Desire for Control and the Use of Attribution Processes

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ABSTRACT The hypothesis that people engage in attribution processes to obtain a sense of control was tested In each of three experiments, subjects identified on an individual difference measure as high in a general desire for control (DC) were found to engage in attribution processes more than subjects low in desire for control In Experiment 1, high-DC subjects were more likely to utilize attributionally relevant information when describing the cause of a writer's behavior than were low-DC subjects High-DC subjects in Experiment 2 were more likely to ask attribution questions about hypothetical events than were low-DC subjects In Experiment 3, high-DC subjects gave more attributions for their performance on a test than did low-DC subjects The findings are interpreted as support for the control motivation explanation for why people engage in attribution processes

There now exists a large body of literature on attribution processes, i e , the way people explain why events happen One of the nagging questions that remains in this area, however, is why people ask themselves these "why?" questions (Jones, 1979, Weiner, 1985) One hypothesis is that we engage in attribution processes to obtain or maintain a sense of control over the environment (Kelley, 1971, Wortman, 1976). Understanding why an event occurs is seen as a necessary step in perceiving that we

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have some control over that type of event Certainly it is difficult to maintain a sense of control over one's environment if one has little idea about why things happen Thus, a desire to maintain a sense of control is said to motivate people to engage in attribution processes

This hypothesized relationship between control motivation and the attribution process has been supported in several investigations (cf Pittman & D'Agostino, 1985) Swann, Stephenson, and Pittman (1981), for example, found that subjects who experienced uncontrollable outcomes during a problem-solving task were more likely to seek out information during a subsequent interview than were subjects who had experienced feelings of control on the earlier task

The researchers interpreted these findings in terms of a need to obtain relevant information about events that resulted from their increased motivation to control events In a more direct test of the control motivation interpretation, Pittman and Pittman (1980) also exposed subjects to various levels of experience with uncontrollable stimuli Following this manipulation, subjects were given an essay to read Some of the subjects were told that the writer had been paid a large amount of money to write the essay, whereas others were told that the essay was taken from a private journal Pittman and Pittman found that the subjects who had been deprived of control, and who presumably were more highly motivated to reassert control, were more likely to utilize this information when making attributions about the essay writer than were subjects not deprived of control Thus, the more subjects desired control, the more they engaged in attribution processes

In a less direct test of this hypothesis, McCaul (1983) presented depressed and nondepressed subjects with the essays used in the Pittman and Pittman (1980) investigation He found that the depressed subjects, described as generally experiencing feelings of control deprivation, used the relevant information more in making attributions about the writer than did the nondepressed subjects Taken together, these investigations indicate that a high need for control may cause people to become more aware of and utilize relevant information when making causal attributions

Recently, Liu and Steele (1986) proposed that the increase in attributional activity following a deprivation of control stems not only from a need to feel in control, but also from a need to affirm a valued self-image They argue that people are motivated to see themselves as "effective and generally able to control important outcomes independent of any mo-

tive for actual control" (p 532) In support of this position, Liu and Steele allowed some subjects in the Pittman and Pittman (1980) essay paradigm to complete a scale that affirmed their self-image after they experienced the control deprivation These subjects showed no increase in the use of attribution information relative to no-deprivation control groups

The present series of investigations was designed to examine further the notion that one reason why people engage in attribution processes is to satisfy a need to feel in control As explained above, evidence for this view has been reported in studies that have utilized a situational manipulation of level of perceived control The three investigations reported here examine the need for control explanation from an individual difference perspective That is, if the control motivation position is correct, then people who generally are high in the need to exercise control should respond to relevant situations with a greater search for attribution information and a greater use of this information than those low in this need If this prediction is supported, then the data would complement the situational manipulation studies described earlier and make a strong case for the role of control motivation in stimulating attribution processes

