

# Implicational Schemata and the Correspondence Bias: On the Diagnostic Value of Situationally Constrained Behavior

Bertram Gawronski  
Humboldt-Universität zu Berlin

Drawing on G. D. Reeder's (1993) schematic model of dispositional inference, it is hypothesized that perceivers' tendency to draw correspondent dispositional inferences from situationally constrained behavior (i.e., the correspondence bias) can be due to the application of schematic assumptions about trait-behavior relations (i.e., implicational schemata) within the process of situational adjustment. Applied to attitude attribution, situational adjustment is hypothesized to follow an implicit theory of ability, implying that only authors with a corresponding attitude are able to write a persuasive essay toward a given position. Results from 6 experiments offer converging evidence for this hypothesis. Implications for a sufficient understanding of the processes that lead to the correspondence bias are discussed.

When perceivers observe other people's behavior, they often infer stable dispositions from this behavior even when it is highly constrained by situational factors. As job interviewers, for example, we might consider an applicant's behavioral anxiety to reflect dispositional anxiety, although the anxious behavior could also be due to the anxiety provoking job interview. According to Ross (1977, p. 184), observers generally tend to "overestimate the importance of personal or dispositional factors relative to environmental influences." Hence, they "draw correspondent personal inferences about actors who have responded to very obvious situational pressures." This phenomenon, which is known as the *correspondence bias*,<sup>1</sup> seems to be so pervasive that Jones (1990, p. 138) called it "a candidate for the most robust and repeatable finding in social psychology" (see Gilbert & Malone, 1995, for a review). But how exactly can this robustness be explained?

---

Bertram Gawronski, Institut für Psychologie, Humboldt-Universität zu Berlin, Berlin, Germany.

Portions of this article were presented at the 42. Kongress der Deutschen Gesellschaft für Psychologie [42nd Congress of the German Psychological Association], Jena, Germany, September 2000, and at the second annual meeting of the Society for Personality and Social Psychology, San Antonio, Texas, February 2001. This article is based on a doctoral dissertation thesis submitted to the Humboldt-Universität zu Berlin (Germany) in partial fulfillment of the requirements for the doctoral degree. The research was supported by a doctoral fellowship from the Friedrich-Ebert-Stiftung.

I am grateful to the members of the dissertation committee: Glenn Reeder, Wolfgang Scholl, and Fritz Strack. Thanks are extended to Gerald Echterhoff, Markus Hess, Ed Hirt, John Skowronski, and Yaacov Trope for valuable comments on earlier versions of this article; to Iain Glen and Viola Rost for stylistic corrections; and to Lydia Eckstein, Bianka Feldmann, Annett Hofmann, Silke Kleinschmidt, Uta Klische, Regina Kriegelmeyer, Christine Kudla, Jan Landwehr, Iris Petzold, Kathrin Stege, Rebecca Wagner, and Josefine Weigt for their help in collecting the data.

Correspondence concerning this article should be addressed to Bertram Gawronski, who is now at the Department of Psychology, Northwestern University, 2029 Sheridan Road, Evanston, Illinois 60208-2710. E-mail: gawronski@northwestern.edu

## Dual-Process Models of Dispositional Inference

According to recent dual-process models of dispositional inference, the correspondence bias is often due to lay perceivers' susceptibility to superficial judgmental strategies leading to a normatively inadequate neglect of situational factors. Drawing on previous evidence for spontaneous trait inferences (see Uleman, Newman, & Moskowitz, 1996, for a review), Gilbert, Pelham, and Krull (1988), for example, presented a three-stage model in which the process of dispositional inference is conceptually divided into three sequential stages: *behavioral categorization* (i.e., what is the actor doing?), *dispositional characterization* (i.e., what disposition does the behavior imply?), and *situational correction* (i.e., what situational determinants might have caused the behavior?). Whereas categorization and characterization are assumed to be efficient processes that happen without perceivers' intention and awareness, situational correction is assumed to be a deliberate, relatively controlled process (see Bargh, 1994). Hence, categorization and characterization should be independent of perceivers' cognitive elaboration, whereas situational correction can be expected to depend on both the motivation and the cognitive capacity for an effortful processing of the relevant information. Accordingly, the correspondence bias should increase when cognitive resources are depleted (e.g., Gilbert et al., 1988; Trope & Alfieri, 1997), but it should decrease when perceivers are motivated to process social information effortfully (e.g., D'Agostino & Fincher-Kiefer, 1992; Fein, Hilton, & Miller, 1990; Tetlock, 1985; Vonk, 1999; Webster, 1993; Yost & Weary, 1996).

A similar assumption can be found in Trope's (1986) two-stage model of dispositional inference. A central issue in this model is whether dispositional inferences are diagnostic or pseudodiagnostic (Trope & Liberman, 1993). Whereas diagnostic inferences take

---

<sup>1</sup> The tendency for insufficient situational discounting (Kelley, 1972) has received a number of labels such as *the fundamental attribution error* (Ross, 1977), *the observer bias* (Jones & Nisbett, 1972), *the dispositional bias* (Bierbrauer, 1979), *the overattribution bias* (Quattrone, 1982), or *the correspondence bias* (Jones, 1990). In the present investigation I will use the label *correspondence bias*.

into account the probability of a behavior for individuals possessing a corresponding disposition (sufficiency) as well as the probability of the behavior for individuals not possessing this disposition (necessity), pseudodiagnostic inferences only consider the probability of a behavior for individuals possessing a related disposition (sufficiency). The probability of the behavior for individuals not possessing the disposition (necessity) is ignored or given little consideration. Because diagnostic inferences can be assumed to require more cognitive effort than pseudodiagnostic inferences, perceivers often draw correspondent inferences in the presence of situational inducements when they lack the required motivation or capacity for an effortful processing of the available information (e.g., Trope & Alfieri, 1997; but see Trope & Gaunt, 2000).

Drawing on these dual-process accounts, the pervasiveness of the correspondence bias may be explained by a general lack of motivation or capacity to process relevant information effortfully. However, this explanation becomes less plausible if one considers a recent observation by Wilson and Brekke (1994) that people are more concerned with not falling prey to the correspondence bias than they are with the possibility of a nuclear war. Why do people still commit the correspondence bias even though they are highly motivated to take situational information into account?

#### Implicational Schemata and Situational Adjustment

An answer to this question can be drawn from Reeder's schematic model of dispositional inference (Reeder, 1993; Reeder & Brewer, 1979). According to this model, situational adjustment is guided by so-called implicational schemata, that is, lay perceivers' schematic assumptions about trait-behavior relations. These schematic assumptions can sometimes lead perceivers to deliberately judge situational factors as irrelevant with regard to a dispositional judgment. Hence, it may often look like perceivers fall prey to the correspondence bias because of a "quick-and-dirty" processing of social information. Actually, however, they might consider both dispositional and situational determinants, but come to the conclusion that situational factors can be neglected without making a wrong judgment. This particularly should be the case when perceivers' schematic assumptions imply that the observed behavior is highly diagnostic even in the presence of situational constraints; or in terms of Trope's model (e.g., Trope & Liberman, 1993), when the probability of the observed behavior is assumed to be high for individuals possessing a corresponding disposition (sufficiency) and low for people who do not possess that disposition (necessity). Hence, perceivers might be highly motivated not to commit the correspondence bias, but still draw correspondent dispositional inferences in the presence of situational factors because of their schematic assumptions about trait-behavior relations.

This hypothesis may also account for the robustness of the correspondence bias in the most common paradigm used to investigate this phenomenon, the so-called attitude attribution paradigm (Jones & Harris, 1967; see Jones, 1990, for a review). In this paradigm, participants have to infer the personal attitude of a fictitious target toward a controversial topic (e.g., legalization of marijuana). For this judgmental task, participants receive a short essay on the topic in question, ostensibly written by the target. In one condition—the so-called free-choice condition—participants are informed that the writer was free to choose the position

advocated in the essay (i.e., pro or contra). In a second condition—the so-called assignment or no-choice condition—participants are told that the position of the essay was assigned to the writer. According to Jones (1990), participants fall prey to the correspondence bias when they infer an attitude in accordance with the position advocated in the essay, even when it was introduced as being assigned.

Drawing on Reeder's (1993) model, however, situational adjustment can be assumed to be guided by perceivers' schematic assumptions about trait-behavior relations. Specifically, attitude attributions may be adjusted to situational constraints according to an implicit theory of ability (Reeder, 1997), implying that only authors with a corresponding attitude are able to write a highly persuasive essay toward a given position. In other words, persuasive essays are assumed to have a high diagnostic value for inferring a corresponding attitude. Unpersuasive essays, however, only have a low diagnostic value. Or in terms of Trope's model (Trope & Liberman, 1993), a corresponding attitude is regarded as a necessary but insufficient precondition for a persuasive essay. Hence, persuasive essays should generally lead to the attribution of a corresponding attitude regardless of situational constraints. Unpersuasive essays, in contrast, should lead to correspondent inferences only when there is no sufficient situational explanation for the target's behavior, that is, only when the author was free to choose the position advocated in the essay, but not when it was assigned.

#### Essay Diagnosticity in Attitude Attribution

Actually, the present investigation is not the first to explore the impact of essay features on attitude attribution. Rather, a number of previous studies have obtained effects of essay quality (e.g., Reeder, Fletcher, & Furman, 1989), persuasiveness (e.g., Schneider & Miller, 1975), or essay extremity (e.g., Jones, Worchel, Goethals, & Grumet, 1971; A. G. Miller, Ashton, & Mishal, 1990; A. G. Miller & Rorer, 1982) on attitude attributions. However, even though these studies clearly demonstrate that participants use features of the essay to infer the "true" attitude of the author, they offer no conclusive evidence for the present hypothesis that situational adjustment in attitude attribution is guided by an implicit theory of ability, stating that only writers with a corresponding attitude are able to write a highly persuasive essay.

First of all, many of these studies manipulated essay extremity by including pro and contra arguments simultaneously in one and the same essay (e.g., Jones et al., 1971; A. G. Miller & Rorer, 1982). However, this manipulation confounds persuasiveness of the essay with ambiguity of the position. Because behavioral ambiguity, in turn, can lead to context effects of situational information on behavioral categorization (e.g., Trope, Cohen & Alfieri, 1991; Trope, Cohen, & Maoz, 1988), the obtained results could be due to differences in behavioral categorization, rather than to differences in situational adjustment. Consistent with this assumption, Jones et al. (1971) found that two-sided weak essays were perceived as stronger under free-choice conditions than under assignment conditions. In contrast, one-sided strong essays were perceived as equally strong regardless of choice manipulations.

Second, some of the cited studies did not include free-choice conditions (e.g., Reeder et al., 1989; Schneider & Miller, 1975). Hence, it is not clear whether the obtained results only hold true for assignment conditions or if the same effects will also emerge under

free-choice conditions. To assure that the obtained effects are actually due to differences in situational adjustment rather than to differences in behavioral categorization, it is necessary to demonstrate that essay strength influences attitude attributions only under assignment conditions, but not under free-choice conditions.

Finally, and directly related to this point, a number of studies obtained an impact of essay extremity not only under assignment conditions but also under free-choice conditions (e.g., A. G. Miller et al., 1990). Thus, it seems that essay features in these studies affected behavioral categorization rather than situational adjustment. If the obtained effects were actually due to differences in situational adjustment, there should have been no effects of the manipulated features under free-choice conditions.

In conclusion, even though previous studies clearly demonstrate that different essay features can affect attitude attributions, they offer no conclusive evidence for the present hypothesis that situational adjustment in attitude attribution is guided by an implicit theory of ability. Hence, the main goal of the present research is to test this hypothesis, and thus to offer some deeper insights into the underlying processes that are responsible for the robustness of the correspondence bias.

### Overview of the Experiments

A total of six experiments were conducted to test the assumption that situational adjustment in attitude attribution follows an implicit theory of ability, implying that only writers with a corresponding attitude are able to write a persuasive essay. Experiment 1 directly assessed perceivers' trait-behavior expectations with respect to situationally constrained essays. Experiment 2 tested the impact of argument quality on attitude attributions under free-choice and assignment conditions. Experiment 3 rules out alternative explanations in terms of contingent essay features (e.g., content of arguments) by manipulating the perceived persuasiveness of one and the same essay with an ease of retrieval manipulation (see Schwarz et al., 1991). Experiment 4 further rules out alternative explanations in terms of assimilation effects of situational information on behavioral categorization (e.g., Trope et al., 1988, 1991) by manipulating the order of situational and behavioral information. Experiment 5 additionally rules out alternative explanations in terms of situational disambiguation (e.g., Trope & Cohen, 1989) by manipulating the ambiguity of situational constraint information. Finally, Experiment 6 tested the assumption that implicational schemata affect attitude attributions within an effortful process of situational adjustment by manipulating participants' cognitive capacity for an attitude judgment.

