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Asymmetrical Attributions for Approach Versus Avoidance Behavior

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Five studies examined responsibility inferences and/or person and situation attributions in positively versus negatively valenced motivational contexts. In Experiment 1, participants received information about a teaching assistant who was promised a reward or threatened with a punishment when asked for compliance with a requested transgression. The teaching assistant was perceived as more responsible for complying given the positive than the negative incentive. This finding was replicated in Experiment 2 using different vignettes and incentives. Experiment 3 revealed that the effect of incentive valence on perceived responsibility for compliance remains significant when statistically controlling for perceived compliance rates. Experiment 4 then demonstrated that there are not only greater responsibility judgments given a positive than a negative incentive but also greater dispositional attributions. Finally, Experiment 5 revealed that a similar incentive valence effect is found in other appetitive versus aversive motivational contexts. Theoretical explanations of this phenomenon are discussed.

Keywords: *attribution; compliance; responsibility; causation; incentive*

Earlier in the history of psychology, reward and punishment were construed as opposite sides of a coin and symmetrical in their consequences. Reward was presumed to increase the probability of a prior response, whereas punishment decreased that likelihood. To paraphrase Thorndike (1911),

When a stimulus-response bond is followed by a satisfying state of affairs, the strength of that bond increases . . . when a particular stimulus-response bond is followed by an annoying state of affairs, the strength of that bond is weakened. (p. 241)

But not all subsequent behaviorists shared the belief that reward and punishment are mirror opposites, and more broadly speaking, that appetitive and aversive settings are conceptually symmetrical. Miller (1944), based on his studies of approach-avoidance conflict, reasoned that the slope of motivation for a positive incentive decreases less as a function of distance from the desired goal than does the strength of motivation to avoid a negative incentive. He contended that this was because approach behavior is guided by internal stimuli, or something about the organism, whereas avoidance behavior is elicited by external cues, or something about the environment. That is, he attributed the unequal slopes to causes differing in locus.

More recently, views embracing the complexities of reactions to reward and punishment and their lack of symmetry have come to predominate thinking in this area. This shift was fostered by the growth of cognitive psychology and the incorporation of the meaning of reward and punishment to the experiencing organism. Attribution theorists, or those interested in the perceived causes of outcomes, particularly have championed that the effects of reward and punishment depend on the subjective interpretation of this information. For

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example, Meyer et al. (1979) argued that reward for success at an easy task can lead to an inference by the rewarded person that he has low ability, which is a performance inhibitor (Bandura, 1977). On the other hand, punishment for failure may communicate that the negative outcome is due to lack of effort, which implies that the individual has the ability to accomplish the task. These beliefs are associated with enhanced achievement striving (Weiner, 1986). In sum, and in opposition to the views expressed by Thorndike (1911), reward may decrease, and punishment can increase, motivation. These appear to be reliable conclusions (see, e.g., Graham & Barker, 1990).

Another pertinent line of research disconfirming the traditional presumed consequences of reward concerns the so-called undermining properties of positive incentives. It has been contended that reward for behavior may result in the actor ascribing a successful performance to that reward rather than to the intrinsic positive properties of the activity (Lepper, Greene, & Nisbett, 1973). Discounting intrinsic interest, in turn, may decrease indices of motivated performance, such as choice of that activity and persistence in the face of failure (Deci, Koestner, & Ryan, 1999; but see Cameron, 2001).

In a similar manner, a recent program of research, which forms the empirical foundation for this article, has documented that the consequences of reward versus punishment are not symmetrical when offered as incentives to comply with a request for a transgression. Rodrigues (1995) and Rodrigues and Lloyd (1998) reported that compliance given the promise of a reward is more attributed to the person, and that individual is considered more responsible for the transgression, than given behavioral compliance when threatened with a punishment. Specifically, for example, if a nurse carries out the request of a doctor to administer a drug that has not been officially approved, then the nurse is regarded as more responsible for this transgression when the compliance follows a promise of a pay raise, as opposed to a threat that wages will be lowered if the drug is not administered. This asymmetrical effect was first reported by Wells (1980) and subsequently replicated by Reeder and Spores (1983), but Rodrigues and his colleagues were the first to conduct a systematic series of studies documenting this pattern of data (although his investigations included a number of other sources of power and did not focus on the reward vs. punishment issue).

Given the many implications of the asymmetrical effects of reward and punishment in compliance settings, and their pertinence to basic attributional principles, we considered this an important avenue of research to pursue. Among the questions asked in this article are the following:

1. Is this a reliable effect, that is, do greater inferences of responsibility given compliance in situations of reward relative to punishment replicate across a variety of transgressions and incentives? Furthermore, will a similar pattern of findings be observed in other appetitive versus aversive motivational contexts? For example, is approaching attractive food (or a good movie) more attributed to internal causes than is avoiding unattractive food (or a bad movie)?
2. Are these effects due to differences in social norms associated with the behavior? For example, if more nurses are perceived as complying with the illegal drug request given a threatened salary decrease than a promised salary increase, then the action in that condition is more normative and will elicit a stronger situational judgment, or alternately, the behavior in the reward condition is less normative and will give rise to a stronger dispositional inference (Kelley, 1967).

Rodrigues (2001) and Wells (1980) were aware of this possibility and attempted to avoid a perceived norm confounding (or contribution) when choosing some of their stimulus situations. For example, to overcome this problem, Rodrigues (2001) selected unequal stimulus situations in the positive and negative incentive conditions that were equated on compliance rates (e.g., a gain of .50 cents for compliance vs. a loss of .25 cents for non-compliance). However, this possible confound or explanation is in need of much further study.

To examine these and other issues, five studies were conducted. All follow a rather similar format. In the majority of investigations, participants are given information about compliance with a transgression request when the incentive is either a promised reward or a threatened punishment. Then, judgments of responsibility for the transgression, and/or dispositional and situational attributions, are obtained. In addition, either another group of participants or these same participants provide data regarding perceived compliance rates to the influence attempt. In this manner, the possible effects of perceived social norms on the attributional judgments can be determined.

In a final study, a noncompliance situation is described within a positive or a negative motivational context. Then, inferences about disposition versus situation contributions to the action are gathered. In addition, judgments regarding reactions in these contexts (equivalent to compliance rates) are obtained.

The reader will find that the asymmetrical consequences of reward and other positive motivational contexts versus punishment and other negative motivational contexts on attributional judgments are quite robust. In addition, there are various possible theoretical explanations of this phenomenon, although these have not been directly tested.