Burger and Cooper (1979) developed the Desirability of Control (DC) scale to assess the extent to which people generally are motivated to control the events in their environment Scale respondents are asked to indicate the extent to which each of 20 statements applies to them (e g , "I prefer a job where I have a lot of control over what I do and when I do it," "I enjoy making my own decisions") Reasonable internal consistency and test/retest indices of reliability have been found for the scale The validity of the instrument has been demonstrated in research tying the desire for control construct to various relevant behaviors, including depression (Burger, 1984), gambling behavior (Burger & Smith, 1985), speech patterns (Dembroski, MacDougall, & Musante, 1984), health-related behaviors (Smith, Wallston, Wallston, Forsberg, & King, 1984), the perception of crowding (Burger, Oakman, & Bullard, 1983), learned helplessness (Burger & Arkin, 1980), achievement behaviors (Burger, 1985), and conformity behavior (Burger, 1987)

It was hypothesized that high-DC people would use attribution processes more often and more extensively than low-DC individuals This prediction is derived from the view that people engage in attribution processes primarily to establish a sense of control Like the control-deprived subjects in Pittman and Pittman's (1980) study, high-DC people should

have a greater need to make accurate attributions and should therefore, among other things, utilize relevant information more frequently It also is expected that these high-DC people will ask more questions to obtain this relevant information and will make more attributions for their behavior than will low-DC people These predictions also are consistent with the Liu and Steele (1986) view that a motivation to see oneself as an "effective, competent person" leads to an increase in attribution processes Several studies have found that high-DC people are more motivated than low-DC people to see themselves as masterful and competent (e g , Burger, 1986, 1987) Thus, because they are more motivated to be in control and to see themselves in control, high-DC subjects should exhibit more use of attribution information than low-DC subjects

Experiment 1

Experiment 1 examined the relationship between individual differences in general desire for control and the use of relevant information in making attributions about another person The same basic procedures used by Pittman and Pittman (1980) and McCaul (1983) were employed It was predicted that high-DC subjects would utilize the relevant information in their attributions about the writer more than would low-DC subjects More specifically, high-DC subjects should make attributions that are more internal than those of low-DC subjects when both are given information suggesting an internal cause of behavior Conversely, high-DC subjects should make more external attributions than low-DC subjects when information suggesting an external cause is made available

METHOD

Subjects

Seventy-two undergraduates (30 males, 42 females) served as subjects in exchange for class credit All had taken the DC scale (Burger & Cooper, 1979) a few weeks earlier as part of a larger test battery [1] No connection was made between the scale and the research at the time of the investigation

1 To help eliminate alternate interpretations of the findings, it is important to demonstrate the discriminant validity of the DC scale That is, because personality trait variables often are correlated with other constructs, it is possible that differences

Procedure

Subjects participated in the experiment in groups Each subject was given a booklet containing a brief description of the essay writer, an essay on nuclear power, and some questions concerning their reaction to the essay These materials were taken directly from Pittman and Pittman (1980) On the first page of the booklet, subjects read that the author was an expert on nuclear power who had worked as an engineer for 25 years. Half of the subjects read a description that stated at the end of the page that the writer had been given $2,500 to write an article from which the essay was taken The other half read that the essay had been taken from a private journal of the writer's and was not originally intended for publication The two types of descriptions were randomly distributed among the subjects The information was designed to be relevant for making attributions about the writer's reasons for writing the essay The extent to which the subject made attributions for the writer's behavior in a manner consistent with the information was seen as an indication that the subject was attending to and using this information

Subjects then read a short essay in which the author described the advantages of developing nuclear energy use in this country Immediately after reading the essay, subjects answered several scaled items on an attached questionnaire The major dependent variable was assessed with two items asking subjects why they thought the author wrote the essay Subjects indicated on 7-point scales the extent to which they believed the writer wrote the essay because of "some internal influences due to some dispositions, characteristics, or opinions of this particular author" and the extent to which "some external influences" caused the author to write the essay Other filler items on the questionnaire asked the subject about his or her view on the issue of nuclear power, how accurate or biased he or she felt the writer was, and how knowledgeable he or she thought the writer was on the topic

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between the DC groups could be attributed to other traits on which the groups differ Past research with the DC scale suggests that it does not correlate with many commonly used personality trait measures For example, the scale does not correlate highly with the Marlowe-Crowne Social Desirability scale, 11, or the Rotter Locus of Control scale, − 19 (Burger & Cooper, 1979) Other unpublished data collected by the author indicate that the scale also does not correlate with measures of Machiavellianism (Mach-IV scale, − 03), need for achievement (Edwards Personal Preference subscale, − 04, Spence & Helmreich WOFO Work Motivation subscale, 02), extraversion (Eysenck Personality Inventory, 09), or competitiveness (WOFO Competitiveness subscale, 10) However, as with most individual difference research, the possibility that another undiscovered variable that correlates with desire for control is influencing the results reported here cannot be entirely eliminated