#### Experiment 1

Experiment 1 assessed perceivers' schematic assumptions about trait-behavior relations in the attitude attribution paradigm. For this purpose, participants were asked to imagine a target with a particular attitude toward a given political issue who was asked to write an essay either in favor or in opposition of that issue. Participants' task was to predict the essay's persuasiveness as well as the author's ability to write a highly persuasive essay. To rule out the possibility that persuasiveness predictions are mediated by an implicit theory of motivation (i.e., only authors with a corresponding attitude are motivated to write a highly persuasive essay toward a given position) or by an implicit theory of morality (i.e.,

only authors with a corresponding attitude have no moral inhibitions to write a highly persuasive essay toward a given position), participants were additionally asked to predict the author's motivation and his or her moral inhibitions to write a highly persuasive essay.

### Method

#### Participants and Design

A total of 38 psychology undergraduates (30 female, 8 male) participated in a group testing session after a lecture. Participants received a candy bar for participation. Participants were randomly assigned to one of the four experimental conditions of a 2 (writer's attitude: pro vs. contra)  $\times$  2 (assignment: pro essay vs. contra essay) factorial design.

#### Scenarios and Measures

Participants were asked to imagine a nonpsychology student who agreed to participate in a social psychological study on attitudes for the payment of 6 Euro (approximately \$6 US), and that this target was asked to write a highly persuasive essay toward a given political issue (e.g., legalization of marijuana). Half of the participants received the information that the target had a pro attitude toward the issue in question; the remaining half was told that the target had a contra attitude toward the issue in question. Orthogonal to this manipulation, half of the participants were told that the target was asked to write a pro essay toward the issue in question; half were told that the target was asked to write a contra essay toward the issue in question. Participants were asked to imagine the same scenario for a total of 12 different attitude topics. For each of the 12 topics, participants were asked to predict the essay's persuasiveness on a 5-point scale ranging from 1 (*very low*) to 5 (*very high*). Additionally, participants were asked to predict (a) the target's ability, (b) the target's motivation, and (c) the target's moral inhibitions in writing a highly persuasive essay on 5-point scales ranging from 1 (*very low*) to 5 (*very high*).

### Results

#### Persuasiveness

Persuasiveness ratings across the 12 attitude topics were merged into a single index by calculating mean values (Cronbach's  $\alpha = .91$ ). This index was submitted to a 2 (writer's attitude)  $\times$  2 (assignment) analysis of variance (ANOVA). This analysis revealed a significant main effect of assignment position, indicating that pro essays were expected to be more persuasive than contra essays ( $M_{\text{pro essay}} = 3.59$ ;  $M_{\text{contra essay}} = 3.22$ ),  $F(1, 34) = 4.81$ ,  $p < .05$ . This main effect was qualified by a significant two-way interaction between attitude and assignment,  $F(1, 34) = 44.78$ ,  $p < .001$ . Whereas authors with a pro attitude were expected to write a more persuasive essay when they were assigned to write a pro essay than when they were assigned to write a contra essay ( $M_{\text{pro attitude/pro essay}} = 4.04$ ;  $M_{\text{pro attitude/contra essay}} = 2.76$ ), authors with a contra attitude were expected to write a more persuasive essay when they were assigned to write a contra essay than when they were assigned to write a pro essay ( $M_{\text{contra attitude/pro essay}} = 3.14$ ;  $M_{\text{contra attitude/contra essay}} = 3.79$ ).

#### Ability

Ratings regarding the ability to write a persuasive essay were merged into a single index by calculating mean values (Cronbach's  $\alpha = .83$ ). This index was submitted to a 2 (writer's attitude)  $\times$  2

(assignment) ANOVA, revealing a significant interaction between attitude and assignment,  $F(1, 34) = 26.00, p < .001$ . Whereas authors with a pro attitude were expected to have a higher ability to write a persuasive essay when they were assigned to write a pro essay than when they were assigned to write a contra essay ( $M_{\text{pro attitude/pro essay}} = 4.03; M_{\text{pro attitude/contra essay}} = 3.13$ ), authors with a contra attitude were expected to have a higher ability in writing a persuasive contra essay than in writing a persuasive pro essay ( $M_{\text{contra attitude/pro essay}} = 3.22; M_{\text{contra attitude/contra essay}} = 3.64$ ).

*Motivation*

Ratings of the writers' motivation to write a persuasive essay were merged into a single index by calculating mean values (Cronbach's  $\alpha = .97$ ). Submitted to a 2 (writer's attitude)  $\times$  2 (assignment) ANOVA, this index revealed a significant interaction between attitude and assignment,  $F(1, 34) = 61.18, p < .001$ . Whereas authors with a pro attitude were expected to have a higher motivation to write a persuasive pro essay than to write a persuasive contra essay ( $M_{\text{pro attitude/pro essay}} = 4.42; M_{\text{pro attitude/contra essay}} = 2.10$ ), authors with a contra attitude were expected to have a higher motivation to write a persuasive contra essay than to write a persuasive pro essay ( $M_{\text{contra attitude/pro essay}} = 2.60; M_{\text{contra attitude/contra essay}} = 4.04$ ).

*Moral Inhibitions*

Ratings of the writers' moral inhibitions in writing a persuasive essay were merged into a single index by calculating mean values (Cronbach's  $\alpha = .91$ ). This index was submitted to a 2 (writer's attitude)  $\times$  2 (assignment) ANOVA, revealing a significant interaction between attitude and assignment,  $F(1, 34) = 31.82, p < .001$ . Authors with a pro attitude were expected to have higher moral inhibitions in writing a persuasive essay when they were assigned to write a contra essay than when they were assigned to write a pro essay ( $M_{\text{pro attitude/pro essay}} = 1.61; M_{\text{pro attitude/contra essay}} = 2.93$ ). In contrast, authors with a contra attitude were expected to have higher moral inhibitions when they were assigned to write a pro essay than when they were assigned to write a contra essay ( $M_{\text{contra attitude/pro essay}} = 2.67; M_{\text{contra attitude/contra essay}} = 1.69$ ).

*Mediation Analyses*

To investigate the mediating effects of attributions of ability, motivation, and moral inhibitions on predictions of essay persuasiveness, an analysis of covariance (ANCOVA) was conducted, with the writer's attitude and the assigned position as fixed factors; attributions of ability, motivation, and moral inhibitions as covariates; and essay persuasiveness as the dependent measure. Even though all of the potentially mediating variables (i.e., ability, motivation, moral inhibitions) were significantly correlated with persuasiveness (see Table 1), only attributions of ability revealed a significant effect on persuasiveness in the present ANCOVA,  $F(1, 34) = 13.56, p < .001$ . Motivation and moral inhibitions in writing a persuasive essay had no effect on persuasiveness predictions (all  $F_s < 1$ ). Moreover, even though the interaction between attitude and assignment was still marginally significant after controlling for the three potential mediators,  $F(1, 34) = 3.85, p = .06$ , its effect size dramatically decreased from  $\eta^2 = .57$  to  $\eta^2 = .11$ .

Table 1  
*Correlations Between Predictions of Persuasiveness, and Attributions of Ability, Motivation, and Moral Inhibitions to Write a Persuasive Essay, Experiment 1*

Predictions and attributions	1	2	3	4
1. Persuasiveness	(.91)			
2. Ability	.80***	(.83)		
3. Motivation	.73***	.71***	(.97)	
4. Moral inhibitions	-.60***	-.56***	-.54***	(.91)

Note. Cronbach's alpha estimates of internal consistency are in parentheses.  
\*\*\*  $p < .001$ .

A Sobel test indicated a significant mediation effect of ability attributions ( $z = 2.99, p < .01$ ).

*Discussion*

Results from Experiment 1 indicate that perceivers expect assigned essays to be less persuasive when authors are assigned to write a counterattitudinal essay than when they are assigned to write an essay in accordance with their personal attitudes. Moreover, this effect was mediated by perceivers' attributions of ability, such that perceivers expect authors to be less able to write a highly persuasive essay when they are assigned to write an attitude-inconsistent essay than when they are assigned to write an attitude-consistent essay. Of interest, there was no evidence for a mediating effect of attributions of motivation or attributions of moral inhibitions in writing a persuasive essay. This was true even though (a) manipulations of the writer's attitude and the assigned position revealed corresponding effects on attributions of ability, motivation, and moral inhibitions, and (b) all of these variables were significantly related to predictions of persuasiveness. Taken together, these results suggest that perceivers expect the persuasiveness of an assigned essay to be determined by the writer's ability to write a highly persuasive essay, which in turn depends on the writer's personal attitude. In other words, perceivers assume that only authors with a corresponding attitude are able to write a highly persuasive essay toward a given position. The main question implied by this result, however, is whether perceivers actually use this implicit theory of ability to adjust their attitude attributions to situational constraints. This assumption was tested in Experiment 2.

Experiment 2

Experiment 2 tested the hypothesis that situational adjustment in attitude attribution follows an implicit theory of ability, implying that only authors with a corresponding attitude are able to write a persuasive essay toward a given position. Specifically, it was predicted that persuasive essays generally lead to the attribution of a corresponding attitude regardless of situational constraints. Unpersuasive essays, in contrast, should lead to correspondent inferences only when there is no sufficient situational explanation for the target's behavior, that is, only when the author was free to choose the position advocated in the essay, but not when it was assigned. Furthermore, because the diagnostic value of assigned essays can be expected to increase as a function of their persua-



siveness, judgmental confidence under assignment conditions was expected to be positively correlated with perceived persuasiveness. Under free-choice conditions, in contrast, perceivers were expected to be highly confident regardless of the essay's persuasiveness. Hence, in this case, judgmental confidence should be unrelated to perceived persuasiveness.

### Method

#### Overview

Participants read an essay on the legalization of marijuana advocating either a pro or contra position. Essays consisted of either strong or weak arguments selected by pretests. Half of the participants were told that the author was free to choose the position advocated in the essay, the remaining half were told that the position was assigned by an experimenter. After reading the essay, participants were asked to estimate the personal attitude of the author toward the legalization of marijuana and to indicate their confidence in this judgment.

#### Participants and Design

A total of 81 psychology undergraduates (61 female, 20 male) participated in partial fulfillment of experiment participation requirements. Participants were randomly assigned to one of the eight experimental conditions of a 2 (position: pro vs. contra)  $\times$  2 (argument quality: strong vs. weak)  $\times$  2 (freedom: choice vs. no choice) factorial design. Experiments were run in small groups of 2–7 participants. Data from 3 participants who suspected that the essays were written by the experimenter were excluded from analyses. This removal did not change the overall pattern of results.

#### Essays

To compile pro and contra essays of high and low persuasiveness, strong and weak arguments in support of and against the legalization of marijuana were selected by pretests. Weak essays were compiled with the four arguments that scored lowest in the ratings of persuasiveness, respectively. Strong essays were compiled of the three arguments with the highest scores. A standard introductory sentence was added to all essays. Moreover, the instruction supposedly given to the writer was indicated at the top of each essay. Essays were approximately equal in length (about 120 words each).

#### Procedure

The experiment was introduced as dealing with "attitudes towards a controversial issue." When participants arrived, they were welcomed and handed a written instruction sheet by the experimenter. Free-choice instructions read as follows:

Last semester we conducted an experiment in which Humboldt-University students from various disciplines were required to write a persuasive essay on the legalization of marijuana. Essays had to have a length of approximately one page, handwritten. Participants were free to write either a pro or a contra essay. Time to write the essay was limited to 15 minutes. Now, we want you to choose one of these essays by lot and to read it carefully. For reasons of readability we transcribed all essays. When you have read your essay we would like to ask you a number of questions. For this purpose, you will receive a short questionnaire after you have read the essay.

Instructions under no-choice conditions were identical, the only exception being that the position of the essay was indicated as being randomly assigned by the experimenter. When participants had read the instructions, the experimenter verbally repeated them to make sure that they were fully understood. Participants were then asked to draw a lot for the essay they

were to receive and were then handed the essay to read. After participants had finished reading, the essays were collected by the experimenter and a booklet was handed to the participants containing questions about (a) the writer's personal attitude toward the legalization of marijuana, (b) their confidence in this judgment, (c) a number of questions about the essay (e.g., persuasiveness, extremity), and (d) a manipulation check on the perceived freedom of the writer. The order of the questions was as indicated above. When participants had finished the questionnaire, they were probed for suspicion, debriefed, and thanked for their participation.