EXPERIMENT 1

Method

There were two distinct parts of the experiment. In Part 1, 43 students (25 women, 18 men, with an average age of 22 years) from the University of California, Los Angeles (UCLA), participated. They were arbitrarily approached on campus and asked to fill out an experimental questionnaire. Two participants who agreed were eliminated due to a failure to respond to one or more questions.

At the onset of the questionnaire, participants were informed that they would be given a story in which a person is asked to engage in a transgression. All participants were given the following vignette:

A faculty member is teaching a large class. This person approaches the teaching assistant (TA) and says that the ratings have not been high enough and asks if the TA would insert about 20 false ratings in the packet, even though that is illegal. What the faculty member says to the TA is given below. The TA complies and inserts 20 false ratings in the packet.

Participants then read 18 different incentives offered to the TA by the faculty member; 9 were positive and 9 were negative. The incentives were selected on the basis of pilot testing revealing relative equality in compliance rates between the two valence incentive conditions. A positive incentive was operationalized as a reward for complying, for example, "If you do this, I will write a strong letter of recommendation for the job you applied for next year." A negative incentive indicated a threat for not complying, for example, "If you don't do this, I will write a weak letter of recommendation for the job you applied for next year." The content of the positive incentives was matched by a corresponding negative incentive (see Table 1). Each participant responded to all 18 incentives. Hence, a 2 (incentive valence) \times 9 (kind of incentive) factorial design with repeated measures on both factors was employed. The incentives were presented in one of two orders. Half of the participants read the incentives in a random order, whereas the other half of the participants read the incentives in the opposite order.

Each incentive was immediately followed by two items tapping perceived responsibility. Using Likert-type scales, respondents indicated "How responsible do you hold the TA for complying with this request?" (1 = *not at all responsible* to 9 = *very much responsible*) and "To what degree is the TA at fault for this transgression?" (1 = *not at all* to 9 = *absolutely*).

As already indicated, judgments of responsibility are theoretically associated with compliance rates; that is, persons will be perceived as more responsible when compliance rates are low (indicating personal causa-

tion), whereas persons will be perceived as less responsible when compliance rates are high (indicating situational causation) (see Kelley, 1967). Hence, in Part 2 of the investigation, 28 students (23 women, 5 men, with a mean age of 23 years) recruited on the UCLA campus were given the vignette described above as well as the 18 incentives, in two random orders. None of those students participated in Part 1 of the experiment. For each incentive, they were asked to indicate the percentage of TAs who would comply with the request.

Results and Discussion

Compliance rates. A 2 (incentive valence) \times 9 (kind of incentive) ANOVA with repeated measures on both factors revealed a significant main effect for kind of incentive, $F(8, 216) = 40.73, p < .001, \eta^2 = .60$.^{1,2} As shown in Table 1, some incentives (e.g., high vs. low grade on final thesis) yielded more compliance than others (e.g., do vs. not do a favor). More importantly, there was no significant main effect for incentive valence, $F(1, 27) = 2.44, p = .13, \eta^2 = .08$, indicating that the compliance ratings in the positive ($M = 52.3\%$) and the negative ($M = 48.6\%$) incentive conditions are comparable (see Table 1).

Responsibility ratings. Inasmuch as ratings of perceived responsibility and fault were highly correlated for the 18 incentives ($M r = .84$, range = .70 to .93), these measures were combined to determine perceived responsibility. The mean ratings of perceived responsibility as a function of the different positive and negative incentives are shown in Table 1.

An ANOVA revealed a significant main effect for incentive valence, $F(1, 40) = 23.47, p < .001, \eta^2 = .37$. As expected, there were higher ratings of perceived responsibility in the positive incentive condition ($M = 7.14$) than in the negative incentive condition ($M = 6.20$). This held true for every incentive pairing. There was also a significant main effect for kind of incentive on responsibility ratings, $F(8, 320) = 4.31, p < .01, \eta^2 = .10$. The compliance ratings, taken from the other group of participants, provided a useful index to scale these incentive situations. In accordance with attributional predictions, higher estimated base rates of compliance associated with the incentives yielded lower ratings of perceived responsibility, $r(18) = -.32$.³ The ANOVA also yielded a significant Incentive Valence \times Kind of Incentive (compliance rates) interaction, $F(8, 320) = 4.13, p < .001, \eta^2 = .09$ (see Figure 1). For the negative incentives, higher rates of compliance were associated with lower rates of perceived responsibility, $F(8, 320) = 6.44, p < .001, \eta^2 = .14, r(9) = -.85$. In contrast, given a positive incentive, rates of compliance and perceived responsibility were not significantly associated, $F(8, 320) = 1.38, p = .21, \eta^2 = .03, r(9) = -.36$. To put it differently, the effect of incentive valence on responsibility judgments is more pro-

TABLE 1: Mean Ratings for Rates of Compliance, Perceived Responsibility, Dispositional Attributions, and Situational Attributions as a Function of Kinds of Positive and Negative Incentives (Experiments 1, 3, and 4)

Positive/Negative Incentive	Experiment 1		Experiment 3 (n = 37)		Experiment 4 (n = 47)			
	C (n = 28)	R (n = 41)	C	R	C	R	D	S
I will make sure you get the fellowship you applied for next year.	74.1	6.83	54.3	7.24	55.7	6.68	6.62	6.94
I will make sure that you don't get the fellowship you applied for next year.	66.2	5.91	51.0	6.35	57.6	4.45	4.85	7.21
I will give you a very high grade on your final thesis.	66.8	7.28	50.4	7.32	57.6	7.32	7.00	6.55
I will give you a poor grade on your final thesis.	70.1	5.60	50.1	6.41	62.2	4.77	4.74	7.38
I will see to it that you get the job you applied for next year.	69.2	6.93	51.9	7.49	58.0	7.15	6.94	6.79
I will see to it that you won't get the job you applied for next year.	66.8	5.48	52.9	6.81	59.3	4.87	5.09	7.40
I will write a strong letter of recommendation for the job you applied for next year.	62.9	7.13	45.6	7.35	45.7	6.96	6.87	6.32
I will write a weak letter of recommendation for the job you applied for next year.	49.5	6.37	45.1	6.81	40.0	5.87	5.74	6.34
I will see to it that you will get some extra TA money.	46.4	7.50	39.7	7.81	37.0	7.26	7.36	6.17
I will see to it that you get less TA money.	55.8	6.21	37.4	7.16	46.9	5.89	5.94	6.13
I will make sure you get an easy TA-ship next year.	45.1	7.11	36.2	7.92	35.6	7.15	6.70	6.57
I will make sure you get a difficult TA-ship next year.	34.1	5.95	40.7	7.30	30.4	5.60	5.91	6.47
I won't ask you to help with the grading and other work during the final exam.	33.3	7.26	30.5	8.16	34.6	7.04	6.85	5.66
I will give you a great deal of work with the grading and other tasks regarding the final exam.	38.9	6.49	36.4	7.54	31.8	6.04	5.79	6.17
I will do you a favor.	42.0	7.27	40.5	8.22	33.0	7.38	7.43	4.89
I won't do you a favor.	22.6	7.10	40.8	8.22	20.2	7.09	7.02	5.32
I will be very grateful.	30.5	6.95	27.1	8.05	28.5	7.00	7.00	4.66
I will be very angry.	33.6	6.67	28.4	8.05	29.6	6.00	6.57	5.85

