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ACTOR AND OBSERVER ATTRIBUTIONS FOR DIFFERENT TYPES OF SITUATIONS: CAUSAL-STRUCTURE EFFECTS, INDIVIDUAL DIFFERENCES, AND THE DIMENSIONALITY OF CAUSES

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In a within-subjects design, the effects of situation type (interpersonal vs. noninterpersonal × success vs. failure) and attribution perspective (actor vs. observer) on open-ended attributions were examined. The results were compared to findings from research on the causal structure of situations, actor–observer differences, and success–failure attributional asymmetries. As expected, observer attributions were virtually identical to the underlying causal structure of the situations, whereas actor attributions were also affected by other attribution-processing factors. In addition, actor attributions were more external and unstable than observer attributions. The motivational-bias position on success–failure asymmetries received no support, as observers showed a more "defensive" pattern of attributions than did actors. Finally, supplementary analyses yielded positive correlations between actor and observer attributional styles, and also revealed that causal dimensions usually treated as orthogonal are actually highly correlated. The implications of these results for the construction and testing of attributional theories are discussed.

The explanations people generate for events are crucial determinants of subsequent behaviors, affects, and judgments. A vast array of literature demonstrates the importance of understanding such explanations or attributions for analyzing phenomena as diverse as motivation in

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achievement settings (e.g., Weiner, 1979), motivation and performance quality in interpersonal settings (e.g., Anderson, 1983c), clinical problems such as depression and loneliness (e.g., Anderson, Horowitz, & French, 1983; Hastier, 1984; Peplau, Russell, & Heim, 1979; Seligman, Abramson, Semmel, & von Baeyer, 1979), and judgments about the likely job performances of job applicants (e.g., Anderson, 1983a).

A large number of determinants of such lay explanations have also been investigated, with an impressive yield. Researchers have examined when people are most likely to generate explanations (e.g., Anderson, 1983a; Pyszczynski & Greenberg, 1981; Winter & Uleman, 1984; Wong & Weiner, 1981), as well as factors that influence the content of the generated explanations (e.g., Jones & Goethals, 1972; Jones & Nisbett, 1972; Kelley, 1973; Taylor & Fiske, 1978).

However, when one considers all the determinants of attributional explanations that have received close scrutiny in the last 15 years, there appears to be a major omission. Much attention has been directed at describing attributional influences within a given situation, but the effects of different situation types have been almost totally ignored. That is, the perceived causal structures of situations, and their influence on attributions, have received scant attention.

The one exception to this pattern is a recent paper (Anderson, 1983b) in which the idea was explicitly tested that different types of situations are perceived as having different causal structures. A basic assumption of this approach is that the attribution process consists of two stages: problem formulation, in which plausible causal candidates for an observed event are generated; and problem resolution, in which the "best" attribution (or combination) is chosen (see also Kruglanski, 1980).[1] In other words, people have prior beliefs about what types of causes are likely to come into play in a given situation. These prior beliefs influence the final attributions subjects make, serving as tentative hypotheses that guide the final selection of an attribution. The causal-structure hypothesis is thus twofold. Different types of causes will be generated as plausible causal candidates for different types of situations. These causal-structure effects at the stage of problem formulation will influence the final attributions chosen at the stage of problem resolution.

In the earlier paper (Anderson, 1983b), the first-stage hypothesis was tested, and a description was provided of the causal structure of a set of situation types. The present paper examines the effects of the causal structure on final attributions. A brief account of the earlier

1. It is also possible for the problem solver to reject all candidates generated in the first stage, and then return to problem formulation or give up on the problem.

study's methods and results will facilitate discussion of the present research.

The first set of subjects in the earlier study (Anderson, 1983b) examined the 20 hypothetical situations from the Attributional Style Assessment Test—I (ASAT) (Anderson *et al.*, 1983), and generated plausible causal candidates for each situation outcome for an unspecified person "X." The situation items on the ASAT are of four types: interpersonal failure, interpersonal success, noninterpersonal failure, and noninterpersonal success. Although subjects were allowed to list as many causes per situation as they wished, only the first one listed for each situation (i.e., the most accessible) was used in the assessment of the causal structure.

A second group of subjects rated each of the generated causes on six causal dimensions: changeability, locus, globality, stability, intentionality, and controllability. Each cause generated by the first group of subjects was then assigned six dimension scores, based on its average ratings by this second group of subjects. The causes generated by the first group of subjects were then analyzed to see whether the location of the causes on the six dimensions varied as a function of situation type. As expected, there were many significant effects for situation type. For instance, interpersonal situations stimulated generation of relatively more internal, less global, and more stable causes than noninterpersonal situations.