#### Measures

*Dependent measures.* Participants' attributions of the essay writers' attitude toward the legalization of marijuana were measured with a 7-point scale ranging from 1 (*strictly against*) to 7 (*strictly in favor*). Confidence of attitude attributions was assessed with a 5-point scale ranging from 1 (*very unconfident*) to 5 (*very confident*).

*Manipulation checks.* To assure the intended effects of argument quality manipulations, participants were asked to rate argument quality and persuasiveness of the essay on 5-point scales ranging from 1 (*very low*) to 5 (*very high*). Perceived position of the essay was measured with a 7-point scale asking participants to rate the position of the essay (1 = *extremely against*; 7 = *extremely in favor*). Moreover, perceived freedom of choice was assessed with a 7-point scale ranging from 1 (*absolutely no choice*) to 7 (*absolutely free choice*).

### Results

#### Manipulation Checks

Because ratings of argument quality and persuasiveness were highly correlated ( $r = .76, p < .001$ ), these measures were merged into a single index of perceived persuasiveness by calculating mean values (Cronbach's  $\alpha = .86$ ). This index was submitted to a 2 (position)  $\times$  2 (argument quality)  $\times$  2 (freedom) ANOVA, revealing a significant main effect of argument quality,  $F(1, 70) = 9.52, p < .01$ . As expected, weak essays were judged to be less persuasive than strong essays ( $M_{\text{weak}} = 2.46, M_{\text{strong}} = 3.11$ ). No other main or interaction effect reached statistical significance.

To check the perceived freedom of choice in the various conditions, a 2 (position)  $\times$  2 (argument quality)  $\times$  2 (freedom) ANOVA on perceived freedom of choice was conducted, revealing a significant main effect of freedom,  $F(1, 67) = 5407.83, p < .001$ . As expected, authors were judged to have less freedom under assignment conditions than under free-choice conditions ( $M_{\text{no choice}} = 1.19; M_{\text{choice}} = 6.92$ ). No other main or interaction effect reached statistical significance.

Perceived position of the essays was tested with a 2 (position)  $\times$  2 (argument quality)  $\times$  2 (freedom) ANOVA on perceived position. This analysis revealed a significant main effect of position,  $F(1, 70) = 410.39, p < .001$ . As expected, pro essays were perceived as advocating a pro position, whereas contra essays were perceived as advocating a contra position ( $M_{\text{pro}} = 5.60; M_{\text{contra}} = 2.16$ ). Additionally, an unexpected two-way interaction of essay position and argument quality indicated that ratings for strong essays corresponded more to their position than ratings for weak essays ( $M_{\text{pro/strong}} = 5.75; M_{\text{pro/weak}} = 5.45; M_{\text{contra/strong}} = 2.05; M_{\text{contra/weak}} = 2.28$ ),  $F(1, 70) = 16.10, p < .001$ . This interaction was further qualified by a significant three-way interaction,  $F(1, 70) = 5.04, p < .05$ . Whereas under free-choice conditions no differences in position ratings were found as a function of argument quality for pro essays ( $M_{\text{pro/weak/choice}} = 5.90; M_{\text{pro/strong/choice}}$

= 5.80) as well as for contra essays ( $M_{\text{contra/weak/choice}} = 1.67$ ;  $M_{\text{contra/strong/choice}} = 1.80$ ), under assignment conditions weak pro essays were rated as being less pro than strong pro essays ( $M_{\text{pro/weak/no choice}} = 5.00$ ;  $M_{\text{pro/strong/no choice}} = 5.70$ ) and weak contra essays were rated as being less contra than strong contra essays ( $M_{\text{contra/weak/no choice}} = 2.89$ ;  $M_{\text{contra/strong/no choice}} = 2.30$ ). No other main or interaction effect reached statistical significance.

*Attitude Attributions*

To test the impact of argument quality on attitude attributions, a 2 (position)  $\times$  2 (argument quality)  $\times$  2 (freedom) ANOVA on attitude attributions was conducted. This analysis revealed a significant main effect of essay position,  $F(1, 70) = 202.77, p < .001$ , indicating that writers were attributed a pro attitude when participants read a pro essay and a contra attitude when they read a contra essay ( $M_{\text{pro}} = 5.55$ ;  $M_{\text{contra}} = 2.45$ ). This main effect was qualified by a significant two-way interaction of essay position and freedom,  $F(1, 70) = 40.76, p < .001$ , indicating that writers were attributed less extreme pro and contra attitudes when the position of the essay was ostensibly assigned than when authors ostensibly had free choice ( $M_{\text{pro/choice}} = 6.05$ ;  $M_{\text{pro/no choice}} = 5.05$ ;  $M_{\text{contra/choice}} = 1.58$ ;  $M_{\text{contra/no choice}} = 2.80$ ). This interaction was further qualified by a significant three-way interaction of essay position, freedom, and argument quality,  $F(1, 70) = 6.10, p < .05$  (see Figure 1). As expected, when authors ostensibly had free choice, participants drew strong correspondent inferences regardless of argument quality ( $M_{\text{pro/weak/choice}} = 6.10$ ;  $M_{\text{pro/strong/choice}} = 6.00$ ;  $M_{\text{contra/weak/choice}} = 1.44$ ;  $M_{\text{contra/strong/choice}} = 1.70$ ). In contrast, when essay positions were ostensibly assigned, participants drew less correspondent inferences when essays were weak than when they were strong ( $M_{\text{pro/weak/no choice}} = 4.70$ ;  $M_{\text{pro/strong/no choice}} = 5.40$ ;  $M_{\text{contra/weak/no choice}} = 3.89$ ;  $M_{\text{contra/strong/no choice}} = 2.80$ ).

To further specify the obtained three-way interaction, attributions for contra essays were recoded, whilst keeping the initial coding of attributions for pro essays. This recoding revealed a new index interpreted as "correspondent inference" (i.e., attribution in accordance with essay position). This variable was submitted to a 2 (argument quality)  $\times$  2 (freedom) ANOVA, revealing a significant main effect of freedom,  $F(1, 74) = 40.24, p < .001$ . Specifically, attitude attributions corresponded more to the essay position when

the author ostensibly had free choice than when the author had no choice ( $M_{\text{choice}} = 6.23$ ;  $M_{\text{no choice}} = 4.87$ ). This main effect was qualified by a significant two-way interaction of argument quality and freedom,  $F(1, 74) = 5.83, p < .05$ , indicating that under free-choice conditions, attributions corresponded highly to the essay position regardless of argument quality ( $M_{\text{weak/choice}} = 6.32$ ;  $M_{\text{strong/choice}} = 6.15$ ),  $t(37) = -1.07, ns$ . Under no-choice conditions, however, attributions corresponded less to the advocated position when essays were weak than when they were strong ( $M_{\text{weak/no choice}} = 4.42$ ;  $M_{\text{strong/no choice}} = 5.30$ ),  $t(37) = 2.18, p < .05$ .

*Judgmental Confidence*

On the basis of the implicit theory of ability suspected to guide situational adjustment in attitude attribution, the diagnostic value of a constrained essay was expected to be a linear function of its persuasiveness, whereas the diagnostic value of a free-choice essay was expected to be high, regardless of its persuasiveness. Hence, perceived persuasiveness should be positively correlated with judgmental confidence under assignment conditions, but not under free-choice conditions. Results clearly support this assumption. Table 2 shows the correlations between judgmental confidence and perceived persuasiveness for choice and no-choice conditions, respectively. Whereas under free-choice conditions, perceived persuasiveness and judgmental confidence are uncorrelated, the two measures show a significant positive correlation under no-choice conditions, that is, the more persuasive participants perceived an assigned essay, the more confident they were in their attitude attributions. The difference between the two correlations is statistically significant ( $z = 2.33, p < .01$ ).

*Discussion*

Results from Experiment 2 support the assumption that perceivers adjust attitude attributions to situational constraints according to an implicit theory of ability, implying that only authors with a corresponding attitude are able to write a persuasive essay toward a given position. Consistent with this hypothesis, participants drew less correspondent inferences from situationally constrained essays when these essays were unpersuasive than when they were persuasive. In contrast, when authors ostensibly had free choice, participants inferred a corresponding attitude regardless of argument quality. Moreover, judgmental confidence and perceived persuasiveness were positively correlated under no-choice conditions, but were uncorrelated under free-choice conditions.

However, even though these findings are consistent with the present hypothesis, there are still some problems in interpreting the present results as being unambiguous evidence for the assumption that situational adjustment was actually guided by an implicit theory of ability. First of all, the arguments in all of the essays considered different issues, hence confounding the *quality* of arguments with the *content* of arguments (see Petty & Cacioppo, 1986, for a similar argument in research on persuasion). Thus, differing attributions can be due either to variations in perceived persuasiveness or to the different contents of the essays. For instance, participants might suspect that only writers with a pro attitude would use particular pro arguments, whereas other pro arguments might only be used by authors with a contra attitude. Hence, participants could have adjusted their inferences according

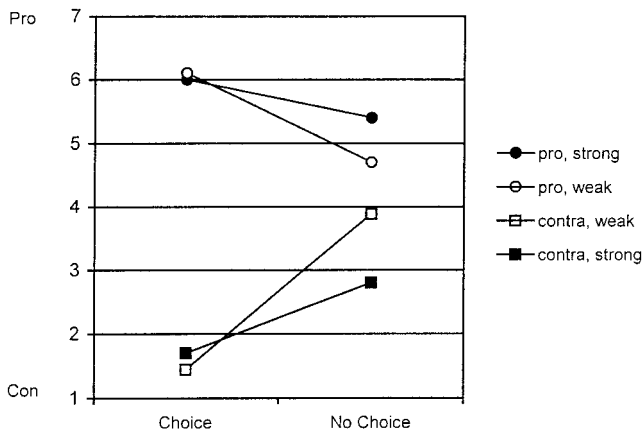


Figure 1. Mean attitude attributions as a function of essay position, freedom of choice, and argument quality, Experiment 2.

Table 2  
*Correlations Between Judgmental Confidence and Perceived Persuasiveness Under Free-Choice and No-Choice Conditions*

Choice condition	Exp. 2 ( <i>N</i> = 78)	Exp. 3 ( <i>N</i> = 79)	Exp. 4 ( <i>N</i> = 91)	Exp. 5 ( <i>N</i> = 86)
Free choice	-.10	.10	.03	.09
No-choice-before, random	.42**	.35*	.42*	.45*
No-choice-after, random	—	—	.34†	—
No-choice-before, counterattitudinal	—	—	—	-.33†

Note. Exp. = Experiment.  
 †  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ .

to an implicit theory of argument content, rather than an implicit theory of ability.

Second, manipulation checks on the perceived position of the essays revealed an unexpected three-way interaction of freedom of choice, argument quality, and essay position, which directly corresponds to the pattern obtained for attitude attributions. In particular, under free-choice conditions, strong and weak essays were rated approximately equal in extremity. Under assignment conditions, however, weak essays were generally perceived as being less extreme than strong essays. Because the perceived extremity of an essay is often interpreted as an indicator for behavioral categorization (e.g., D'Agostino & Fincher-Kiefer, 1992; Fein et al., 1990; Trope & Gaunt, 2000), one might suspect that situational information moderated the impact of argument quality on behavioral categorization, rather than its impact on situational adjustment.

In sum, there are a number of difficulties in interpreting the results of Experiment 2 as unambiguous evidence for the assumption that situational adjustment in attitude attribution is guided by an implicit theory of ability. To solve this interpretational ambiguity, two additional experiments were conducted. Experiment 3 tried to rule out alternative explanations in terms of contingent features of the essays such as content of arguments. Experiment 4 directly tested the assumption that situational information moderates the impact of argument quality on situational adjustment, rather than on behavioral categorization.

### Experiment 3

The main objective of Experiment 3 was to test whether the results of Experiment 2 are due to perceived persuasiveness or to the particular content of the essays. To this end, perceived persuasiveness was manipulated with an ease of retrieval manipulation, rather than by the selection of strong and weak arguments. Ease of retrieval refers to the phenomenon that individuals base their judgments on the experienced ease of retrieving relevant information, rather than on the particular content of the retrieved information (Schwarz et al., 1991). Applied to the present study, it was expected that participants would base their judgments of persuasiveness on the subjective ease of finding counterarguments to the position advocated in the essay. For instance, because generating seven arguments can be expected to be more difficult than generating two arguments, participants should perceive one and the same essay to be more persuasive when they have to generate seven counterarguments to the position advocated in the essay than when they have to generate two counterarguments. Results from

Wänke, Bohner, and Jurkowsch (1997) additionally suggest that this should be true even when participants actually do not (or are not able to) fully comply to the request, but only imagine the ease of argument production. Because the experienced ease of counterargument production can be expected to affect the perceived persuasiveness of an essay regardless of its content, this manipulation has the potential to rule out the alternative explanation that situational adjustment follows an implicit theory of argument content. If situational adjustment actually follows an implicit theory of ability, then manipulating perceived persuasiveness by ease of counterargument production should reveal the same pattern of results as obtained in Experiment 2. If, however, situational adjustment follows an implicit theory of argument content, then manipulating the perceived persuasiveness of one and the same essay should have no effect on participants' attitude attributions.