NOTE: The positive incentive followed the words: "If you do this"; the negative incentive followed the words: "If you don't do this." C = compliance, R = responsibility, D = dispositional attribution, S = situational attribution.

nounced given high rates of compliance than when there are low rates of compliance. We will discuss these and other data after presenting all of the investigations.

EXPERIMENT 2

The goal of Experiment 2 was to replicate the pattern of results just reported. The design and procedure of Experiment 2 were similar to that of Experiment 1. However, different vignettes and incentives were used.

Method

Experiment 2 consisted of the same two parts as Experiment 1. In Part 1, 43 students (25 women, 18 men, with an average age of 23 years) recruited on campus at UCLA participated. All were given the following two vignettes describing a nurse (from Rodrigues & Lloyd, 1998) and an airline ticket agent:

A doctor asks a nurse to give a patient a drug that has not yet been approved, even though that is illegal. What the doctor says to the nurse is given below. The nurse complies and gives the patient the drug.

The second vignette read as follows:

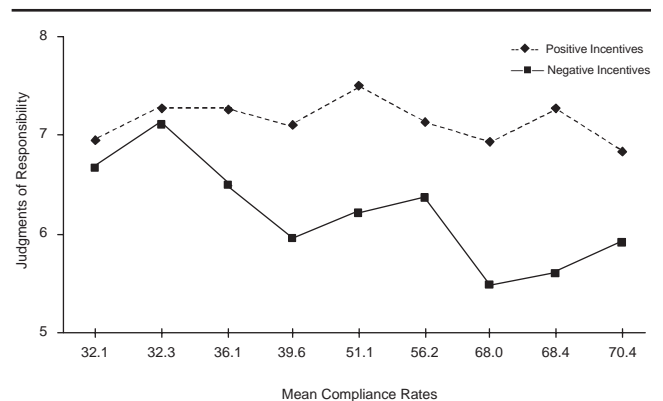


Figure 1 Mean judgments of responsibility as a function of incentive valence and kind of valence (Study 1).

An executive of an airline company who is in charge of ticketing needs a ride on a plane, but other people are on the waiting list to also get on the plane. The airline executive asks the ticket agent in the department to put her/him first on the list to get on, even though that is illegal and against airline policy. What the airline executive says to the ticket agent is given below. The ticket agent complies and puts the airline executive first on the list.

There were four positive and four negative incentives offered to the nurse by the doctor (see the top half of Table

2). In addition, there were three positive and three negative incentives offered to the ticket agent by the airline executive (see the bottom half of Table 2). Pilot testing revealed a relative equality in compliance rates between the two valence incentive conditions.

In Part 2, 31 other UCLA students recruited on campus (23 women, 8 men, with an average age of 22 years) responded to the two vignettes and the corresponding 14 incentives described above. The same dependent measures were used as in Experiment 1: two responsibility-related items in Part 1 and compliance rates in Part 2. Vignette order as well as incentive order was counterbalanced in both parts, such that half of the participants read the vignettes and the incentives in a random order, whereas the other half of the participants read the vignettes and the incentives in the opposite order.

Results and Discussion

Compliance rates. For the nurse vignette, an ANOVA showed a significant main effect for kind of incentive, $F(3, 90) = 55.41, p < .001, \eta^2 = .65$. As can be seen in the top half of Table 2, some incentives (e.g., strong vs. weak letter of recommendation) yielded more compliance than others (e.g., do vs. not do a favor). Of greater importance, there was a nonsignificant main effect for incentive valence, $F(1, 30) = 0.87, p = .36, \eta^2 = .03$, indicating that the compliance ratings in the positive ($M = 29.3\%$) and the negative ($M = 31.0\%$) incentive conditions are comparable (see the top half of Table 2).

For the ticket agent vignette, an ANOVA revealed a significant main effect for kind of incentive, $F(2, 60) = 41.51, p < .001, \eta^2 = .58$, indicating again that the incentives differed in strength or perceived compliance rating (see the bottom half of Table 2). Again, no significant main effect for incentive valence was found, $F(1, 30) = 2.66, p = .12, \eta^2 = .08$, with relatively equal compliance ratings in the positive ($M = 57.2\%$) and the negative ($M = 53.6\%$) incentive conditions (see the bottom half of Table 2).

Responsibility ratings. Ratings of perceived responsibility and fault were highly correlated for the eight incentives used in the nurse scenario ($Mr = .79$, range = .63 to .93) and as well for the six incentives used in the airline executive scenario ($Mr = .80$, range = .70 to .89). Thus, these measures were combined to determine perceived responsibility.

For the nurse vignette, an ANOVA with repeated measures on both factors revealed a significant main effect for incentive valence, $F(1, 42) = 36.69, p < .001, \eta^2 = .47$. Replicating the finding from Experiment 1, there were higher ratings of perceived responsibility in the positive incentive condition ($M = 6.88$) than in the negative incentive condition ($M = 5.91$), holding over all four incentive types. Furthermore, there was also a significant

TABLE 2: Mean Ratings for Rates of Compliance and Perceived Responsibility as a Function of Kinds of Positive and Negative Incentives (Experiment 2)

<i>Positive/Negative Incentive</i>	<i>Compliance</i> (<i>N</i> = 31)	<i>Responsibility</i> (<i>N</i> = 43)
<i>Nurse vignette</i>		
I will see to it that you get a promotion, a big raise, and 2 weeks extra vacation.	44.7	6.61
I will see to it that you get laid off.	56.7	4.59
I will write a strong letter of recommendation for the job you applied for next year.	43.9	6.95
I will write a weak letter of recommendation for the job you applied for next year.	44.8	5.72
I will give you the weekend off.	15.7	7.07
I won't give you the weekend off.	14.5	6.72
I will do you a favor.	12.9	6.88
I won't do you a favor.	8.2	6.62
<i>Ticket agent vignette</i>		
I will see to it that you get a promotion, a big raise, and 2 weeks extra vacation.	68.7	6.52
I will see to it that you get laid off.	67.4	4.06
I will see to it that you get a raise.	64.4	6.67
I will see to it that you don't get a raise.	54.6	5.56
I will give you the weekend off.	38.5	6.70
I won't give you the weekend off.	38.8	5.73

