative mood and may even act in ways that are likely to maintain negative affect (MacLeod, 1990; MacLeod & Matthews, 1988).

Alternatively, initial failure to properly encode negative information in an aversive mood may have led high trait-anxious judges to form less critical impressions and to recall less negative details. However, this explanation is not supported by the fact that both low and high trait-anxious participants experienced similar mood intensities in the aversive condition. Although high trait-anxious judges did rate negative information as somewhat less informative (Table 1), this again need not indicate a genuine failure to encode and is consistent with a more motivated judgmental strategy apparently adopted by this group.

Intergroup judgments by high trait-anxious people also could have become less negative because they may have tried to compensate for their mood and "reset" the information they used (Martin, 1986). However, the results of a recent study by Gasper and Clore (1996) challenge these explanations. These authors reported that high trait-anxious individuals were less likely than low trait-anxious individuals to correct for, or discount, irrelevant negative mood when making judgments. It also is not clear how the mood-repair, failure-to-encode, or reset hypotheses could account for the active reversal rather than mere elimination of a negativity bias in intergroup evaluations, as indicated by information selectivity, judgments, and recall measures here.

On balance, aversive mood was most likely to lead high trait-anxious people to selectively adopt a motivated, controlled judgmental strategy here because they were feeling more insecure and were most concerned with controlling and reversing the possible negative impact of making socially undesirable, critical judgments about a threatening out-group. In other words, it seems that they adopted a highly defensive, controlled, and risk-averse information-processing and judgmental strategy. Recent

affect research also has supported the proposition that people in a negative mood sometimes engage in motivated processes to correct for negative stereotypes (Lambert et al., 1997). Our findings go beyond this research by suggesting that it is people high in trait anxiety, in particular, who are most likely to correct for such stereotypes.

No Mood Effects on Direct Access Judgments

Mood had no influence on judgments concerned with familiar civil rights principles in either high or low trait-anxious people. Why did mood not influence these responses? Theory and previous research (Fiedler, 1988, 1991; Forgas, 1995) suggest that to the extent that individuals can directly retrieve ready-made, preexisting responses when making an intergroup judgment, there is little or no constructive processing required and an absence of affect infusion. Consistent with this principle, mood congruence is absent when judgments concern highly familiar topics such as current states of health or central aspects of the self (Salovey & Birnbaum, 1989; Sedikides, 1995) that can be performed by simply retrieving prior crystallized evaluations. The items measuring general civil rights attitudes here were most closely and directly linked to such enduring, well-rehearsed beliefs that are inculcated in Americans from their earliest school days. When Americans are asked, "Should this Black group be denied freedom of speech?" they are most likely to answer the question by automatically accessing a highly crystallized belief like "no group should be denied freedom of speech, no matter how threatening that group is to me" (Sullivan et al., 1982). Such values are taught and strongly emphasized in American popular culture (Bloom, 1987). In terms of AIM, temporary mood should have no influence on retrieving and producing such direct access responses, as was indeed found here.

Limitations and Future Prospects

There are some obvious limitations to these results. We attempted to create a realistic and involving judgmental context, and features of the threatening out-group are not dissimilar to some real-life Black groups in the United States. It is reasonable to assume that judgments of the kind we collected had a degree of ecological validity for most of our participants. Nevertheless, the generality of these findings may, of course, be limited by the degree of realism we were able to achieve in this experimental environment. We should also note that the mood induction procedures we used (as is the case with all such procedures) may have produced additional unintended effects on some participants. However, to the extent that our results are broadly consistent with other experiments demonstrating selective mood effects on intergroup judgments using quite different procedures (Forgas & Fiedler, 1996; Lambert et al., 1997), the likelihood of mood manipulation confounds is considerably reduced. Also, we were able to demonstrate that regardless of mood condition, self-reported mood was an important predictor of how people reacted to the group, which suggests that it was their mood and not just some mood-irrelevant aspect of the mood induction that influenced responses. Nevertheless, it is clear that we cannot rule out all potential mood induction confounds. It clearly would be of interest to replicate our findings with different mood induction methods.

This research also was not able to determine if different types of negative moods (e.g., sad vs. tense) have the same effects on intergroup behavior. Our research suggests that tense mood can prompt high trait-anxious people to become defensive and cautious when evaluating an out-group. Previous research suggests that sad mood also can prompt people to engage in defensive, cautious processing of negative stereotypes (Lambert et al., 1997). These findings suggest that both sad and tense mood may have similar effects on intergroup judgments. Future research should follow up these studies by manipulating both tense and sad mood within the same experiment and observing their effects on intergroup judgment and behavior.

Our research also suggests a number of intriguing possibilities concerning affective influences on group processes. For example, does aversive mood motivate high trait-anxious people to become socially cautious and to participate less in a group? When they do participate, do they become less willing to take risks or make controversial suggestions? Another potential research area involves examining actual behavior (as opposed to judgments) toward an out-group. Our findings suggest that aversive mood, under certain conditions, may

motivate high trait-anxious people to act more favorably toward the out-group but motivate low trait-anxious people to act less favorably. Several recent experiments do suggest that affect-infusion mechanisms may influence not only cognition and judgments but also strategic interpersonal behaviors (Forgas, 1998, 1999). Further research on the role of affect and trait anxiety in intergroup behavior is clearly warranted and would be of considerable interest.

Conclusion

Forming judgments about a potentially threatening racial out-group is a complex cognitive task with major implications for social harmony and intergroup relations. Much has been discovered about the role of affect in various social judgments in recent years (Bower, 1991; Fiedler, 1988, 1991; Forgas, 1995, 1998, 1999; Mayer, Gaschke, Braverman, & Evans, 1992), yet still far too little is known about how personality traits moderate realistic intergroup judgments. The present findings suggest that personality characteristics such as trait anxiety play a critical role in such tasks. We found that aversive mood had markedly different effects on the way high and low trait-anxious people reacted to a threatening out-group. Paradoxically, negative mood can lead high trait-anxious people to evaluate a Black group less negatively than low trait-anxious people. The overall pattern of results in this study fits well with Forgas's (1995) AIM, which suggests that the influence of aversive moods on social judgments critically depends on the kind of processing strategy people use. As predicted by AIM, when people engaged in either motivated (high trait-anxious people) or direct access (reproducing crystallized attitudes) processing, aversive mood did not infuse their judgments. These findings highlight the conditional and context-sensitive character of mood effects on intergroup judgments.

It seems then that negative moods can have a significant mood-congruent influence on race-related judgments but only for those individuals who are not highly anxious and who do not need to adopt a targeted, motivated processing strategy. A multiprocess framework (Fiedler, 1991; Forgas, 1995) appears particularly suitable to understanding these subtle and process-contingent effects. Further research on the role of personality characteristics in moderating affective influences on intergroup judgments should be of considerable theoretical as well as applied interest to understanding mood effects on cognition, and the dynamics of prejudice and intergroup behavior in particular.

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