### Method

#### Overview

Participants read one of two essays concerning the introduction of referendums in Germany advocating either a pro or a contra position.<sup>2</sup> Half of the participants were told that the author was free to choose the position advocated in the essay; the remaining half were told that the position was assigned by an experimenter. After reading the essay, participants were asked to write down either two or seven counterarguments to the position advocated in the essay. Finally, participants had to judge the personal attitude of the author toward the introduction of referendums and to indicate their confidence in their attributions.

#### Participants and Design

A total of 80 students (52 female, 28 male) were recruited from a participants volunteer pool. Participants were randomly assigned to one of the eight experimental conditions of a 2 (position: pro vs. contra)  $\times$  2 (counterargument production: two vs. seven arguments)  $\times$  2 (freedom: choice vs. no choice) factorial design. As an incentive for taking part, participants drew 1 of 80 lottery cards containing 10 winning tickets for a voucher for a compact disc (cash value: 30 DM [approximately \$15 US]). Experiments were run in small groups of 2–9 participants. Data from 1 participant who suspected that essays were written by the experimenter were excluded from analyses. This removal did not change the overall pattern of results.

#### Essays and Measures

Two essays concerning the introduction of referendums were compiled. One advocated a pro position, the other a contra position. Both essays consisted of three arguments and were equal in length (116 words). Measures were identical to those in Experiment 2.

### Results

#### Manipulation Checks

To test the impact of counterargument production on perceived persuasiveness, ratings of persuasiveness and argument quality

<sup>2</sup> There is an ongoing political debate in Germany on whether it is desirable to introduce a legal possibility for referendums about particular political issues. These referendums can be considered as a decision by the majority just as a regular election is run, the only exception being that the voting will be for a particular political decision (e.g., abolition of compulsory military service in Germany) rather than for a political party. Critics and proponents of referendums can be found across all political parties from left-wing to right-wing.

were merged into a single index of perceived persuasiveness by calculating mean values (Cronbach's  $\alpha = .81$ ). This index was submitted to a 2 (position)  $\times$  2 (counterargument production)  $\times$  2 (freedom) ANOVA, revealing a significant main effect of counterargument production,  $F(1, 71) = 63.97, p < .001$ . As expected, essays were rated higher in persuasiveness when participants had to generate seven counterarguments than when they had to generate two counterarguments ( $M_7 \text{ counterarguments} = 3.97; M_2 \text{ counterarguments} = 2.78$ ). Additionally, an unexpected main effect of freedom of choice indicated that essays were rated lower in persuasiveness when essays ostensibly were written under free-choice than under assignment conditions ( $M_{\text{choice}} = 3.16; M_{\text{no choice}} = 3.62$ ),  $F(1, 71) = 8.68, p < .01$ . No other main or interaction effect reached statistical significance.

Manipulation checks for perceived freedom of choice and essay position were conducted according to those for Experiment 2. For perceived freedom, the ANOVA revealed the expected main effect of freedom,  $F(1, 71) = 38.44, p < .001$ , indicating that writers were judged to have less freedom when essay positions were assigned than when writers were free to choose the position advocated in the essay ( $M_{\text{no choice}} = 2.15; M_{\text{choice}} = 5.05$ ). Analyses for the perceived position of the essays revealed a significant main effect of essay position,  $F(1, 71) = 216.20, p < .001$ , indicating that pro essays were perceived as advocating a pro position and contra essays as advocating a contra position ( $M_{\text{contra}} = 2.54; M_{\text{pro}} = 5.57$ ). This main effect was qualified by a significant two-way interaction of essay position and choice,  $F(1, 71) = 7.37, p < .01$ , indicating that essays were perceived as being less extreme when they were ostensibly written under assignment conditions than when they were written under free choice ( $M_{\text{choice/pro}} = 5.85; M_{\text{no choice/pro}} = 5.30; M_{\text{choice/contra}} = 2.25; M_{\text{no choice/contra}} = 2.84$ ). No other main or interaction effect reached statistical significance.

*Attitude Attributions*

To test the impact of perceived persuasiveness (manipulated by ease of counterargument production) on participants' dispositional inferences, attitude attributions were submitted to a 2 (posi-

tion)  $\times$  2 (counterargument production)  $\times$  2 (freedom) ANOVA. This analysis revealed a significant main effect of essay position,  $F(1, 71) = 272.81, p < .001$ , indicating that participants inferred a pro attitude when they read a pro essay and a contra attitude when they read a contra essay ( $M_{\text{pro}} = 5.83; M_{\text{contra}} = 2.31$ ). This main effect was qualified by a significant two-way interaction of essay position and freedom of choice,  $F(1, 71) = 7.93, p < .01$ . Specifically, participants inferred less corresponding attitudes when essays were ostensibly written under assignment than when they were written under free-choice conditions ( $M_{\text{choice/pro}} = 6.20; M_{\text{no choice/pro}} = 5.45; M_{\text{choice/contra}} = 2.10; M_{\text{no choice/contra}} = 2.53$ ). These effects were further qualified by the expected three-way interaction of essay position, counterargument production, and freedom of choice,  $F(1, 71) = 5.50, p < .05$  (see Figure 2). When writers ostensibly had free choice, participants inferred corresponding attitudes regardless of the number of counterarguments they had to generate ( $M_2 \text{ arguments/pro/choice} = 6.30; M_7 \text{ arguments/pro/choice} = 6.10; M_2 \text{ arguments/contra/choice} = 1.90; M_7 \text{ arguments/contra/choice} = 2.30$ ). In contrast, when essay positions were ostensibly assigned, participants inferred less corresponding attitudes when they had to generate two counterarguments than when they had to generate seven arguments ( $M_2 \text{ arguments/pro/no choice} = 5.10; M_7 \text{ arguments/pro/no choice} = 5.80; M_2 \text{ arguments/contra/no choice} = 2.89; M_7 \text{ arguments/contra/no choice} = 2.20$ ). No other main or interaction effect reached statistical significance.

To specify this critical three-way interaction, attributions for contra essays were recoded, whilst keeping the coding for pro essays. This recoding revealed an index of correspondent inference that was submitted to a 2 (freedom)  $\times$  2 (counterargument production) ANOVA. A significant main effect of freedom of choice indicated that participants drew less correspondent inferences when essays were ostensibly written under assignment conditions than when they were written under free-choice conditions ( $M_{\text{no choice}} = 5.46; M_{\text{choice}} = 6.05$ ),  $F(1, 75) = 8.26, p < .01$ . This main effect was qualified by the expected two-way interaction of counterargument production and freedom of choice,  $F(1, 75) = 5.72, p < .05$ , indicating that under free-choice conditions participants drew strong correspondent inferences regardless of the number of coun-

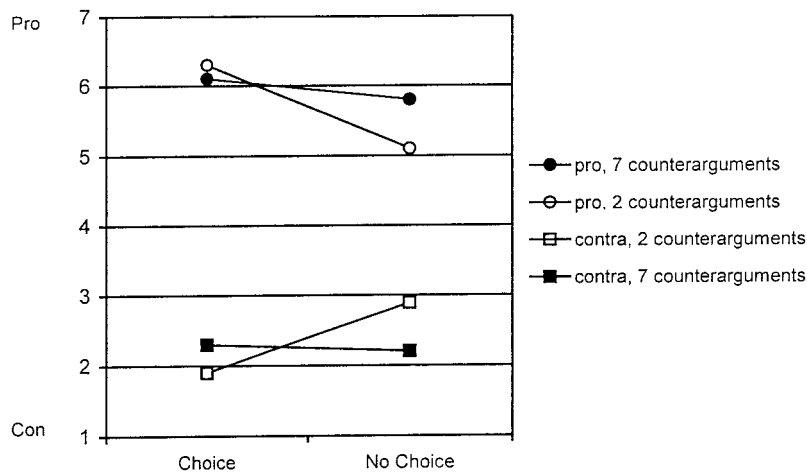


Figure 2. Mean attitude attributions as a function of essay position, freedom of choice, and counterargument production, Experiment 3.



terarguments they had to produce ( $M_7$  counterarguments/choice = 5.90;  $M_2$  counterarguments/choice = 6.20),  $t(38) = -1.34$ , *ns*. Under assignment conditions, however, participants drew less correspondent inferences when they had to generate two counterarguments than when they had to produce seven counterarguments ( $M_7$  counterarguments/no choice = 5.80;  $M_2$  counterarguments/no choice = 5.11),  $t(38) = 1.97$ ,  $p = .06$ .

### *Judgmental Confidence*

Correlations between perceived persuasiveness and judgmental confidence were calculated for choice and no-choice conditions, respectively. Results are shown in Table 2. Replicating results from Experiment 2, perceived persuasiveness was not correlated with judgmental confidence under free-choice conditions, but showed a significant positive correlation under no-choice conditions. In contrast to Experiment 2, however, the difference between the two correlations did not reach the conventional level of statistical significance ( $z = 1.15$ ,  $p = .13$ ).

### *Discussion*

Results from Experiment 3 further corroborate the assumption that situational adjustment in attitude attribution depends on the perceived persuasiveness of the essay. Replicating results from Experiment 2, participants adjusted their inferences less to situational constraints when essays were perceived as highly persuasive than when they were perceived as unpersuasive. Also consistent with the assumption that perceivers assess the diagnostic value of a constrained essay with an implicit theory of ability, judgmental confidence was correlated with perceived persuasiveness under assignment conditions, but not under free-choice conditions.

In contrast to Experiment 2, perceived persuasiveness in Experiment 3 was manipulated by the experienced ease of generating counterarguments to the position advocated in the essay, rather than by selecting strong and weak arguments. This manipulation enables one to rule out alternative explanations in terms of an implicit theory of argument content. If the pattern obtained in Experiment 2 was actually due to the particular content of the essays, then manipulating the perceived persuasiveness of one and the same essay should have no impact on attitude attributions. If, however, situational adjustment actually depends on the essay's persuasiveness, then the perceived persuasiveness of one and the same essay can be expected to have the same effect on attitude attributions as obtained in Experiment 2. Results clearly support the latter assumption.

### *Experiment 4*

Even though results from Experiment 3 rule out alternative explanations in terms of an implicit theory of argument content, it is still unclear whether perceived persuasiveness affects behavioral categorization or situational adjustment. Specifically, manipulation checks on perceived essay extremity in Experiment 2 revealed a pattern of results that directly reflects that obtained for attitude attributions. Because perceived essay extremity is often interpreted as an indicator for behavioral categorization (e.g., D'Agostino & Fincher-Kiefer, 1992; Fein et al., 1990; Trope & Gaunt, 2000), this result suggests that situational information moderated the impact of argument quality on behavioral categorization rather than on

situational adjustment. Hence, the main goal of Experiment 4 was to rule out this alternative explanation.

A possible interpretation for the obtained effects of argument quality and situational information on perceived essay extremity is that perceivers informed about situational constraints generally expect weaker essays than perceivers assuming free choice (Lopes, 1972; A. G. Miller & Rorer, 1982; Reeder et al., 1989). Drawing on Trope's (1986) two-stage model, one can further assume that ambiguous essays lead to an assimilation to these expectations, whereas unambiguous essays should not be susceptible to assimilative categorization. Hence, unpersuasive essays could be ambiguous, thus leading to an assimilation to perceivers' expectations. Strong essays, in contrast, might be unambiguous, thus inhibiting assimilation effects on behavioral categorization (or producing contrast effects). In other words, whereas ambiguous weak essays might be perceived as weak under assignment conditions but as strong under free-choice conditions, unambiguous strong essays might be perceived as strong regardless of choice manipulations.

The main objective of Experiment 4 was to test this alternative explanation against the proposed interpretation in terms of an impact of implicational schemata in situational adjustment. Specifically, it was tested whether argument quality affects attitude attributions even when information about situational constraints is given *after* reading the essay rather than *before* reading. According to Trope's (1986) model of dispositional inference, the obtained differences as a function of argument quality should disappear when situational constraint information is given after rather than before reading the essay, if these differences are due to an assimilative categorization of weak essays (e.g., Trope et al., 1991). In contrast, if the obtained effects are due to differential situational adjustment, presenting situational constraint information after reading the essay should reveal the same pattern of results as obtained when it is presented before.