NOTE: The positive incentive followed the words: "If you do this"; the negative incentive followed the words: "If you don't do this."

main effect for kind of incentive, $F(3, 126) = 13.00, p < .001, \eta^2 = .24$. Higher estimated base rates of compliance (as determined again from a separate group of participants) were associated with lower ratings of perceived responsibility (see the top half of Table 2). The ANOVA also yielded a significant Incentive Valence \times Kind of Incentive interaction, $F(3, 126) = 10.03, p < .001, \eta^2 = .19$ (see Figure 2, left panel). Higher rates of compliance linked to the incentive were associated with lower rates of perceived responsibility for the negative incentives, $F(3, 126) = 17.97, p < .001, \eta^2 = .30$, whereas rates of compliance and perceived responsibility were not significantly associated for the positive incentives, $F(3, 126) = 1.24, p = .30, \eta^2 = .03$.

For the ticket agent vignette, an ANOVA revealed a significant main effect for incentive valence, $F(1, 42) = 37.21, p < .001, \eta^2 = .47$. There were higher ratings of perceived responsibility in the positive incentive condition ($M = 6.63$) than in the negative incentive condition ($M = 5.12$), again describing all incentive types. Furthermore, there was a significant main effect for kind of incentive, $F(2, 84) = 10.31, p < .001, \eta^2 = .20$. Higher estimated base rates of compliance yielded lower ratings of perceived responsibility. The ANOVA also revealed a significant Incentive Valence \times Kind of Incentive interaction, $F(2, 84) = 7.19, p < .01, \eta^2 = .15$ (see Figure 2, right panel).

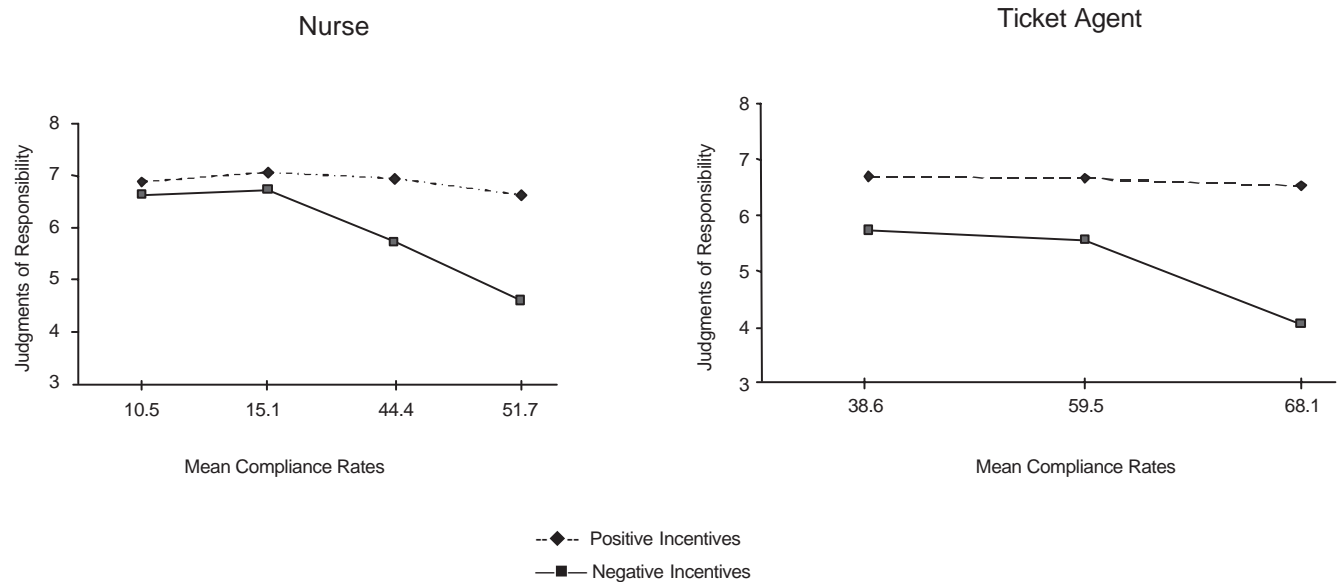


Figure 2 Mean judgments of responsibility as a function of incentive valence and kind of valence for the nurse and the ticket agent vignette (Study 2).

Higher rates of compliance were associated with lower rates of perceived responsibility for the negative incentives, $F(2, 84) = 12.17, p < .001, \eta^2 = .23$. In contrast, rates of compliance and perceived responsibility were not significantly associated for the positive incentives, $F(2, 84) = 0.32, p = .73, \eta^2 = .01$.

In sum, the findings from Experiment 1 were fully replicated using different vignettes and different incentives. Persons are perceived as more responsible for complying to violate a rule when they are offered a positive incentive than when they are offered a negative incentive. In addition, compliance is not associated with incentive valence. However, inasmuch as participants indicated either rates of compliance or perceived responsibility in a between-subjects design, it could not be determined whether the effect of incentive valence on perceived responsibility remains significant when statistically controlling for compliance rates; that is, it is not known whether differences in compliance rates might mediate the effect of incentive valence on responsibility, even though compliance rate was not related as a main effect to incentive valence. Testing this question was the primary goal of Experiment 3.

EXPERIMENT 3

Method

Participants were 16 female and 21 male students recruited on campus at UCLA. The mean age of the sample was 23 years. Participants received the same TA-related vignette and incentives as used in Experiment 1.

Hence, a 2 (incentive valence) \times 9 (kind of incentive) factorial design with repeated measures on both factors was employed. Inasmuch as perceived responsibility and perceptions of fault were highly correlated in the previous experiments, only the responsibility item was used in the present study, along with the compliance question. Half of the participants responded first to all responsibility questions and then to all compliance questions. The remaining half of the participants responded in the opposite order. The incentives were presented in one of two orders, as in Experiment 1.