The results of the Anderson (1983b) study showed that the perceived causal structure of situations varies across different types of situations. In addition, the results described the causal-structure differences for that particular set of situations, situation types, and subject population. The causal-structure differences can thus be used to predict final-stage attributions by new subjects for these same situations. All else being equal, we should expect a person's final attributions for a set of situations to be similar to the differential causal structures of the situations. We should expect this because we know (1) that more salient causes tend to be assigned more attributional responsibility (Taylor & Fiske, 1978); (2) that people tend to engage in (biased) hypothesis-confirming processes (e.g., Snyder, 1981); and (3) that attributional searches can be characterized as truncated searches (Shaklee &Fischhoff, 1982). That is, for a given situation, some types of causes will be salient by virtue of their being part of the causal structure. The salient causes will be examined; confirming information will be sought. When sufficiently plausible evidence is found, the hypothesis testing will cease.

This process, of course, is quite different from that forced on subjects in most attribution studies. In the typical study, the subject examines a list of causes provided by the experimenter. The same list is used for different situations, and makes salient causes that may or may not be part of the causal structure of that situation. Furthermore, causes not on the list cannot be used by the subject. The artificial nature of such procedures may produce very artificial results that lead to incorrect theoretical interpretations (see Anderson, 1983b).

From the causal-structure perspective, the key phrase in the prediction of similarity between causal structure and final attributions is "all else being equal." When other attributional determinants operate at the final attribution stage, the causal-structure effects may be overridden, reversed, or exaggerated. When there is little other information available, the causal structure should be mirrored almost perfectly in final attributions. This prediction derives from viewing the causal structure as prior beliefs, as hypotheses, or as situational schemas. In particular, anonymous observer attributions, made for a hypothetical other person, should be unaffected by other attributional determinants that work at the final attribution stage.

Conversely, making self-attributions (actor attributions) brings several of these final-stage attributional determinants into play. For example, information based on past experiences in the situation, and general expectancies and beliefs about one's own abilities and intentions, all play a role in self-attributions, but are less likely to be available for other-attributions (c.f. Jones & Nisbett, 1972; Monson & Snyder, 1977). Thus, we should expect actor attributions to deviate more from the causal structure than observer attributions.

OVERVIEW OF THE DESIGN AND ISSUES

In a totally within-subjects design, subjects in the present study examined the 20 ASAT situations and gave final-stage attributions for the outcomes described. Subjects did this for themselves, as if they were in the situations (actor conditions), and for a hypothetical average college student (observer conditions). It should be recalled that the ASAT contains interpersonal and noninterpersonal situations with success and failure outcomes. The design was thus a $2 \times 2 \times 2$ factorial (actor-observer $\times$ success-failure $\times$ interpersonal-noninterpersonal).

Each of the attributions was then assigned dimension scores, based on earlier data (Anderson, 1983b), for each of five dimensions: controllability, stability, locus, globality, and intentionality.[2] Comparisons

2. A sixth dimension, changeability, was also reported earlier (Anderson, 1983b). Subjects in that study and in other unpublished data apparently viewed changeability and controllability as one and the same. It was therefore not included as a separate dimension in the present study.

to the causal-structure results from Anderson (1983b) allowed a test of the main prediction—that observer attributions would match the causal structure more closely than would actor attributions.

In addition, the data of the present experiment (actor and observer attributions for two types of success and failure situations) allowed replication tests of other research questions. In particular, the actor-observer literature predicts that actor attributions should be more external and unstable than observer attributions because of informational differences between actors and observers (Jones & Nisbett, 1972; Monson & Snyder, 1977). The literature on asymmetrical attributions for success and failure is a bit more complex. Because the present design minimized self-presentation concerns (and thus subjects' attempts to appear modest), the motivational prediction was that actor attributions would be relatively more internal and stable for success, and relatively less internal and stable for failure, than observer attributions. No simple prediction could be made from the cognitive position. Several informational features generally seen as cognitive contributors to the attributional asymmetry noted above were missing from the present study. For example, subjects did not actually participate in the situations. Thus, the influences of usually salient actor efforts and intentions were missing. In sum, the present experiment allowed an examination of asymmetrical attributions for success and failure, but did not provide a critical test of the motivational and cognitive positions (cf. Tetlock & Levi, 1982).