### *Method*

#### *Overview*

Participants read an essay arguing against the legalization of marijuana. Essays consisted of either strong or weak arguments. Before reading the essay, participants were told either that the author was free to choose the position advocated in the essay or that the position was assigned by an experimenter. From those told that the position was freely chosen, half received additional information after reading the essay that the initial information was wrong, that is, that the position in the essay was actually assigned by an experimenter. Finally, all participants were asked to judge the personal attitude of the author toward the legalization of marijuana and to indicate their confidence in this judgment.

#### *Participants and Design*

Ninety-one students (60 female, 31 male) were recruited from a participants volunteer pool. Participants were randomly assigned to one of the six experimental conditions of a 2 (argument quality: strong vs. weak)  $\times$  3 (freedom: choice vs. no-choice-before vs. no-choice-after) factorial design. As an incentive for taking part, each participant drew 1 of 100 lottery cards containing 30 winning tickets for a cinema voucher (cash value: 14 DM [approximately \$7 US]). Experiments were run in small groups of 2-5 participants.

*Essays and Measures*

Strong and weak essays were identical to those used in Experiment 2. However, to reduce the complexity of the experimental design, only contra essays were included in this and all of the following studies. Dependent measures and manipulation checks were identical to those in Experiment 2.

*Results*

*Manipulation Checks*

Ratings of argument quality and persuasiveness were merged into a single index of perceived persuasiveness by calculating mean values (Cronbach's  $\alpha = .85$ ). This index was submitted to a 2 (argument quality)  $\times$  3 (freedom) ANOVA, revealing a significant main effect of argument quality,  $F(1, 84) = 5.43, p < .05$ . As expected, weak essays were rated lower in perceived persuasiveness than strong essays ( $M_{\text{weak}} = 2.70; M_{\text{strong}} = 3.22$ ). No other main or interaction effect reached statistical significance.

For perceived freedom of choice, the same ANOVA revealed a significant main effect of freedom of choice,  $F(2, 85) = 16.94, p < .001$ . Under no-choice-before as well as under no-choice-after conditions, writers were rated lower in perceived freedom than under free-choice conditions ( $M_{\text{choice}} = 5.37; M_{\text{no-choice-before}} = 3.07; M_{\text{no-choice-after}} = 2.61$ ). A Tukey's post hoc test further indicated that both no-choice conditions significantly differed from free-choice conditions ( $ps < .001$ ), simultaneously revealing no significant difference between no-choice-before and no-choice-after conditions ( $p > .63$ ). Analyses on perceived essay position revealed no significant effect of the present manipulations (all  $Fs < 1$ ).

*Attitude Attributions*

A 2 (argument quality)  $\times$  3 (freedom) ANOVA on attitude attributions revealed a significant main effect of freedom of choice,  $F(2, 85) = 3.97, p < .05$ , indicating that the personal attitude of the writer was judged as being more contra when the author had free choice than when the author had no choice ( $M_{\text{choice}} = 2.33; M_{\text{no-choice-before}} = 3.17; M_{\text{no-choice-after}} = 3.23$ ). A Tukey's post hoc test specified this effect by revealing significant

differences between free-choice and both no-choice conditions ( $ps < .05$ ), but not between no-choice-before and no-choice-after conditions ( $p > .98$ ). A significant main effect of argument quality further indicated that the author was ascribed a stronger contra attitude when the essay was strong than when the essay was weak,  $F(1, 85) = 7.20, p < .01$  ( $M_{\text{strong}} = 2.51; M_{\text{weak}} = 3.27$ ). These effects were qualified by a significant interaction of argument quality and freedom of choice,  $F(2, 85) = 3.39, p < .05$ . Consistent with the assumption that argument quality affects situational adjustment rather than behavioral categorization, attitude attributions differed as a function of argument quality under no-choice-before as well as under no-choice-after conditions, but not under free-choice conditions (Figure 3). Specifically, under free-choice conditions, writers were ascribed a strong contra attitude regardless of argument quality. Under no-choice-before as well as under no-choice-after conditions, however, the writer's personal attitude was judged to be more contra when the essay was strong than when it was weak ( $M_{\text{choice/weak}} = 2.20; M_{\text{choice/strong}} = 2.47; M_{\text{no-choice-before/weak}} = 3.73; M_{\text{no-choice-before/strong}} = 2.60; M_{\text{no-choice-after/weak}} = 3.78; M_{\text{no-choice-after/strong}} = 2.46$ ). Post hoc comparisons further specified this interaction by revealing a significant effect of argument quality for no-choice-before conditions,  $t(28) = 2.88, p < .01$ , as well as for no-choice-after conditions,  $t(29) = 2.75, p < .01$ , but not for free-choice conditions,  $t(28) = -0.51, ns$ .

*Judgmental Confidence*

Correlations between judgmental confidence and perceived persuasiveness are shown in Table 2. Replicating results from Experiments 2 and 3, judgmental confidence and perceived persuasiveness were positively correlated under no-choice-before and no-choice-after conditions, but not under free-choice conditions. The difference between correlations was marginally significant for free-choice and no-choice-before conditions ( $z = 1.54, p = .06$ ), but failed to reach the conventional level of statistical significance for free-choice and no-choice-after conditions ( $z = 1.19, p = .12$ ). The difference between no-choice-before and no-choice-after conditions was far from statistical significance ( $z = 0.37, p = .46$ ).

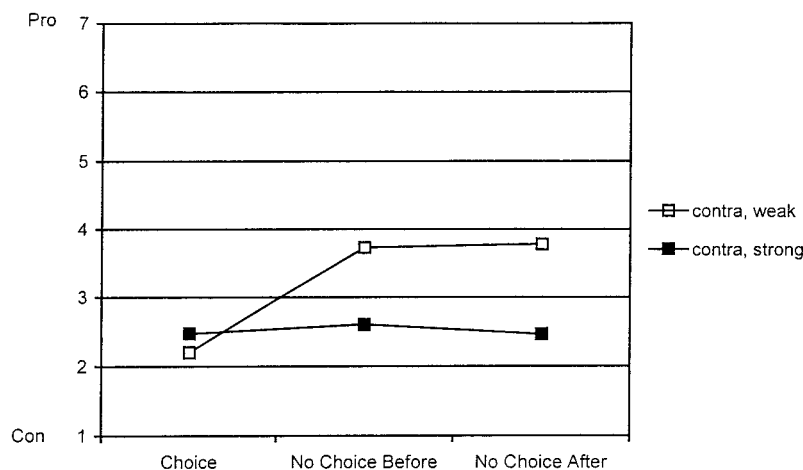


Figure 3. Mean attitude attributions for contra essays as a function of freedom of choice, order of assignment information, and argument quality, Experiment 4.

### Discussion

Results from Experiment 4 support the assumption that argument quality affects the process of situational adjustment, as suggested by an implicational schemata account, rather than behavioral categorization, as could be suspected by the manipulation checks in Experiment 2. If the impact of argument quality was actually due to assimilation effects on behavioral categorization, these effects should disappear when information about situational constraints is presented after rather than before reading the essays (Trope et al., 1991). In contrast, if the effects of argument quality are due to differences in situational adjustment, then attitude attributions should vary as a function of argument quality even when information about situational constraints is given after reading the essays. Results from Experiment 4 clearly support the latter assumption.

### Experiment 5

Even though Experiment 4 rules out alternative explanations in terms of *behavioral* categorization, the present results can still be interpreted in terms of *situational* categorization (e.g., Trope & Cohen, 1989). Specifically, the implicit theory of ability suspected to guide situational adjustment could also be used to disambiguate ambiguous situational cues. For instance, in all of the present experiments, situational constraints were operationalized in terms of a random assignment to write either a pro or a contra essay. Hence, participants might spontaneously wonder whether the author was assigned to write a counterattitudinal essay or an essay consistent with his or her personal opinions. Believing that only authors with a corresponding attitude are able to write a persuasive essay toward a given position, weak essays might lead perceivers to the assumption that the author was assigned to write a counterattitudinal essay. Strong essays, in contrast, might lead perceivers to the assumption that the author was assigned to write an essay consistent with his or her personal beliefs. Because situational adjustment, in turn, can be expected to be directly related to the subjective construal of the situation, the obtained differences as a function of argument quality could also be due to the use of implicational schemata in situational categorization rather than in situational adjustment.

But what exactly is the difference between these two interpretations? Even though they may appear to be identical at first glance, they actually are not. This becomes evident if one considers that adequate situational categorization is a necessary, but insufficient precondition for adequate situational adjustment (Trope, 1986). Specifically, perceivers might correctly disambiguate situational cues but fail to adjust their dispositional inferences to situational constraints when they lack the motivation or cognitive capacity for an effortful processing of the relevant information (e.g., Gilbert et al., 1988; Trope & Alfieri, 1997). Moreover, if implicational schemata affect situational adjustment, they should influence dispositional inferences from constrained essays regardless of the ambiguity of situational cues. In contrast, if implicational schemata are used for situational disambiguation, they should affect dispositional inferences from constrained essays only when situational cues are ambiguous, but not when they are unambiguous (e.g., Trope & Cohen, 1989).

The main objective of Experiment 5 was to test these two alternative explanations. Specifically, Experiment 5 investigated

whether argument quality affects attitude attributions only when situational cues are ambiguous, or also when situational cues are unambiguous. To manipulate the ambiguity of situational cues, participants were told either that the position advocated in the essay was randomly assigned by drawing lots, or that authors were explicitly instructed to write a counterattitudinal essay (Croxtton & Morrow, 1984). Whereas the former has to be interpreted as ambiguous, the latter can be seen as being clearly unambiguous. Hence, if argument quality affects situational disambiguation, attitude attributions should vary as a function of argument quality only when essay positions are indicated to be randomly assigned (i.e., when situational cues are ambiguous), but not when authors were ostensibly instructed to write a counterattitudinal essay (i.e., when situational cues are unambiguous). In contrast, if argument quality affects situational adjustment, argument quality should reveal a significant effect of argument quality under both of these no-choice conditions. More precisely, it was expected that weak essays ostensibly written under counterattitudinal instructions are consistent with perceivers' prior assumption of an attitude contrary to the position in the essay. Hence, weak essays should lead perceivers to infer an attitude that is directly opposite to the position advocated in the essay. Strong essays, in contrast, were expected to be inconsistent with perceivers' prior assumption of an attitude contrary to the position in the essay. Hence, strong essays ostensibly written under counterattitudinal conditions were predicted to challenge either perceivers' implicit theory of ability, or their assumption that the writer actually complied with the experimenter's request. Accordingly, strong essays ostensibly written under counterattitudinal conditions should lead to less extreme counterattitudinal attributions than weak essays. Moreover, because of the inconsistency of strong essays with perceivers' prior assumptions implied by counterattitudinal instructions and trait-behavior expectations, judgmental confidence was expected to be lower for strong as compared with weak essays. That is, judgmental confidence should exhibit a positive correlation to perceived persuasiveness under random assignment, but a negative correlation under counterattitudinal instructions.

### Method

#### Overview

Participants read an essay arguing against the legalization of marijuana. Essays consisted either of strong or weak arguments. Participants were told either (a) that authors were free to choose the position advocated in the essay, (b) that the position was randomly assigned by drawing lots, or (c) that writers were explicitly instructed to write a counterattitudinal essay. After reading the essay, all participants were asked to estimate the personal attitude of the author toward the legalization of marijuana and to indicate their confidence in this judgment.

#### Participants and Design

A total of 90 students (64 female, 26 male) were recruited for a study on "attitudes towards a controversial issue." Students of psychology ( $n = 51$ ) received credit for experiment participation requirements, nonpsychology students were paid 10 DM (approximately \$5 US). Participants were randomly assigned to one of the six experimental conditions of a 2 (argument quality: strong vs. weak)  $\times$  3 (freedom: choice vs. random assignment vs. counterattitudinal) factorial design. Experiments were run in small groups of 2–5 participants. Data from 4 participants were excluded from analyses. Three participants questioned the authenticity of the essays,

and 1 participant indicated knowing Jones and Harris's (1967) attitude attribution experiments. This removal did not change the overall pattern of results.

*Essays and Measures*

Strong and weak essays arguing against the legalization of marijuana were identical to Experiment 2. Dependent measures and manipulation checks were also identical to those in Experiment 2. To assess the perceived ambiguity of choice manipulations, all participants were asked to indicate the percentage of individuals they believe would write a counterattitudinal essay under the conditions described in the instruction.