Results and Discussion

Compliance rates. An ANOVA revealed a significant main effect for kind of incentive, $F(8, 288) = 18.88, p < .001, \eta^2 = .34$. As can be seen in Table 1, some incentives yielded more compliance than others. In contrast, no significant main effect for incentive valence was found, $F(1, 36) = 0.01, p = .91, \eta^2 = .00$. There were nearly equal compliance ratings in the positive ($M = 40.5\%$) and the negative ($M = 40.8\%$) incentive conditions (see Table 1).

Responsibility ratings. Mean ratings for all incentives are displayed in Table 1. An ANOVA revealed a significant main effect for incentive valence, $F(1, 36) = 11.07, p < .01, \eta^2 = .24$. There were higher ratings of perceived responsibility in the positive incentive condition ($M = 7.73$) than in the negative incentive condition ($M = 7.18$). Furthermore, there was also a significant main effect for kind of incentive, $F(8, 288) = 10.16, p < .001, \eta^2 = .24$. Higher estimated base rates of compliance that were linked to the incentives yielded lower ratings of

perceived responsibility (see Table 1), $r(37) = -.20$.⁴ The ANOVA also yielded a significant Incentive Valence \times Kind of Incentive interaction, $F(8, 288) = 2.08, p < .05, \eta^2 = .06$. For the negative incentives, higher rates of compliance were associated with lower rates of perceived responsibility, $F(8, 288) = 9.57, p < .001, \eta^2 = .21, r(37) = -.27$. This tendency also was noted for the positive incentives, $F(8, 288) = 4.44, p < .001, \eta^2 = .11, r(37) = -.14$, but it was not as pronounced.

To test whether differences in compliance rates mediate the effect of incentive valence on perceived responsibility, a 2 (incentive valence) \times 9 (kind of incentive) ANCOVA with repeated measures on both factors, using the compliance rates for each incentive as covariates, was performed on the data. The pattern of results remained unchanged. Most important, the significant main effect for incentive valence was inappreciably reduced after controlling for compliance, $F(1, 35) = 10.86, p < .01, \eta^2 = .24$. In addition, the main effect of kind of incentive, $F(8, 287) = 4.15, p < .001, \eta^2 = .10$, as well as the Incentive Valence \times Kind of Incentive interaction, $F(8, 287) = 2.10, p < .05, \eta^2 = .06$, remained significant.

In sum, Experiment 3 replicated the findings from the previous experiments. There were higher responsibility judgments when a person was offered a positive incentive for complying to transgress than when offered a negative incentive. Extending the conclusions from Experiments 1 and 2, Experiment 3 revealed that this finding was not mediated by differences in compliance rates.

Thus far, it has been determined that a person is perceived as more responsible for complying given a positive than a negative incentive. This theoretically could be because compliance given a positive incentive gives rise to dispositional attributions and/or because compliance given a negative incentive generates situational attributions. The aim of Experiment 4 is to separate dispositional and situational attributions, or the components that contribute to responsibility beliefs.

EXPERIMENT 4

Method

Participants were 28 female and 19 male students recruited on campus at UCLA. The mean age of the sample was 25 years. Participants received the same TA-related vignette and incentives as used in Experiments 1 and 3. Hence, a 2 (incentive valence) \times 9 (kind of incentive) factorial design with repeated measures on both factors was employed. Perceived responsibility and compliance rates were assessed from the same participants, as in Experiment 3. Two additional questions measured dispositional and situational causation. The corresponding questions were, "To what extent is this compliance

due to something about the TA (his personality, traits, etc.)?" and "To what extent is this compliance due to something about the situation (the incentive offered, the relation between teacher and TA, etc.)?" Question order was counterbalanced so that approximately half of the participants answered either the responsibility, dispositional causation, and situational causation questions and responded then to the compliance questions, whereas the remaining participants answered the questions in the opposite order. Furthermore, the incentives were presented in one of two orders, as in Experiment 1.

Results and Discussion

Compliance rates. An ANOVA revealed a significant main effect for kind of incentive, $F(8, 368) = 24.74, p < .001, \eta^2 = .35$, indicating that some incentives yielded more compliance than others (see Table 1). In addition, there was no significant main effect for incentive valence, $F(1, 46) = 0.28, p = .60, \eta^2 = .01$. The compliance ratings in the positive ($M = 42.9\%$) and the negative ($M = 42.0\%$) incentive conditions were virtually equal (see Table 1).

Responsibility ratings. The pattern of results was entirely consistent with the previous findings. An ANOVA showed a significant main effect for incentive valence, $F(1, 46) = 48.89, p < .001, \eta^2 = .52$. Higher ratings of perceived responsibility were found in the positive incentive condition ($M = 7.10$) than in the negative incentive condition ($M = 5.62$). Furthermore, there was also a significant main effect for kind of incentive, $F(8, 368) = 7.73, p < .001, \eta^2 = .14$. Higher estimated base rates of compliance were associated with lower ratings of perceived responsibility (see Table 1), $r(47) = -.22$. The ANOVA also yielded a significant Incentive Valence \times Kind of Incentive interaction, $F(8, 368) = 8.69, p < .001, \eta^2 = .16$. For the negative incentives, higher rates of compliance were associated with lower rates of perceived responsibility, $F(8, 368) = 12.33, p < .001, \eta^2 = .21, r(47) = -.38$. In contrast, compliance rates were not significantly associated with perceived responsibility for the positive incentives, $F(8, 368) = 1.35, p = .22, \eta^2 = .03, r(47) = -.17$.

Dispositional causation. The general pattern of results for the dispositional ratings closely parallels the findings when responsibility is the dependent measure. Indeed, the correlation, across vignettes, between responsibility inferences and dispositional judgments is $r = .96$, so that these two may not have been construed as distinct. An ANOVA showed a significant main effect for incentive valence, $F(1, 46) = 45.76, p < .001, \eta^2 = .50$. There were higher ratings of perceived dispositional causation in the positive incentive condition ($M = 6.97$) than in the negative incentive condition ($M = 5.74$). There was also a significant main effect for kind of incentive, $F(8, 368) =$