Finally, two other questions of general interest to attribution researchers were addressed by these data. First, do individual differences in attributional style generalize across the actor-observer perspective? Recent work suggests that there are individual differences in attributional style for one's own outcomes, and that such individual differences are related to clinical problems such as depression and loneliness (e.g., Anderson *et al.*, 1983; Seligman *et al.*, 1979). But do these *actor* attributional styles correlate positively with corresponding *observer* attributions? Considering only the causal-structure effects, one would predict positive correlations, because both actor and observer attributions are presumably influenced by the same perception of the causal structure. Such positive correlations would constitute indirect support for the notion that there are individual differences in the perceived causal structure of situations. However, it may be that people who are most generous in self-attributions (e.g., nondepressed) may be the harshest judges of others, while the harshest self-judges (e.g., depressed) may be the most generous in other-attributions. This pattern would yield negative actor-observer correlations.

The second question concerns the orthogonality of causal dimensions in the population of subject-generated attributions. Although the major theorists in this area (e.g., Weiner, 1979) acknowledge that the dimensions in their models are probably correlated, and have taken steps to avoid this problem in their research, little empirical attention has been given over to assessing the various intercorrelations. Recently, however, it has been empirically demonstrated (Anderson, 1983b) that the causes generated by subjects for the ASAT situations are not dimensionally orthogonal. Indeed, of the four most commonly used dimensions—locus, stability, controllability, and globality—only stability and globality were not highly correlated. However, in that study the dimension correlations weighted each of the 63 distinguishable causes equally, not taking into account the relative frequency of the various causes. In addition, the generality of these interdimensional correlations across situation types was not assessed. (See also Anderson & Arnoult, 1985.)

These two questions, concerning the orthogonality of causal dimensions and the actor-observer correlations of attributional style, were also addressed by the present data.

METHOD

SUBJECTS

Subjects were 34 male and 44 female undergraduates who completed a questionnaire packet as part of a course requirement. Because there were no effects of sex in any of the analyses, this factor is not addressed further here.

PROCEDURE

At the beginning of an introductory psychology class period, questionnaire packets were distributed to 92 students. Each questionnaire packet contained a number of personality inventories and the two modified ASAT questionnaires used in the present study (see Anderson *et al.*, 1983, Study 1, for a complete description of the ASAT construction).

The ASAT contains 20 situation items equally divided among four situation types: interpersonal failure, interpersonal success, noninterpersonal failure, and noninterpersonal success. For the actor attribution version (Actor ASAT), subjects were instructed to imagine themselves in each situation, and to write down the one cause that would best explain their outcome in that situation. For the observer attribution version (Observer ASAT), subjects were instructed to imagine a hypothetical average college student in each situation, and to write down the cause that would best explain the outcome. These two versions of the ASAT were separated in the packet by several personality inventories. Of the 92 subjects who received packets, 78 subjects correctly completed both versions.

Two judges independently examined each written cause and classified it as one of the 63 causes identified for these situations by subjects in the earlier study (Anderson, 1983b). The causes were classified identically approximately 62% of the time. Most disagreements fell within the same type (or cluster) of causes, such as "worked hard" or "tried hard" (60%).

It should be recalled that on the basis of subjects' judgments in the prior study, each of the 63 causes had associated with it dimension scores on the following dimensions: controllability, intentionality, stability, globality, and locus. Scores on these dimensions could range from 1 to 9, with larger scores indicating that the cause was more controllable, intentional, stable, global, and internal. These dimensions were chosen because they are the major ones identified by a number of attribution theorists. On the basis of these results, each attribution in the present study was assigned two dimension scores (one from each judge's classification) on each of five dimensions. To assess the interjudge reliability of this entire procedure, the two dimension scores were correlated for each dimension for the attributions on each of the 40 items (20 actor, 20 observer). The average correlation for each dimension was as follows: controllability, .75; intentionality, .76; stability, .70; globality, .61; locus, .73. These correlations indicate that the judges were interpreting the written causes quite similarly. Finally, disagreements between the two judges on final placement of a cause was resolved by a third judge, and dimension scores were assigned on the basis of this resolution. All judges were unaware of the purpose and hypotheses of the study.

RESULTS AND DISCUSSION

CAUSAL-STRUCTURE EFFECTS

These analyses examined the correspondence between the causal structure of the ASAT situations, as assessed earlier (Anderson, 1983b), and the final attributions given by the present subjects. The clearest way to conceive this problem was to view the 20 mean dimension scores (five causal dimensions for each of four situation types) from the Anderson (1983b) study as descriptors of the causal structure. If this causal structure exerted an influence on final attributions, the 20 mean attribution scores (for actor and observer attributions separately) should correspond closely to the causal structure.