*Results*

*Manipulation Checks*

Ratings of persuasiveness and argument quality were merged into a single index of perceived persuasiveness by calculating mean values (Cronbach's  $\alpha = .88$ ). This index was submitted to a 2 (argument quality)  $\times$  3 (freedom) ANOVA, revealing a significant main effect of argument quality,  $F(1, 80) = 12.28, p < .01$ . As expected, strong essays were rated higher in perceived persuasiveness than weak essays ( $M_{strong} = 3.10; M_{weak} = 2.29$ ). No other main or interaction effect reached statistical significance.

The same ANOVA on perceived freedom of choice revealed a significant main effect of freedom of choice,  $F(2, 80) = 150.66, p < .001$ , indicating that perceived freedom was lower under the two assignment conditions than under free-choice conditions ( $M_{choice} = 6.26; M_{random} = 1.86; M_{counterattitudinal} = 1.77$ ). A Tukey's post hoc test specified this main effect by revealing significant differences between free-choice and random assignment as well as between free-choice and counterattitudinal conditions ( $ps < .001$ ), but not between random assignment and counterattitudinal conditions ( $p > .94$ ). No other main or interaction effect reached statistical significance.

To check the intended effects of the ambiguity manipulations, the indicated percentages of authors believed to write a counterattitudinal essay under the conditions described in the instruction were submitted to a 2 (argument quality)  $\times$  3 (freedom) ANOVA. This analysis revealed a significant main effect of choice manipulations,

$F(2, 79) = 74.97, p < .001$ , indicating a relatively low percentage under free-choice conditions ( $M_{choice} = 27.78; SD = 18.05$ ), a percentage exactly fitting chance probability under random assignment ( $M_{random} = 50.00; SD = 13.09$ ), and a relatively high percentage under counterattitudinal conditions ( $M_{counterattitudinal} = 75.52; SD = 11.83$ ). A Tukey's post hoc test specified this main effect by revealing significant differences between all of the three conditions (all  $ps < .001$ ). No other main or interaction effect reached statistical significance.

*Attitude Attributions*

Attitude attributions were submitted to a 2 (argument quality)  $\times$  3 (freedom) ANOVA. This analysis revealed a significant main effect of argument quality,  $F(1, 80) = 9.42, p < .01$ , indicating that participants inferred less extreme contra attitudes when the essay was weak than when it was strong ( $M_{strong} = 3.00; M_{weak} = 3.74$ ). Furthermore, a significant main effect of freedom of choice indicated that participants inferred a strong contra attitude under free-choice conditions ( $M_{choice} = 1.78$ ), a moderate contra attitude under random assignment conditions ( $M_{random} = 3.10$ ), and a moderate pro attitude under counterattitudinal conditions ( $M_{counterattitudinal} = 5.07$ ),  $F(2, 80) = 61.35, p < .001$ . A Tukey's post hoc test specified this main effect by revealing significant differences between any of the three conditions (all  $ps < .001$ ). These main effects were qualified by a significant two-way interaction,  $F(2, 80) = 3.30, p < .05$  (see Figure 4). Whereas participants under free-choice conditions inferred a strong contra attitude regardless of argument quality ( $M_{strong/choice} = 1.85; M_{weak/choice} = 1.71$ ), participants under random assignment conditions inferred a less extreme contra attitude when the essay was weak than when it was strong ( $M_{strong/random} = 2.60; M_{weak/random} = 3.64$ ). Of most interest, under counterattitudinal conditions, participants inferred a moderate pro attitude when the essay was strong but a strong pro attitude when the essay was weak ( $M_{strong/counterattitudinal} = 4.40; M_{weak/counterattitudinal} = 5.73$ ). Post hoc comparisons specified these effects by revealing a significant effect of argument quality under random assignment conditions,  $t(27) = 2.28, p < .05$ , as well as under counterattitudinal assign-

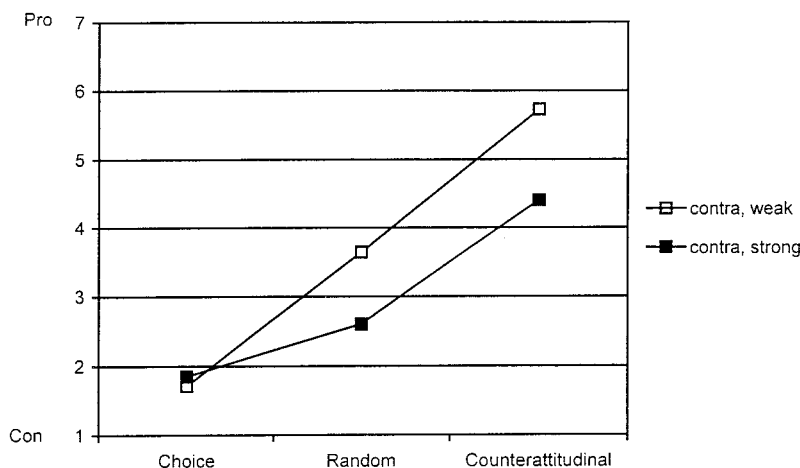


Figure 4. Mean attitude attributions for contra essays as a function of freedom of choice, kind of assignment information, and argument quality, Experiment 5.



ment conditions,  $t(28) = 2.77, p < .05$ , but not under free-choice conditions,  $t(25) = -0.48, ns$ .

### *Judgmental Confidence*

To specify the relation between perceived persuasiveness and judgmental confidence under the different choice conditions, correlations between perceived persuasiveness and judgmental confidence were calculated for free-choice, random assignment, and counterattitudinal conditions, respectively. Results are shown in Table 2. Replicating previous results of Experiments 2–4, judgmental confidence was not correlated with perceived persuasiveness under free-choice conditions, but revealed a positive correlation under random assignment conditions. Of most interest, however, the two measures revealed a marginally significant negative correlation under counterattitudinal conditions. The difference between correlations was marginally significant for random assignment and free-choice conditions ( $z = 1.38, p = .09$ ), as well as for counterattitudinal and free-choice conditions ( $z = 1.53, p = .06$ ), and highly significant for random assignment and counterattitudinal conditions ( $z = 2.98, p < .01$ ).

### *Discussion*

Results from Experiment 5 confirm the assumption that the implicit theory of ability suspected to guide attitude inferences from constrained essays affects situational adjustment rather than situational disambiguation. Specifically, argument quality affected attitude attributions even when participants believed that authors were ostensibly instructed to write a counterattitudinal essay, that is, when situational cues were clearly unambiguous. Because context effects of behavioral cues on situational categorization should be limited to conditions when situational cues are ambiguous (Trope & Cohen, 1989), these results are inconsistent with the alternative explanation that schematic assumptions about trait-behavior relations were used to disambiguate the situation. In contrast, they further corroborate Reeder's (1993) assumption that implicational schemata guide the inferential process of situational adjustment, regardless of the ambiguity of situational cues.

Another noteworthy result of Experiment 5 is that under counterattitudinal conditions judgmental confidence did not reveal a positive correlation with perceived persuasiveness, as was obtained in the previous experiments. In contrast, the two measures showed a marginally significant negative correlation, that is, the less persuasive essays were perceived, the more confident participants were in their attitude attributions. This result also supports the assumption that perceivers adjust their attitude attributions according to an implicit theory of ability. Specifically, participants under counterattitudinal conditions can be expected to hold strong prior beliefs about the true attitude of the author, that is, they may assume that the author actually favors the legalization of marijuana if he or she writes an essay against it. Because perceivers' schematic assumptions imply that weak essays have only a low diagnostic value with respect to the true attitude of the author, a weak contra essay is clearly consistent with this prior assumption. A strong contra essay, however, has a high diagnostic value for inferring a corresponding contra attitude, which obviously contradicts participants' prior assumption of a pro attitude. Hence, a strong essay ostensibly written under counterattitudinal conditions should challenge either participants' assumption that the author

actually complied with the request to write a counterattitudinal essay, or their schematic assumption that only authors with a corresponding attitude are able to write a highly persuasive essay toward a given position. Because both of these violations can be expected to reduce perceivers' confidence, judgmental confidence under counterattitudinal conditions should decrease rather than increase as a function of the perceived persuasiveness of the essay, as was obtained in the present experiment.

### *Experiment 6*

Experiment 6 sought to determine if the impact of essay persuasiveness depends on perceivers' cognitive capacity. Drawing on previous findings by Reeder (1997), one could argue that the application of implicational schemata is a cognitively effortful process. Hence, essay persuasiveness might affect attitude attributions only when participants have sufficient cognitive resources, but not when their cognitive capacity is depleted. This assumption was tested in Experiment 6.

### *Method*

#### *Overview*

Participants read an essay arguing against the legalization of marijuana. Essays consisted either of strong or weak arguments. Participants were told either that authors were free to choose the position advocated in the essay, or that the position was randomly assigned by drawing lots. After reading the essay, all participants were asked to estimate the personal attitude of the author toward the legalization of marijuana, with half of the participants being required to give their attitude judgment within a given time limit of 10 s. The remaining half had no time constraints for their judgment.

#### *Participants and Design*

A total of 81 students (53 female, 28 male) were recruited for a battery of three experiments, with the present study being the third one. The first study required the memorization of pictures in a dual task paradigm. The second study required the categorization of affective words in a sequential priming procedure. Participants were paid 6 Euro (approximately \$6 US) for their participation in this battery that lasted approximately 1 hr. Participants were randomly assigned to one of the eight experimental conditions of a 2 (argument quality: strong vs. weak)  $\times$  2 (freedom: choice vs. no choice)  $\times$  2 (time constraints: time pressure vs. control) factorial design.

#### *Essays and Measures*

Strong and weak essays arguing against the legalization of marijuana were identical to those in Experiment 2. Measures of attitude attribution, persuasiveness, argument quality, and freedom of choice were also identical to Experiment 2, the only exception being that questions were presented one by one on the screen of a personal computer, rather than in a paper-pencil questionnaire.

#### *Time Pressure*

To manipulate participants' cognitive capacity for the attributional task, half of the participants were required to answer each question within a given time limit of 10 s (e.g., Krull & Erickson, 1995). The time remaining for each question was indicated with small digits at the bottom of the screen. If participants did not answer the question within 10 s, the request "PLEASE TRY TO RESPOND FASTER!" appeared for 1,000 ms on the screen, which was followed by the next question after a delay of 1,000 ms

of blank screen. The other half of the participants served as a control group, having no time constraints. These participants were asked to take as much time as they needed to answer the questions. The time participants actually took for their attitude judgments was recorded by the computer.

## Results

### Manipulation Checks

Ratings of persuasiveness and argument quality were merged into a single index of perceived persuasiveness by calculating mean values (Cronbach's  $\alpha = .85$ ). This index was submitted to a 2 (argument quality)  $\times$  2 (freedom)  $\times$  2 (time constraints) ANOVA. This analysis revealed the expected main effect of argument quality,  $F(1, 73) = 4.61, p < .05$ , indicating that strong essays were rated higher in persuasiveness than weak essays ( $M_{\text{strong}} = 3.20; M_{\text{weak}} = 2.74$ ). No other main or interaction effect reached statistical significance.

The same ANOVA on perceived freedom of choice revealed a significant main effect of freedom of choice,  $F(2, 73) = 683.10, p < .001$ , indicating that perceived freedom was rated lower under assignment conditions than under free-choice conditions ( $M_{\text{choice}} = 6.43; M_{\text{no choice}} = 1.65$ ). No other main or interaction effect reached statistical significance.

### Attitude Attributions

Attitude attributions were submitted to a 2 (argument quality)  $\times$  2 (freedom)  $\times$  2 (time constraints) ANOVA. This analysis revealed a significant main effect of freedom of choice,  $F(1, 73) = 36.98, p < .001$ , indicating that participants inferred less extreme contra attitudes when the essay ostensibly was written under assignment conditions than when it was written under free choice ( $M_{\text{choice}} = 1.56; M_{\text{no choice}} = 2.85$ ). This main effect was qualified by a significant three-way interaction of argument quality, freedom of choice, and time constraints,  $F(2, 73) = 6.94, p < .05$  (Figure 5). To specify this interaction, separate analyses for the two time constraint conditions were conducted.