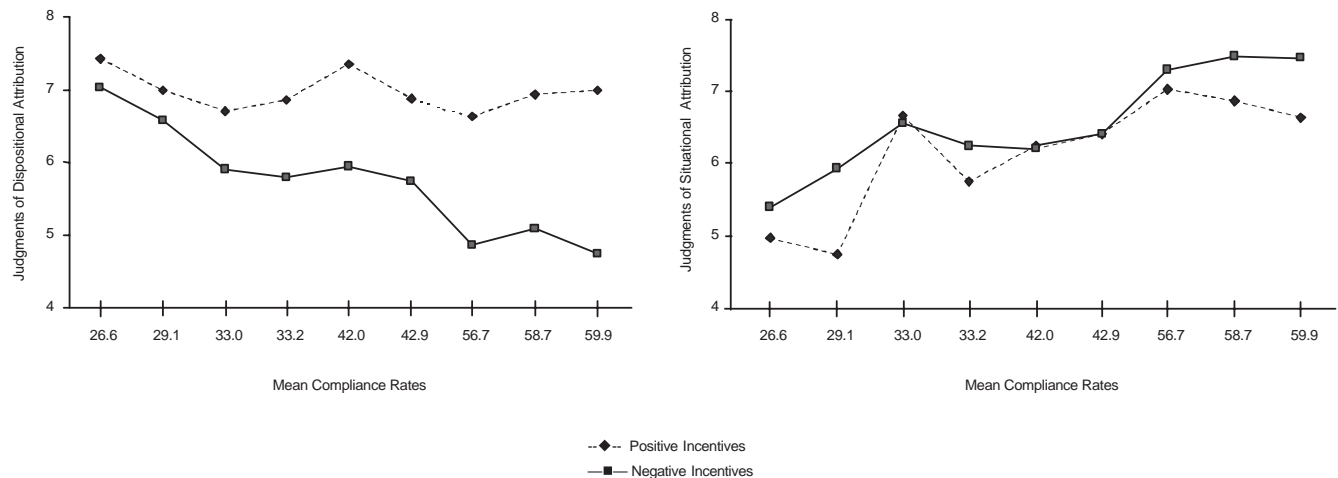


Figure 3 Mean judgments of dispositional and situational causation as a function of incentive valence and kind of valence (Study 4).

7.26, $p < .001$, $\eta^2 = .14$. Higher estimated base rates of compliance yielded lower ratings of perceived dispositional causation (see Table 1), $r(47) = -.23$. The ANOVA also yielded a significant Incentive Valence \times Kind of Incentive interaction, $F(8, 368) = 5.87$, $p < .001$, $\eta^2 = .12$ (see Figure 3, left panel). For the negative incentives, higher rates of compliance were related to lower rates of perceived dispositional causation, $F(8, 368) = 10.51$, $p < .001$, $\eta^2 = .19$, $r(47) = -.36$. In contrast, compliance rates were not significantly related to perceived dispositional causation for the positive incentives, $F(8, 368) = 1.77$, $p = .08$, $\eta^2 = .04$, $r(47) = -.17$.

Situational causation. An ANOVA revealed a significant main effect for incentive valence, $F(1, 46) = 11.33$, $p < .01$, $\eta^2 = .20$. There were lower ratings of perceived situational causation in the positive incentive condition ($M = 6.06$) than in the negative incentive condition ($M = 6.48$). There was also a significant main effect for kind of incentive, $F(8, 368) = 15.43$, $p < .001$, $\eta^2 = .25$. Higher estimated base rates of compliance yielded higher ratings of perceived situational causation (see Table 1), $r(47) = .37$. The ANOVA also yielded a moderately significant Incentive Valence \times Kind of Incentive interaction, $F(8, 368) = 2.71$, $p < .01$, $\eta^2 = .06$ (see Figure 3, right panel), with the slope slightly steeper for positive incentives.

Incentive valence and causation. To test whether differences in perceived dispositional causation mediate the effect of incentive valence on perceived responsibility, a 2 (incentive valence) \times 9 (kind of incentive) ANCOVA, using perceived dispositional causation for each incentive as a covariate, was performed on the data. Most important, the main effect for incentive valence on responsibility was no longer significant when controlling

for dispositional causation, $F(1, 45) = 2.87$, $p = .10$, $\eta^2 = .06$. This would be expected given the very high correlation between these ratings. The ANCOVA has some meaning, nonetheless, when compared with the situation ratings and their effects. A 2 (incentive valence) \times 9 (kind of incentive) ANCOVA using perceived situational causation for each incentive as a covariate also was performed on the data. The significant main effect for incentive valence on responsibility remained after controlling for situational causation, $F(1, 45) = 31.39$, $p < .001$, $\eta^2 = .41$.

In sum, the pattern of results from the previous studies was replicated: Higher responsibility judgments were made given compliance in situations of positive incentive relative to negative incentive. Experiment 4 also revealed, which was not shown before, that there were not only greater responsibility judgments given a positive incentive but also greater attributions to dispositional causation and lower situation attributions. However, the effect of incentive valence on perceived responsibility did not remain when controlling for differences in judgments of dispositional causation, whereas the responsibility judgments were relatively unaffected when judgments of situational causation were partialled out. This suggests that perceptions of dispositional rather than situational causal beliefs were driving the responsibility judgments.

Thus far, it has been shown across a variety of transgressions and incentives that greater attributions to the person are made given compliance in situations of positive incentive relative to negative incentive. In the last study, whether a similar finding can be observed in non-compliance situations within appetitive versus aversive motivational contexts will be tested.

EXPERIMENT 5

Method

Participants were 51 students (22 women, 29 men, with a mean age of 26 years) recruited on campus at UCLA. They were given 22 motivational situations (see Table 3). Eleven were appetitive (e.g., "John is invited to a good restaurant and eats his entire meal") and 11 were aversive (e.g., "John is invited to a poor restaurant and leaves some food"). The situations were selected on the basis of pilot testing revealing relative equality in perceived rates of engagement in the paired behaviors. Thus, a 2 (motivational context: appetitive vs. aversive) \times 11 (kind of situation) factorial design with repeated measures on both factors was employed. Participants responded to three questions: "What percentage of persons would engage in the same behavior?" "To what extent is this behavior due to something about John?" (1 = *not at all* to 9 = *very much*), and "To what extent is this behavior due to something about the situation?" (1 = *not at all* to 9 = *very much*). Question order and situational order were counterbalanced. Approximately half of the participants responded first to all dispositional and situational causation questions and then to all behavior rates questions, whereas the remaining participants responded in the opposite order. The situations were presented in one of two orders.

Results and Discussion

Behavior rates. An ANOVA revealed a significant main effect for kind of situation, $F(10, 490) = 18.47, p < .001, \eta^2 = .27$, indicating that the situations differed in the perceived likelihood of engaging in the behavior (see Table 3). Furthermore, a nonsignificant main effect for motivational context was found, $F(1, 49) = 0.44, p = .51, \eta^2 = .01$. There were relatively equal behavior ratings in the appetitive ($M = 69.1\%$) and the aversive ($M = 68.0\%$) situations (see Table 3).