The results of this comparison revealed a remarkably strong relationship between the means for causal structure and the means for observer attributions. Indeed, the correlation was almost perfect, $r(18) = .97$, $p < .001$.[3]

To test the causal-structure effects further, the causal-structure data and the observer attributions were entered into a set of mixed-mode analyses of variance (ANOVAs), with subject's task (causal structure vs. observer attributions) as a between-subjects factor, and item outcome (success vs. failure) and item interpersonalness (interpersonal vs. noninterpersonal) as within-subjects factors. The main point of interest in these analyses would be any interaction involving the subject's task factor. Such interactions would mean that the observer attribution pattern differed from the causal structure. Thus, few such interactions would mean that the observer attributions were heavily influenced by the causal structure.

The results of these analyses strongly supported the causal-structure prediction, and provided converging evidence for the results of the correlation analysis. Of the 15 possible interactions involving the task factor (task × outcome; task × interpersonalness; task × outcome × interpersonalness for each of five causal dimensions), only one reached even a marginal level of significance. The only effect was that the causal-structure data yielded more global causes for failure than for success, whereas observer attributions were slightly more global for success than failure, $F(1, 100) = 5.14$, $p < .05$. Given the large number of tests, this one significant effect should be interpreted with caution.

In sum, the correlation analysis and the ANOVA approach yielded the same conclusion: The causal structure of the ASAT situations was the major determinant of observer attributions.

It was predicted that the actor attributions would be less heavily influenced by the causal structure of the situations. The correlation between actor attributions and causal structure was strong, $r(18) = .88$, $p < .001$, reflecting the influence of causal structure on actor attributions.

3. Because the causal dimensions were not orthogonal, the 20 data points in this correlation were not independent. The correlation and the significance test of it should therefore be interpreted cautiously. In addition, this overall correlation may have been influenced by a main effect of the different dimensions, which was somewhat less relevant to the causal-structure effects under investigation. An alternative approach would be to calculate this correlation on each dimension separately. The average of these five correlations was also impressively high, $r = .93$.

But it was also significantly lower than the correlation between observer attributions and causal structure, $t(17) = 3.91$, $p < .002$.[4]

As before, the data for actor attributions and for causal structure were combined into an overall mixed-mode ANOVA. To the extent that attributional factors other than causal structure were affecting actor attributions, significant interactions involving the task factor (actor attributions vs. causal structure) should result. As expected, a larger number of such interactions did result from this analysis than resulted from the same ANOVA on observer attributions. Indeed, 6 of the 15 possible interactions were significant, F's $(1, 100) > 6.35$, p's $< .02$.

In sum, it is clear that the causal structure of the ASAT situations had a strong influence on subjects' attributions, particularly the observer attributions, thus confirming the primary prediction of the experiment. Let us now turn to the secondary results.

ACTOR-OBSERVER COMPARISONS

These analyses combined the actor and the observer attributions into a series of overall 2×2×2 repeated-measures ANOVAs, one on each of the five dimensions. These data allowed an examination of actor-observer attributions and of asymmetrical attributions for success and failure hypotheses. The results of these analyses are presented in Tables 1 and 2. The main effects of the success-failure and interpersonal-noninterpersonal factors, and their interactions, are not directly relevant to actor-observer comparisons, so these factors are not discussed further in this section except when interactions with the actor-observer variable occur. The reader is invited to compare these effects to the causal-structure data in Anderson (1983b).

The major prediction from the actor-observer literature was that actor attributions would, on the average, be less internal and less stable than observer attributions, reflecting the actors' tendencies toward situational attributions. The main effects of actor-observer attributions on these two dimensions confirmed this prediction, F's $(1, 77) > 14$, p's $< .001$.

The motivational approach to actor-observer attributional asymmetries for success and failure predicts an interaction between these two factors on the locus and stability dimensions. Specifically, actor at-

4. The results from the alternative analysis (reported in footnote 3) for the correlation between actor attributions and causal structure were quite similar to those reported in the text. The average correlation (across each dimension) was .62.