Table 1
Mean Attribution Scores for Essay Writer's Behavior

	Writer paid		Private journal	
	High-DC	Low-DC	High-DC	Low-DC
Internal causes	3 85	4 76	5 29	4 86
	(1 46)	(1 48)	(1 43)	(1 31)
External causes	5 65	5 06	4 57	5 10
	(1 09)	(1 48)	(1 91)	(1 30)
Composite attribution score (external − internal)	1 80	0 29	−0 71	0 24
	(2 02)	(2 59)	(3 05)	(2 14)

Note The higher the internal score, the more subjects attributed the writer's behavior to internal causes, the higher the external and composite score, the more subjects attributed the writer's behavior to external causes Standard deviations appear in parentheses

RESULTS AND DISCUSSION

Subjects were divided via a median split of their DC scale scores into high- and low-DC halves In addition, as utilized by earlier researchers, a composite attribution score was calculated by subtracting the subject's score on the internal-cause item from the external-cause item This score then was subjected to a 2 (high/low DC) × 2 (paid/private essay) univariate analysis of variance (ANOVA) [2] A significant main effect for essay condition was found, F (1, 68) = 4 96, $p <$ 03 As can be seen in Table 1, however, this effect is modified by a significant interaction, F (1, 68) = 4 54, $p <$ 04 As shown in the table, low-DC subjects did not differ across essay conditions in their explanations for the writer's behavior High-DC subjects, however, tended to make attributions more consistent with the information provided to them in the author description High-DC subjects informed that the writer was paid $2,500 for the essay tended to make more external attributions, whereas high-DC subjects told that the essay was taken from a private journal tended to make more internal attributions A Newman-Keuls test found that only the two high-DC cells differed significantly from each other, $p <$ 05

2 In each of the three experiments, gender was also examined in the original analyses Significant effects associated with gender were not found in any of the experiments Therefore, this variable was dropped from the analyses

It should be noted that a similar, but slightly weaker, pattern of results was obtained from each of the two attribution items that comprised the composite score The interaction effect for the internal item was significant, $F(1, 68) = 3\ 93, p < 05$, but the interaction fell short of significance on the external item, $F(1, 68) = 2\ 67, p < 10$ Scores for the two items were negatively correlated, $r = -\ 27, p < 03$

The results of Experiment 1 thus fit the predictions nicely Low-DC subjects did not appear to utilize the relevant information at all in making their attributions High-DC subjects, on the other hand, paid attention to and used this information significantly more in making their attributions for the writer's behavior Consistent with the hypothesis outlined earlier, a need to perceive oneself in control of the environment, which generally is much higher in high-DC than low-DC people, may be responsible for the more active utilization of the attribution processes by these high-DC subjects

Experiment 2

Another method for assessing how actively subjects engage in attribution processes has been presented by Wong and Weiner (1981) These investigators were interested in the conditions under which people engage in attribution activities Hypothetical situations were read by subjects who were asked to respond by listing what questions, if any, they would ask themselves in the situation Wong and Weiner devised a coding scheme for identifying which of these questions indicated that the subject was engaging in an attributionally relevant information search It was found that people were more likely to ask themselves questions relevant for making attributions when the outcome of the situation was negative and when it was unexpected

The present experiment replicated the basic Wong and Weiner procedure, but included an examination of the subject's DC level It was hypothesized that high-DC individuals would list a larger number of attributionally relevant questions than would low-DC individuals This prediction is consistent with the general hypothesis being tested here that a high need for control is responsible for motivating people to engage in attribution processes In addition, it was predicted that more attributions would be found for negative experiences than for those situations described with positive outcomes, thus replicating the Wong and Weiner results

METHOD

Subjects

Eighty-seven undergraduates (36 males, 51 females) served as subjects in exchange for class credit All had taken the DC scale earlier in the semester as part of a larger test battery, although no connection was made between the scale and the experiment at the time of the research