Dispositional causation. An ANOVA showed a significant main effect for motivational context, $F(1, 50) = 37.13, p < .001, \eta^2 = .43$. There were higher ratings of perceived dispositional causation in the appetitive ($M = 6.53$) than in the aversive situation condition ($M = 5.74$), again across all incentive types. There was also a significant main effect for kind of situation, $F(10, 500) = 5.03, p < .001, \eta^2 = .09$. Higher estimated base rates of behavior yielded lower ratings of perceived dispositional causation (see Table 3), $r(51) = -.14$.

Situational causation. The ANOVA revealed a significant main effect for kind of situation, $F(10, 500) = 2.89, p < .01, \eta^2 = .06$. Higher estimated base rates of behavior yielded higher ratings of perceived situational causation (see Table 3), $r(51) = .21$, but no main effect was found

for motivational context, $F(1, 50) = 0.57, p = .45, \eta^2 = .01$. There were relatively equal ratings of perceived situational causation in the appetitive situation condition ($M = 7.09$) and in the aversive situation condition ($M = 7.04$). Furthermore, the Motivational Context \times Kind of Situation interaction was weakly significant, $F(10, 500) = 2.29, p < .05, \eta^2 = .04$, with the slope slightly steeper for aversive situations.

GENERAL DISCUSSION

There are at least five features of the present studies that represent advances on previous investigations concerning the reward-punishment asymmetry hypothesis. First, it was shown that the asymmetrical consequences of reward and punishment on perceptions of responsibility and attributions to the person are reliable across a variety of incentives and requested behaviors. Second, all of the experiments investigating compliance settings revealed not only stable main effects of incentive valence but also significant interactions between incentive valence and kind of incentive: For the negative incentives, higher rates of compliance were associated with lower attributions to the person, whereas rates of compliance and person attributions were not as strongly associated for the positive incentives. Third, it has been conclusively determined that the asymmetrical effects of reward and punishment on responsibility judgments and person attributions are not due to differences in perceived rates of compliance. None of the experiments revealed significant differences between the positive and negative incentives employed in the present studies in terms of compliance rates, indicating that the incentives were equivalent in strength. It also was shown that the effect of incentive valence on person attributions remained significant when statistically controlling for compliance rates. Wells (1980) suggested that erroneous assumptions about the base rate for compliance mediated the asymmetry phenomenon, that is, the asymmetrical effects of reward and punishment on person attribution are based on unequal norms, which yield different dispositional inferences (Jones & Davis, 1965; Kelley, 1967). This explanation for the asymmetrical effects of reward and punishment is not empirically supported by the present studies. Fourth, it appears that the responsibility differences found in Experiments 1 through 4 are due to dispositional inferences rather than to situational attributions. And fifth, Experiment 5 revealed that the asymmetrical attributional effects of a positive versus a negative motivational context appear in noncompliance settings, that is, there were greater attributions to the person given an appetitive versus an aversive motivational context.

In spite of the strength of the relations reported here, one must be cautious about the meaning of the empiri-

TABLE 3: Mean Ratings for Engagement in the Same Behavior, Dispositional Attributions, and Situational Attributions as a Function of Kinds of Appetitive and Aversive Situations (Experiment 5)

<i>Appetitive/Aversive Situation (N = 51)</i>	<i>B</i>	<i>D</i>	<i>S</i>
John turns on the television and sees an exciting show, so he stays tuned until the end of the program.	81.1	5.73	7.41
John turns on the television and sees a boring show, so he turns the channel.	84.0	4.96	7.24
John has fun going out on a blind date with a girl he finds interesting.	79.5	6.49	7.53
John does not have fun going out on a blind date with a girl he does not find interesting.	72.5	6.24	7.10
John is invited to a good restaurant and eats his entire meal.	79.1	6.06	7.00
John is invited to a poor restaurant and leaves some food.	72.0	5.06	7.16
John goes to a nightclub and likes the music. John dances for hours.	70.4	6.96	7.33
John goes to a nightclub and does not like the music. John dances only a short time.	72.3	5.96	7.31
John is taking a hiking trip. The weather is great and John walks an extra distance.	65.8	6.92	6.96
John is taking a hiking trip. The weather is poor and John cuts the trip short.	73.1	5.65	7.25
John is attending an interesting lecture and follows the lecture closely.	69.3	6.80	6.86
John is attending a boring lecture and does not follow the lecture very closely.	69.4	5.73	6.86
John is the owner of a company and has employees that do exceptional work. John gives them a bonus at the end of the year.	55.9	6.80	6.69
John is the owner of a company and has employees that do unsatisfactory work. John does not give them a bonus at the end of the year.	77.7	5.51	7.31
John is going to surf at the beach. The waves are big so he surfs the entire day.	63.3	6.76	7.25
John is going to surf at the beach. The waves are small so he surfs just a short time.	65.9	5.75	7.45
John is watching a play with talented actors. John gives them a standing ovation.	77.5	6.02	7.12
John is watching a play with bad actors. John applauds very little at the end.	53.9	5.67	6.43
John enjoys a course in school and gets a high grade in his class.	72.0	6.78	6.90
John does not enjoy a course in school and gets a low grade in his class.	52.1	6.63	6.24
John extends his vacation when staying in an inexpensive luxurious hotel.	47.0	6.51	6.98
John cuts his vacation short when staying in an expensive but not very nice hotel.	55.0	5.96	7.08

NOTE: B = engagement in the same behavior, D = dispositional attribution, S = situational attribution.

cal findings given that a similar vignette methodology was employed in all the studies, and it is not without shortcomings. For example, the positive and negative incentives used here were equated only on compliance rates, leaving open the possibility that they differed in some other respect that would confound the conclusions. For example, the vignettes in Studies 1 through 4 described an incentive offered to another. Perhaps the incentive chosen implies something about the disposition or the beliefs of the targeted person (e.g., a punishment might suggest that the potential transgressor is perceived as having a less favorable attitude toward the transgression than does the offer of a reward). This exemplifies one type of confound in that the stimuli differ not only in valence but also in the information conveyed about the transgressor that would be reflected in person inferences. In addition, the dependent variables were simple judgments on a constructed scale, leading one to wonder whether the participants were, for example, construing responsibility as different from ratings of dispositional involvement. In the remainder of the discussion, we proceed as if the data were true and not artifacts of the chosen methodology, but we recognize limitations that the reader should bear in mind.