For control conditions, a 2 (argument quality)  $\times$  2 (freedom) ANOVA revealed a significant main effect of freedom of choice,  $F(1, 37) = 23.72, p < .001$ , indicating that authors were attributed a more extreme contra attitude when they ostensibly had free choice than when they had no choice ( $M_{\text{control/choice}} = 1.52; M_{\text{control/no choice}} = 3.05$ ). Moreover, a significant main effect of argument quality indicated that authors were attributed a less extreme contra attitude when essays were weak than when they were strong ( $M_{\text{control/weak}} = 2.65; M_{\text{control/strong}} = 1.90$ ),  $F(1, 37) = 5.41, p < .05$ . These main effects were qualified by a significant two-way interaction between argument quality and freedom of choice,  $F(1, 37) = 9.48, p < .01$ . Whereas under assignment conditions perceivers attributed a less extreme contra attitude to the author when the essay was weak than when it was strong ( $M_{\text{control/no choice/weak}} = 3.90; M_{\text{control/no choice/strong}} = 2.20$ ), argument quality had no effect under free-choice conditions ( $M_{\text{control/choice/weak}} = 1.40; M_{\text{control/choice/strong}} = 1.64$ ).

For conditions in which participants had to give their judgments under time pressure, the same ANOVA revealed a significant main effect of freedom of choice,  $F(1, 37) = 13.64, p < .01$ , indicating that authors were attributed a less extreme contra attitude when they ostensibly had free choice than when they had no choice ( $M_{\text{time pressure/choice}} = 1.60; M_{\text{time pressure/no choice}} = 2.65$ ). Of most

importance, argument quality revealed neither a significant main nor a significant interaction effect under time pressure (all  $F$ s  $< 1$ ).

### Judgment Latencies

All participants of the time pressure conditions managed to give their judgments within the given time limit of 10 s. To investigate the cognitive resources required by the attributional task, judgment latencies for attitude attributions were first log-transformed and then submitted to a 2 (argument quality)  $\times$  2 (freedom)  $\times$  2 (time constraints) ANOVA.<sup>3</sup> This analysis revealed the expected main effect of time constraint,  $F(1, 73) = 15.84, p < .001$ , indicating that participants were faster in judging the author's attitude when they were under time pressure than when they had no time limitation ( $M_{\text{time pressure}} = 6,286$  ms;  $M_{\text{control}} = 9,884$  ms). Moreover, a main effect of argument quality indicated that participants were faster in judging the author's attitude when the essay was strong than when it was weak ( $M_{\text{strong}} = 6,464$  ms;  $M_{\text{weak}} = 9,792$  ms),  $F(1, 73) = 10.36, p < .01$ . These main effects were qualified by a significant two-way interaction of time constraint and freedom of choice,  $F(1, 73) = 11.21, p < .001$ , indicating that participants with unlimited time were faster in inferring attitudes from free-choice essays than from no-choice essays ( $M_{\text{control/choice}} = 7,050$  ms;  $M_{\text{control/no choice}} = 12,860$  ms). Participants under time pressure, in contrast, were equally fast regardless of freedom of choice ( $M_{\text{time pressure/choice}} = 6,680$  ms;  $M_{\text{time pressure/no choice}} = 5,891$  ms). Even though the three-way interaction between argument quality, freedom of choice, and time constraint did not reach the conventional level of statistical significance,  $F(1, 73) = 1.71, p = .19$ , a comparison of judgment latencies across the different experimental conditions indicates that the obtained effects may be best explained by a particularly high judgment latency for weak no-choice essays when the time to respond was not limited (see Table 3). This interpretation is confirmed by a significant difference between this cell and any of the other conditions (all  $p$ s  $< .05$ ).

### Discussion

Results from Experiment 6 corroborate the assumption that the application of implicational schemata in situational adjustment is a resource-dependent process (e.g., Reeder, 1997). In the present experiment, argument quality had an impact on dispositional inferences from constrained essays only when participants had sufficient time for their judgment, but not when time for the judgment was limited. Judgment latency data further indicate that it is particularly the inference from weak essays written under assignment conditions that is time consuming. From the perspective of an implicational schemata account (Reeder, 1993; Reeder & Brewer, 1979), these results point to the fact that weak no-choice essays have a particularly low diagnostic value for inferring a corresponding attitude, and thus may require a deeper consideration of the available information. Strong no-choice essays as well as any kind of free-choice essays, in contrast, have a high diagnostic value for inferring a corresponding attitude, and thus do not require a deeper consideration of other information. This interpretation is also consistent with previous findings by Reeder (1997) who found that

<sup>3</sup> Even though analyses were conducted with log-transformed latencies, means are generally reported in nontransformed milliseconds.

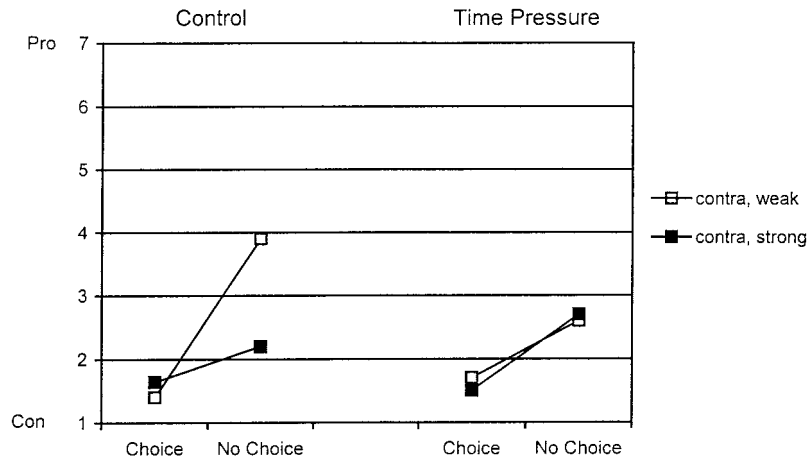


Figure 5. Mean attitude attributions for contra essays as a function of freedom of choice, argument quality, and time constraints, Experiment 6.

inferences from low performances in the presence of inhibiting situational factors are associated with higher judgment latencies than inferences from any kind of other performance-situation combinations.

### General Discussion

The main objective of the present studies was to test the assumption that situational adjustment in attitude attribution (Jones & Harris, 1967; see Jones, 1990, for a review) is guided by perceivers' schematic assumptions about trait-behavior relations (i.e., implicational schemata). Specifically, perceivers were hypothesized to adjust their inferences to situational constraints according to an implicit theory of ability, implying that only authors with a corresponding attitude are able to write a persuasive essay toward a given position. In other words, strong essays were assumed to have a high diagnostic value for inferring a corresponding attitude, whereas weak essays only have a low diagnostic value. Hence, when essays are highly persuasive, perceivers can be expected to draw strong correspondent dispositional inferences regardless of situational constraints. In contrast, when essays are unpersuasive, perceivers should draw correspondent inferences only under free-choice conditions, but not under assignment conditions. Moreover, because of the differing diagnostic value of strong and weak essays, judgmental confidence under assignment

conditions was expected to increase as a function of the perceived persuasiveness of the essay. In contrast, under free-choice conditions perceivers should be highly confident in their judgments regardless of the persuasiveness of the essay.

These assumptions were generally confirmed in a total of six experiments. Experiment 1 demonstrated that perceivers expect assigned essays to be less persuasive when the author was assigned to write a counterattitudinal essay, than when he or she was assigned to write an essay consistent with his or her personal attitude. Of most importance, this effect was mediated by participants' attributions of the ability to write a highly persuasive essay. Results from Experiments 2 and 3 demonstrate that these ability assumptions actually affect situational adjustment in the attitude attribution paradigm. More specifically, participants drew strong correspondent inferences regardless of situational constraints when the essays were highly persuasive. In contrast, when essays were perceived as unpersuasive, perceivers drew strong correspondent inferences only under free-choice conditions, but not under assignment conditions. These results were replicated in two experiments manipulating perceived persuasiveness either by selecting strong and weak arguments through pretests (Experiment 2) or by the experienced ease of counterargument production (Experiment 3). Experiment 4 ruled out alternative explanations in terms of assimilative behavioral categorization by replicating the obtained effects of argument quality even when situational constraint information was presented after rather than before reading the essay. Experiment 5 ruled out alternative explanations in terms of situational disambiguation by demonstrating an impact of argument quality even when situational constraint information was unambiguous. Finally, Experiment 6 demonstrated that the application of implicational schemata is a resource-dependent process, such that schematic assumptions affect situational adjustment only when perceivers have sufficient time for their judgment, but not when they are under time pressure.

The present results expand on the contribution of previous studies on essay diagnosticity (e.g., Jones et al., 1971; A. G. Miller et al., 1990; A. G. Miller & Rorer, 1982; Reeder et al., 1989; Schneider & Miller, 1975), by offering clear evidence that perceived persuasiveness affects the process of situational adjustment

Table 3  
Mean Judgment Latencies for Attitude Attributions in Milliseconds as a Function of Freedom of Choice, Argument Quality, and Time Constraints, Experiment 6

Argument quality	Control		Time pressure	
	Free choice	No choice	Free choice	No choice
Weak				
M	7,613	17,999	7,170	6,384
SD	1,741	20,217	1,513	2,211
Strong				
M	6,538	7,721	6,189	5,398
SD	1,563	2,007	1,128	1,458

rather than the process of behavioral categorization. In contrast to the present experiments, previous studies either (a) did not include a control condition of free-choice instructions (e.g., Schneider & Miller, 1975), or (b) found effects of perceived essay extremity under both free-choice and assignment conditions (e.g., A. G. Miller et al., 1990), or (c) obtained context effects of situational information on perceived essay extremity (e.g., Jones et al., 1971). Moreover, the present studies clearly indicate that perceived persuasiveness affects the process of situational adjustment. Essay extremity, in contrast, seems to be more likely to affect the process of behavioral categorization. Consistent with this assumption, a meta-analytic multiple regression analysis across Experiments 2–6 ( $N = 322$ ) revealed that correspondent inferences under assignment conditions are a function of both perceived essay extremity ( $\beta = .24, p < .01$ ) and perceived persuasiveness ( $\beta = .39, p < .001$ ).<sup>4</sup> Under free-choice conditions, in contrast, correspondent inferences varied only as a function of perceived essay extremity ( $\beta = .57, p < .001$ ), but not as a function of perceived persuasiveness ( $\beta = -.06, ns$ ).

#### *A Fifth Cause?*

According to Gilbert and Malone (1995), the correspondence bias can be due to a total of four different causes: (a) lack of awareness of situational constraints, (b) unrealistic expectations of how situational factors influence behavior, (c) inflated categorization of the observed behavior due to assimilation effects, and (d) incomplete correction due to motivational or capacity constraints. How does the diagnostic value of the observed behavior relate to these causes? At first glance, it may appear that the unrealistic expectations account may fully imply the proposed application of implicational schemata. However, there is a basic difference between the two causes. Whereas unrealistic expectations imply *empirical* assumptions about the impact of situational factors on behavior, implicational schemata refer to a *definitional* aspect of a given trait. More precisely, implicational schemata not only include expectations about how situations affect behavior, but also how the *interaction* of traits and situations produce behavior (Reeder, 1993). This important difference can be illustrated by results obtained by Bierbrauer (1979). Bierbrauer presented participants with a reenactment of Milgram's (1963) studies of obedience. After watching this reenactment, participants were asked to rate the teacher as well as an average student of the same gender and age as the teacher in various traits such as dependence, aggression, obedience, irresponsibility, and authoritarianism. Results indicate that the teacher was rated higher in these socially undesirable traits than an average student. Of most interest, and in contrast to Gilbert and Malone's (1995) conceptualization of Bierbrauer's results in terms of unrealistic expectations, even participants' explicit appreciation of the present situational forces did not reduce their tendency to attribute negative dispositions to the teacher (see Johnson, Jemmott, & Pettigrew, 1984; A. G. Miller, Schmidt, Meyer, & Colella, 1984, for similar findings).

Drawing on an implicational schemata account, this conflict between participants' causal assumptions (i.e., the appreciation of situational forces) and their dispositional inferences (i.e., the attribution of negative traits) can be explained by the high diagnostic value of immoral behaviors. According to perceivers' schematic assumptions for moral behaviors (see Skowronski & Carlston, 1989, for a review), immoral behaviors are performed only by

individuals with a corresponding immoral disposition. Moral behaviors, in contrast, are performed by both individuals with a moral disposition and individuals with an immoral disposition. Hence, immoral behaviors—such as delivering dangerous electric shocks to another person—should generally lead to the attribution of a corresponding immoral disposition regardless of the empirical adequacy or inadequacy of perceivers' situational expectations. In other words, even when perceivers have realistic expectations about how a particular situation affects behavior, implicational schemata can still lead to the attribution of a corresponding disposition when the observed behavior is—by definition—highly diagnostic.