Procedure

Subjects were given a questionnaire to complete It was explained that the top of each page of the questionnaire would contain a brief description of a hypothetical situation Subjects were instructed to imagine themselves in that situation On each page they were asked "What questions, if any, would you ask yourself in this situation? You need not write down anything if asking yourself questions is not what you would do in this situation " Subjects then read and responded to four descriptions One academic and one social situation were used, with a good and bad outcome for each Thus, subjects read about one situation in which they had just received a midterm examination on which they had received a high A In another situation they received a midterm with a grade of F The social situation was described as meeting a same-sex person at a party In one description the subject hears that the new acquaintance has said some nice things about him or her afterward In the other description the subject learns that this person has said some unkind things Questionnaires were constructed so that the four descriptions were presented in a random order, thus controlling for order effects

RESULTS AND DISCUSSION

Subject responses were coded using the scheme provided by Wong and Weiner (1981) Two judges independently coded each response as either an attribution question (e g , "Why did I fail?" "How did everyone else do?") or not (e g , "How will this affect my chances of getting into graduate school?"), as defined by Wong and Weiner The judges were not aware of the hypotheses or purpose of the experiment The judges agreed on the coding of 673 of the 759 responses (89%) Where disagreements occurred, the first author, unaware of the earlier codings and blind to the subjects' DC level, decided the categorization

Once again, subjects were divided into high- and low-DC groups via a median split method The dependent variable was the number of attribution questions listed for the hypothetical situations Initial analyses in-

Table 2
Mean Number of Attributional Questions Listed

	High-DC	Low-DC
Positive outcome events	1 84	0 77
	(2 25)	(1 04)
Negative outcome events	4 75	3 91
	(2 09)	(1 78)

Note Standard deviations appear in parentheses

dicated that there were no differences in the dependent measure as a function of whether the hypothesized event was in a social or academic setting Therefore, this variable was collapsed in the subsequent analysis Thus, a 2 (high/low DC) × 2 (positive/negative outcome) ANOVA was conducted on the number of attribution questions measure, with the outcome variable a within-subjects variable A significant main effect for outcome was uncovered, F (1, 85) = 184 38, $p <$ 0001, with subjects providing more attribution questions for negative outcome events than for positive outcome events In addition, a significant main effect for the DC variable was found, F (1, 85) = 8 44, $p <$ 005, with high-DC subjects listing more attribution questions than low-DC subjects The interaction was not significant The means for this measure are presented in Table 2

The results of Experiment 2 thus provide a replication of the Wong and Weiner (1981) finding that people ask more attribution questions (i e , are more likely to engage in attribution processes) when confronted with a negative outcome event than when encountering an event with a positive outcome More important, this tendency to engage in attribution processes was found more often among the high-DC subjects than among the low-DC subjects, regardless of the type of outcome Thus, the results can be interpreted once again as evidence for an increased use of attribution processes resulting from an increased motivation for control

Experiment 3

Experiment 2 demonstrated that high-DC subjects tend to ask more attribution questions than low-DC subjects when imagining themselves in hypothetical situations Experiment 3 looked at this tendency in a less hypothetical setting Subjects in this experiment were placed into what they believed to be a real testing situation Half were given bogus feed-

back indicating they had performed well on a test, whereas half were given feedback indicating failure If high-DC subjects respond to such situations with more attribution processes, then it would be expected that they would provide more explanations for their performance than would low-DC subjects Further, it can be predicted, following Wong and Weiner (1981) and the results of Experiment 2, that subjects would give more attributions for failure experiences than for successful ones Thus, Experiment 3 provides yet another test of the hypothesis that a high need for control is related to increases in the use of attribution processes

METHOD

Subjects

Sixty-two undergraduates (30 males, 32 females) served as subjects in exchange for class credit Each had taken the DC scale earlier in the semester as part of a larger test battery, although no connection between the scale and the experiment was made at the time of the investigation