If one thinks of explanation in terms of proximal mechanisms or processes, then attribution theorists have a few explanations of the data reported here. For

example, given a transgression for a positive incentive, or behavior within a positive motivational context, the fundamental attributional error (Ross & Nisbett, 1991) or a disposition bias (Jones & Davis, 1965) is displayed. That is, observers attribute the behavior to the person and go from the act to the disposition. Especially notable in this regard is that even given a positive incentive condition that gives rise to very high perceived compliance rates, which are thought to foster situational attributions, observers nonetheless attribute the compliance behavior to something about the person. That is, social norms in some instances have little effect on attributional beliefs. On the other hand, given negative incentives, or the presence of potentially aversive consequences, dispositional ascriptions are less displayed, particularly when given high compliance rates. Thus, the data, somewhat inadvertently, point out some of the boundaries of two basic and oft-cited attributional principles. In contrast to attributional beliefs, behavior consistent with social norms nevertheless may be attributed to the person, and compliance behavior given the possibility of negative consequences does not foster act-to-disposition inferences.

Still other attributionally guided ways of discussing the data make use of the concepts of insufficient and sufficient justification, or necessary and sufficient causal schema (see Kelley, 1973). Given positive incentives, the

judgments indicate that the behavior would not be undertaken unless the person was of a certain disposition; that is, the positive incentive is insufficient to cause the action, suggesting the use of a multiple necessary causal schema. On the other hand, given a negative motivational context, the presence of aversive incentives is more likely to be perceived as sufficient to cause the behavior, that is, the role of the person is relatively discounted, therefore implying the use of a multiple sufficient causal schema.

Although the mechanisms and processes mentioned above can be used to account for the reported data, their use as explanations is somewhat circular in that they merely describe the findings, albeit within the more general conceptual framework of attribution theory. How, then, can the data be explained when one asks, "What drives the activation of the different cognitive processes?" "Why do positive more than negative incentives foster act-to-disposition inferences or use of multiple necessary causal rules?" Three possible explanations may be derived from legal theory, Lewinian theory, and prospect theory.

Legal theory. In the law, duress is regarded as a mitigator of responsibility (see LaFave & Scott, 1986, Chap. 5); that is, if someone is illegally forced to do (or forbear) some act by the threat of violence or fear of serious injury, then that person is considered not responsible for a subsequent misdeed. Hence, for example, if a bank robber forces a customer in the bank to assist in the collection of money by pointing a gun at him or her, then that customer is not held responsible for the act. In the law, duress can be inferred only given the possibility of physical violence, and typically only extreme violence. Thus, if the robber says, "Help me pick up the money or I will hit you on the arm," then duress would not be presumed.

In the vignettes used here in the compliance studies, the threats by the professor, nurse, or ticket manager did not include physical violence. Nonetheless, it appears that to the layperson, any threat of hardship is regarded as duress and reduces perceptions of responsibility (see Robinson & Darley, 1995, for other legal-layperson discrepancies). Reward, on the other hand, does not have the same status as a mitigator as does duress, and responsibility is not lessened given an external positive incentive to commit a transgression.

Although this explanation seems quite reasonable and correct, it also has some characteristics of circularity in that it merely states, again in perhaps a more general language, what actually occurred. Hence, one can question its value as an explanatory principle. Two other approaches do not have this shortcoming and are more grounded in psychological concepts and theories.

Lewinian theory. For Lewin (1938), a positive incentive cannot exist without a corresponding need within the person; that is, a need, desire, or want creates (imbues an object with) a positive incentive (valence) that fulfills the need state. Food, for example, is a positive incentive only when the person is hungry, and a special raise may be regarded as an incentive only for a person interested in money. Positive environmental incentives and person inferences are joined or linked in Lewinian theory; if the individual does not want an object, then it has no incentive value.

But Lewin was unable to easily apply this analysis to situations of negative valence. This was in part because a negative incentive could not be construed as satisfying a preexisting need state. Hence, aversive incentives in Lewinian theory are not easily related to his ideas about persisting internal states of tension that exist independent of the current perceived situation. It therefore would be anticipated from Lewinian theory that there are greater person inferences given compliance in a positive rather than a negative motivational situation.

Prospect theory. Prospect theory, as formulated by Kahneman and Tversky (1979; see Tversky & Kahneman, 1992), is a theory of choice behavior, but nonetheless may have some application in the present context. This theory points out some of the violations made by classical, expected utility theory in regard to decision making. Among the key elements of prospect theory that are not incorporated into utility theory is that there are different evaluations for gains and losses, such that losses loom larger than gains. Kahneman and Tversky (1979) state,

The aggravation that one experiences in losing a sum of money appears to be greater than the pleasure associated with gaining the same amount. Moreover, this . . . generally increases with the size of the stake. (p. 279)

The second sentence in the above quote corresponds with our data showing that responsibility differences are greatest when conformity data (and, hence, "the size of the stake") are greatest.

If losses are weighted more than gains in choice, then perhaps this also will be reflected in judgments of the importance of the incentive valence in determining, and mitigating, responsibility such that negative incentives will be regarded as more mitigating than are positive incentives. It must be noted, however, that there were not compliance rating differences between our positive and negative valenced situations, as prospect theory would anticipate. Hence, the usefulness of this theory to the present set of data is unclear, although it certainly provides food for thought.

In sum, it is evident that the findings reported here are extremely robust and can be considered facts (partic-

ularly the multiple studies involving transgression compliance). There also are theoretical explanations available, although none has been subject to direct testing. What needs to be accomplished is the development of a clear, distal theory that connects to the more proximal attributional principles, which then link to the empirical findings.

NOTES

1. The ANOVAs reported in this article are all with repeated measures on the factors Incentive Valence and Kind of Incentive. For the sake of brevity, only the term ANOVA will be used. In addition, incentive order, gender of participants, vignette order (Experiment 2), and question order (Experiments 3, 4, and 5) had no effect on the dependent variables in any of the experiments reported; hence, these variables are not considered further.

2. Inasmuch as the design in Experiment 1 was a between-subjects factorial, the correlations between ratings of compliance and perceived responsibility were computed across vignettes; that is, the means of the compliance ratings were correlated with the means of the responsibility ratings. For Experiment 2, with the same between-subjects design, no correlations are reported because of the small number of incentives.

3. In Experiments 3 through 5, the correlations were computed using a within-subjects analysis. For each vignette, the correlations between ratings of compliance and perceived responsibility, dispositional causation, and/or situational causation, respectively, were computed for each participant. Then, the average correlations, across vignettes and participants, were calculated. A between-subjects design analysis that used only one pair of responses for each subject yielded virtually the same results.

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