#### *New Perspectives*

The present results also offer new perspectives on a variety of previous findings. First of all, even though situational adjustment may generally be determined by the degree of cognitive elaboration (e.g., Gilbert et al., 1988; Trope & Alfieri, 1997), attitude attributions could also be affected by cognitive elaboration in an indirect way. Specifically, on the basis of previous research on persuasion (e.g., Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986), cognitive elaboration can be assumed to affect the sensitivity for argument quality. Because perceived argument quality, in turn, should determine the degree of situational adjustment, cognitive elaboration could have both a direct and an indirect effect on situational adjustment. Preliminary evidence for this assumption can be found in a study by Tetlock (1985) on accountability effects on attitude attribution. Tetlock found that accountability instructions affected inferences from constrained essays only when these instructions were presented *before* participants read the essay. When accountability instructions were given *after* reading the essay, they had no impact. In this condition, Tetlock obtained the same results as in a control condition with no accountability instructions. This result suggests that accountability (and hence cognitive elaboration) may have affected situational adjustment indirectly, that is, mediated by the perception of the essay, rather than directly.<sup>5</sup>

Another question raised by the present results is whether the correspondence bias in other settings can also be explained by the application of schematic assumptions in situational adjustment. For instance, dispositional inferences in the quiz-role paradigm (Ross, Amabile, & Steinmetz, 1977) may also be related to an implicit theory of ability. Specifically, perceivers may assume that only knowledgeable quizmasters should be able to generate difficult questions, whereas easy questions can be generated by anyone regardless of their general knowledge level. Difficult questions, in turn, may offer a situational explanation for a bad performance by a contestant, thus leading to situational discounting (Kelley, 1972).

<sup>4</sup> This meta-analysis included the available data from no-choice-before conditions with random assignment and no time pressure.

<sup>5</sup> In Experiment 6, the confounding between direct and indirect effects was solved by manipulating the degree of cognitive elaboration during the judgment phase. It should be noted, however, that indirect effects of cognitive elaboration on situational adjustment may be limited to attitude attribution. Other paradigms used to investigate the correspondence bias, such as the quiz-role paradigm (Ross, Amabile, & Steinmetz, 1977) or the silent interview paradigm (Snyder & Frankel, 1976) may be unaffected by effects like these.



Easy questions, in contrast, do not offer such a situational explanation, and thus should lead to lower general knowledge ratings. Consistent with these assumptions, Gawronski (in press) found that observers rated contestants higher in general knowledge when the questions not answered correctly were difficult than when they were easy. Observers' ratings of quizmasters, however, were affected by question difficulty only when perceivers were highly motivated to process the available information effortfully. Of most interest, the so-called questioner superiority effect decreased as a function of cognitive elaboration only when questions were easy. However, it actually increased as a function of cognitive elaboration when questions were difficult.

The present results also offer a new perspective in the discussion about cultural differences in the tendency to commit the correspondence bias. In contrast to previous claims (e.g., J. G. Miller, 1984; Morris & Peng, 1994; Ross & Nisbett, 1991), recent evidence suggests that individuals from collectivist cultures are as susceptible to the correspondence bias in the attitude attribution paradigm as participants from individualist cultures (Choi & Nisbett, 1998; Krull et al., 1999). Drawing on the present results, however, this inconsistency can be solved by the hypothesis that both collectivists and individualists share the schematic assumption that only authors with a corresponding attitude are able to write a persuasive essay toward a given position (see Gidron, Koehler, & Tversky, 1993; Miyamoto & Kitayama, 2002, for related results). Hence, even if collectivists are more sensitive to situational constraint information, and are thus more likely to adjust their inferences to situational constraints, their judgments should not differ from those made by individualists when the behavior in question is highly diagnostic. In other words, collectivists may be less susceptible to the correspondence bias than individualists only when it is due to a lack of awareness or incomplete correction. However, they may be as susceptible to the correspondence bias when it is due to shared implicational schemata.

### Conclusion

In general, the present results suggest that perceivers do not necessarily ignore situational constraint information when they draw correspondent dispositional inferences in the presence of situational constraints. Rather, they might deliberately consider these factors, but come to the conclusion that the actor must have a corresponding disposition when their schematic assumptions about trait-behavior relations imply that the observed behavior is highly diagnostic of the actor's disposition. Hence, it is not surprising that perceivers are willing to draw correspondent inferences from situationally constrained behavior, even though they are more concerned with not falling prey to this bias than they are with the possibility of a nuclear war (Wilson & Brekke, 1994). That is, perceivers might be highly motivated to consider situational information when making dispositional judgments, but sometimes they come to the conclusion that this information is irrelevant. Hence, even though the neglect of situational factors can lead to the phenomenon usually called the correspondence bias, the correspondence bias is not necessarily associated with a neglect of situational factors.

### References

- Bargh, J. A. (1994). The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 1–40). Hillsdale, NJ: Erlbaum.
- Bierbrauer, G. (1979). Why did he do it? Attribution of obedience and the phenomenon of dispositional bias. *European Journal of Social Psychology*, 9, 67–84.
- 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.
- Choi, I., & Nisbett, R. E. (1998). Situational salience and cultural differences in the correspondence bias and the actor–observer bias. *Personality and Social Psychology Bulletin*, 24, 949–960.
- Croton, J. S., & Morrow, N. (1984). What does it take to reduce observer bias? *Psychological Reports*, 55, 135–138.
- D'Agostino, P. R., & Fincher-Kiefer, R. (1992). Need for cognition and the correspondence bias. *Social Cognition*, 10, 151–163.
- Fein, S., Hilton, J. L., & Miller, D. T. (1990). Suspicion of ulterior motivation and the correspondence bias. *Journal of Personality and Social Psychology*, 58, 753–764.
- Gawronski, B. (in press). On difficult questions and evident answers: Dispositional inference from role-constrained behavior. *Personality and Social Psychology Bulletin*.
- Gidron, D., Koehler, D. J., & Tversky, A. (1993). Implicit quantification of personality traits. *Personality and Social Psychology Bulletin*, 19, 594–604.
- Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin*, 117, 21–38.
- Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality and Social Psychology*, 54, 733–740.
- Johnson, J. T., Jemmott, J. B., & Pettigrew, T. F. (1984). Causal attribution and dispositional inference: Evidence of inconsistent judgments. *Journal of Experimental Social Psychology*, 20, 567–585.
- Jones, E. E. (1990). *Interpersonal perception*. New York: Freeman.
- Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology*, 3, 1–24.
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79–94). Morristown, NJ: General Learning Press.
- Jones, E. E., Worchel, S., Goethals, G. R., & Grumet, J. F. (1971). Prior expectancy and behavioral extremity as determinants of attitude attribution. *Journal of Experimental Social Psychology*, 7, 59–80.
- Kelley, H. H. (1972). Causal schemata and the attribution process. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 151–174). Morristown, NJ: General Learning Press.
- Krull, D. S., & Erickson, D. J. (1995). Judging situations: On the effortful process of taking situational information into account. *Social Cognition*, 13, 417–438.
- Krull, D. S., Loy, M. H., Lin, J., Wang, C. F., Chen, S., & Zhao, X. (1999). The fundamental attribution error: Correspondence bias in individualist and collectivist cultures. *Personality and Social Psychology Bulletin*, 25, 1208–1219.
- Lopes, L. L. (1972). A unified integration model for “prior expectancy and behavioral extremity as determinants of attitude attribution.” *Journal of Experimental Social Psychology*, 8, 156–160.
- Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal Psychology*, 67, 371–378.
- Miller, A. G., Ashton, W., & Mishal, M. (1990). Beliefs concerning the

- features of constrained behavior: A basis for the fundamental attribution error. *Journal of Personality and Social Psychology*, 59, 635–650.
- Miller, A. G., & Rorer, L. G. (1982). Toward an understanding of the fundamental attribution error: Essay diagnosticity in the attitude attribution paradigm. *Journal of Research in Personality*, 16, 41–59.
- Miller, A. G., Schmidt, D., Meyer, C., & Colella, A. (1984). The perceived value of constrained behavior: Pressures toward biased inference in the attitude attribution paradigm. *Social Psychology Quarterly*, 47, 160–171.
- Miller, J. G. (1984). Culture and the development of everyday social explanation. *Journal of Personality and Social Psychology*, 46, 961–978.
- Miyamoto, Y., & Kitayama, S. (2002). Cultural variation in correspondence bias: The critical role of attitude diagnosticity of socially constrained behavior. *Journal of Personality and Social Psychology*, 83, 1239–1248.
- Morris, M. W., & Peng, K. (1994). Culture and cause: American and Chinese attributions for social and physical events. *Journal of Personality and Social Psychology*, 67, 949–971.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 123–205). San Diego, CA: Academic Press.
- Quattrone, G. A. (1982). Overattribution and unit formation: When behavior engulfs the person. *Journal of Personality and Social Psychology*, 42, 593–607.
- Reeder, G. D. (1993). Trait-behavior relations and dispositional inference. *Personality and Social Psychology Bulletin*, 19, 586–593.
- Reeder, G. D. (1997). Dispositional inferences of ability: Content and process. *Journal of Experimental Social Psychology*, 33, 171–189.
- Reeder, G. D., & Brewer, M. B. (1979). A schematic model of dispositional attribution in interpersonal perception. *Psychological Review*, 86, 61–79.
- Reeder, G. D., Fletcher, G. J. O., & Furman, K. (1989). The role of observers' expectations in attitude attribution. *Journal of Experimental Social Psychology*, 25, 168–188.
- Ross, L. D. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 173–220). New York: Academic Press.
- Ross, L. D., Amabile, T. M., & Steinmetz, J. L. (1977). Social roles, social control, and biases in social-perception processes. *Journal of Personality and Social Psychology*, 35, 485–494.
- Ross, L. D., & Nisbett, R. E. (1991). *The person and the situation: Perspectives of social psychology*. New York: McGraw-Hill.
- Schneider, D. J., & Miller, R. S. (1975). The effects of enthusiasm and quality of arguments on attitude attribution. *Journal of Personality*, 43, 693–708.
- Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology*, 61, 195–202.
- Skowronski, J. J., & Carlston, D. E. (1989). Negativity and extremity biases in impression formation. *Psychological Bulletin*, 105, 131–142.
- Snyder, M. L., & Frankel, A. (1976). Observer bias: A stringent test of behavior engulfing the field. *Journal of Personality and Social Psychology*, 34, 857–864.
- Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly*, 48, 227–236.
- Trope, Y. (1986). Identification and inferential processes in dispositional attribution. *Psychological Review*, 93, 239–257.
- Trope, Y., & Alfieri, T. (1997). Effortfulness and flexibility of dispositional judgment processes. *Journal of Personality and Social Psychology*, 73, 662–674.
- Trope, Y., & Cohen, O. (1989). Perceptual and inferential determinants of behavior-correspondent attributions. *Journal of Experimental Social Psychology*, 25, 142–158.
- Trope, Y., Cohen, O., & Alfieri, T. (1991). Behavior identification as a mediator of dispositional inference. *Journal of Personality and Social Psychology*, 61, 873–883.
- Trope, Y., Cohen, O., & Maoz, Y. (1988). The perceptual and inferential effects of situational inducements on dispositional attribution. *Journal of Personality and Social Psychology*, 55, 165–177.
- Trope, Y., & Gaunt, R. (2000). Processing alternative explanations of behavior: Correction or integration? *Journal of Personality and Social Psychology*, 79, 344–354.
- Trope, Y., & Liberman, A. (1993). The use of trait conceptions to identify other people's behavior and to draw inferences about their personalities. *Personality and Social Psychology Bulletin*, 19, 553–562.
- Uleman, J. S., Newman, L. S., & Moskowitz, G. B. (1996). People as flexible interpreters: Evidence and issues from spontaneous trait inference. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 28, pp. 211–279). San Diego, CA: Academic Press.
- Vonk, R. (1999). Effects of outcome dependency on correspondence bias. *Personality and Social Psychology Bulletin*, 25, 382–389.
- Wänke, M., Bohner, G., & Jurkowitsch, A. (1997). There are many reasons to drive a BMW: Does imagined argument generation influence attitudes? *Journal of Consumer Research*, 24, 170–177.
- Webster, D. M. (1993). Motivated augmentation and reduction of the overattribution bias. *Journal of Personality and Social Psychology*, 65, 261–271.
- Wilson, T. D., & Brekke, N. (1994). Mental contamination and mental correction: Unwanted influences on judgments and evaluations. *Psychological Bulletin*, 116, 117–142.
- Yost, J. H., & Weary, G. (1996). Depression and the correspondent inference bias: Evidence for more effortful cognitive processing. *Personality and Social Psychology Bulletin*, 22, 192–200.

Received April 23, 2001

Revision received January 10, 2003

Accepted January 10, 2003 ■