Procedure

Subjects participated in the experiment in groups of 6 to 10 The experimenter explained that he was interested in the relationship between "certain verbal and mathematic skills and individual differences in personality" Subjects were told that they would be given a knowledge and mathematics test followed by some personality inventories Subjects then were given an answer sheet and a test booklet labeled the "California General Information and Cognitive Abilities Test " The experimenter explained that the test items were designed to assess "your general knowledge, your ability to recall and use information, and your ability to deal with several types of simple mathematics in a short period of time " This description was designed to be vague enough so that subjects would find bogus feedback on both success and failure credible, yet sound important enough so that subjects would take the test score seriously The test consisted of 50 items requiring general knowledge and simple mathematic calculations (e g , "The number of planets in our solar system + 12^2 + the number of hours in a week"), approximately half the items were relatively easy, the other half were difficult Subjects were given 15 minutes to complete the test Paper was provided to perform calculations, but calculators were not allowed

At the end of the 15-minute period, subjects turned in the test and answer sheet and began work on some personality inventories The inventories were unrelated to the experiment, but served two purposes First, they enhanced

the believability of the cover story Second, they took about 10 minutes to complete, thus allowing the experimenter enough time to "score" the first test After subjects completed and returned the personality inventories, the experimenter passed back the answer sheets from the initial test The experimenter had written the raw score in red ink on the answer sheet, had marked the subject's responses with the appropriate number of checked spaces, and had indicated the percentile score for a college-aged norm group Half of the subjects received feedback indicating that they had performed at the 85th percentile, and half were told they had performed at the 15th percentile The experimenter explained what the percentile scores meant, then passed out a final questionnaire This questionnaire contained a 9-point scale asking subjects how well they felt they had performed on the test relative to most of the subjects participating in the experiment In addition, one item asked subjects to list "as many reasons as you can for why you performed as well or as poorly as you did on the test " Although space was provided for eight answers, subjects were told to list only those reasons they felt genuinely contributed to their performance Following this, subjects were thoroughly debriefed and dismissed

RESULTS AND DISCUSSION

Subjects were divided via a median split of their DC scale scores into high- and low-DC halves To evaluate the success of the test feedback manipulation, subject scores on the item asking how well they felt they had performed on the test were examined within a 2 (high/low DC) × 2 (success/failure feedback) ANOVA A significant main effect for the feedback variable was found, $F(1, 58) = 10\ 98, p < 001$, with subjects given success feedback reporting they had done better on the test than subjects given the failure feedback Interestingly, a significant main effect also emerged for the DC variable, $F(1, 58) = 3\ 98, p < 05$, with high-DC subjects believing they had performed better than low-DC subjects This finding is consistent with the model of desire for control and achievement presented by Burger (1985) In that research Burger found that high-DC subjects tended to attribute the cause of their performance to themselves for successes and to external sources for failures This optimistic pattern seems to have been reflected in the present investigation as well, with the high-DC subjects interpreting their performance in a more positive light than the low-DC subjects

The major dependent variable in this investigation was the number of reasons subjects listed for their performance on the test This measure was subjected to a 2 (high/low DC) × 2 (success/failure feedback) AN-

Table 3
Mean Number of Reasons Given for Performance

	High-DC	Low-DC
Success outcome	3 38	2 37
	(1 54)	(1 45)
Failure outcome	3 00	2 56
	(0 95)	(1 04)

Note Standard deviations appear in parentheses

OVA Only a significant main effect for the DC variable emerged in this analysis, F (1, 58) = 4 78, $p < 03$ As shown in Table 3, high-DC subjects provided more reasons for their performances, regardless of outcome

The results of Experiment 3 thus once again support the relationship between a need for control and the use of attribution processes In this case, the high-DC subjects provided more explanations for their performance than the low-DC subjects Interestingly, the number of explanations provided was not affected by the perceived success or failure of the performance As such, the Wong and Weiner (1981) and Experiment 2 finding that people are more likely to engage in attribution processes when presented with events with negative outcomes was not replicated

Given these results, one might speculate that the tendency to make more attributions for failure than success would at least be found for the high-DC subjects, since these subjects have a higher motivation for control and hence should be more motivated to engage in attribution processes following failure (no control) experiences However, as seen in Table 3, this also was not the case High-DC people were more motivated to explain their experiences, successes and failures, than were low-DC individuals Apparently, the outcome manipulation was not successful in creating differences in the subjects' need to exercise control Thus, no main effect for the outcome variable nor interaction with the DC variable was found

GENERAL DISCUSSION

Taken together, the three experiments provide strong and consistent evidence for the predicted relationship between a motivation to control events and the use of attribution processes It has been proposed that one

reason people ask themselves why a certain event has happened and then answer this question using the processes outlined by attribution theorists is that they are attempting to satisfy a desire to feel in control In each of the three experiments presented here, subjects who generally needed to control events were more likely to engage in these attribution processes than subjects who did not need as much control The findings thus suggest that a greater motivation to perceive oneself as in control caused these high-DC persons to engage in attribution processes The present series of studies, therefore, adds to the growing evidence in support of the control motivation explanation for the use of attribution processes

What remains unclear, however, is why people wanting control use attribution processes and how these attributions bring about a sense of control Burger (1985) found that high-DC people tend to make attributions that give them a sense of control (e g , attributing one's successes to ability), but this does not explain why these people generally are more likely to make attributions It may be that knowledge of any sort provides a more realistic information base upon which to plan one's future actions As such, knowing even that one is unable to control certain events might provide more of a sense of mastery than being totally uncertain about what one can and cannot control Knowledge about why things happen would seem to be a prerequisite to being able to control similar events in the future This explanation also is consistent with Liu and Steele's (1986) analysis, in which engaging in attributional processes is seen as part of the maintenance of a competent, masterful self-image

The findings also provide additional insight into the desire for control variable The picture obtained from these studies is of a high-DC person who is actively seeking out information in the environment in an effort to understand why things happen to him or her and to others When important events happen, the high-DC person seems to entertain more alternative explanations of why the event occurred, and probably arrives at more complex answers to this question Because events rarely have simple, single-cause explanations, it is tempting to speculate that the high-DC person's more complex attributional style provides a relatively more accurate account of the causes of life's events (Pittman & D'Agostino, 1985) However, the present investigations provide no information about the accuracy of subjects' attributions

One puzzling discrepancy found in the research concerns the use of attribution processes for events with positive and negative outcomes. Subjects in Experiment 2 gave more attribution questions when imagin-

ing themselves in situations with negative rather than positive outcomes However, subjects gave no more attributions for their failures than for their successes in Experiment 3, nor did this variable interact with the desire for control variable This strongly suggests that the success/failure manipulation in the third experiment was not successful in generating different levels of need for control

Two highly speculative explanations for this discrepancy can be provided First, Experiment 2 dealt with hypothetical events, whereas Experiment 3 was concerned with what subjects believed to be a real situation It is possible that subjects' imagined reactions to, for example, failing a test, are different from their actual response Second, the difference uncovered in Experiment 2 between positive and negative outcome events may have been confounded with the subjects' expectancies for those outcomes Studies have shown that people are more likely to engage in attribution processes when confronted with unexpected events than when encountering expected outcomes (Pyszczynski & Greenberg, 1981, Wong & Weiner, 1981) A college student probably does not expect to fail a test or have an unpleasant social encounter, but he or she may anticipate receiving an A or having a pleasant introduction to a new acquaintance In Experiment 3, however, the test description may have been vague and unique enough that subjects were not able to form strong expectancies about their performance before taking the test Thus, failure on the test might have been no more unexpected than performing quite well As such, the apparent discrepancy between the results for the outcome variable in these two studies can be accounted for in terms of differences in subject expectancies

Finally, one of the questions that remains in this research is whether the increased use of attribution processes by high-DC subjects can be explained in terms other than a motivation for control More specifically, it may be that high-DC subjects utilized the attributionally relevant information in the first experiment because they generally are more attentive to information than are low-DC subjects Similarly, high-DC subjects in Experiments 2 and 3 may have provided more attributions than the low-DC subjects because they were more highly motivated to get involved in the attribution task Burger (1985) found that high-DC people are more likely to get involved in an achievement-type task Thus, whether one thinks of attribution processes as specifically generated by a motivation for control or as part of a larger style of interacting with the environment used by high-DC people remains an open question What

can be concluded from this and earlier research, however, is that a strong motivation to increase one's feelings of personal control appears to be manifested in a large number of ways, one of which is to increase one's attention to attributionally relevant information and to engage in a more elaborate search for explanations for events

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