TABLE 1
Mean Attributions of Actors and Observers, by Situation Type, for Each Causal Dimension

	ACTOR				OBSERVER			
	INTERPERSONAL		NONINTERPERSONAL		INTERPERSONAL		NONINTERPERSONAL	
CAUSAL DIMENSION	SUCCESS	FAILURE	SUCCESS	FAILURE	SUCCESS	FAILURE	SUCCESS	FAILURE
Locus	6.48	6.20	5.62	5.74	6.76	6.44	6.04	5.66
Stability	5.44	5.48	5.16	5.26	5.68	5.60	5.46	5.18
Controllability	5.66	5.42	5.62	5.68	5.64	5.38	5.70	5.54
Globality	6.02	5.90	6.34	6.18	5.90	5.90	6.26	6.22
Intentionality	5.60	5.24	5.20	5.14	5.44	5.14	5.22	5.04

TABLE 2
Significant Effects from the Complete Actor-Observer (AO) × Interpersonal-Noninterpersonal (IN) × Success-Failure (SF) ANOVAs on Each Causal Dimension

CAUSAL DIMENSION	MAIN AO	MAIN IN	MAIN SF	AO × IN	AO × SF	IN × SF	AO × IN × SF
Locus	14.67***	73.79***	21.25***		7.02**		7.29**
Stability	25.91***	56.85***	7.02**		26.21***		9.92**
Controllability			13.03***			4.62*	
Globality		125.89***	11.76***		6.35*		
Intentionality		12.60***	33.06***			7.29**	

*$p < .05$.
**$p < .01$.
***$p < .001$.

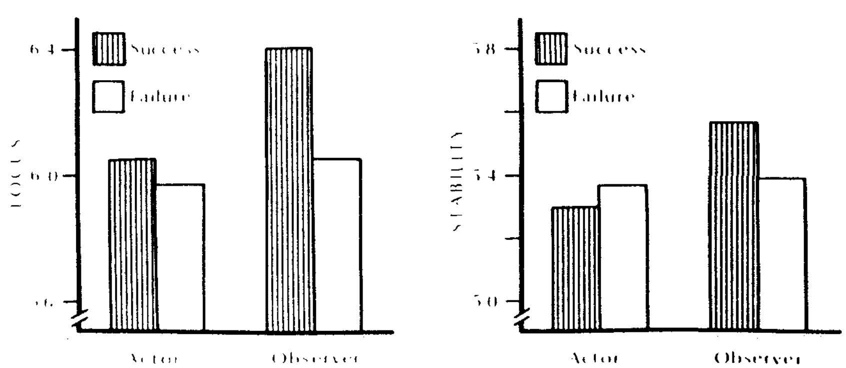
tributions should be relatively more internal and stable for success (ego-enhancing) and relatively more external and unstable for failure (ego-defensive) than observer attributions. The interaction effects were both significant, F's $(1, 77) > 7$, p's $< .01$, but were precisely opposite to this motivational prediction. As shown in Figure 1, observer attributions were relatively more internal and stable for success than failure, relative to actor attributions.

Interpretation of these two-way interactions must be further qualified by significant actor-observer × success-failure × interpersonal-noninterpersonal 3-way interactions for both the locus and stability dimensions, F's $(1, 77) > 7$, p's $< .01$. The three-way interactions revealed that the actor-observer × success-failure interactions resulted primarily from attributions for noninterpersonal situations. For these situations, actor attributions were more internal and stable for failure than for success, while observer attributions showed the reverse pattern. Without more specific data on the relevant subjects' cognitions, it is impossible to fully understand (or predict) these interactions from the cognitive position. It should be clear, however, that these data do contradict the motivational-bias position.

One other interaction involving the actor-observer variable also reached significance. Success was attributed to more global causes than was failure primarily in the case of actor attributions, not observer ones, $F(1, 77) = 6.35$, $p < .05$.

FIGURE 1

Mean locus and stability of actor and observer attributions for success and failure situations.



ATTRIBUTIONAL STYLES FOR ACTOR AND OBSERVER ATTRIBUTIONS

Given all the actor-observer effects reported above, one might wonder to what extent actor and observer attributions were correlated. For instance, did people who made relatively internal attributions for interpersonal success as actors do the same as observers? As pointed out earlier, there are reasons to suspect that actor and observer attributions may be uncorrelated or negatively correlated on some causal dimensions. On the other hand, the way a person perceives a situation (or type of situation), including its causal structure, is likely to be *similar*, regardless of actor-observer perspective.

Thus, to the extent that causal-structure effects on attributions were not entirely overridden by cognitive, motivational, and personality factors, actor and observer attributions should correlate positively. These 20 correlations, for each situation type and for each causal dimension, were all positive and significant, p's $< .05$; they ranged from .22 to .61. Thus, individual differences in attributional styles for each of these four types of situations did seem to generalize across the actor-observer perspective, and may have reflected individual differences in perceived causal structure.

ORTHOGONALITY OF CAUSAL DIMENSIONS

The orthogonality question could be addressed in a number of ways with these data. The most straightforward would be to calculate each of the 10 dimensional correlations (e.g., locus with stability, locus with globality, etc.) for each of the 40 items (20 ASAT items with actor and observer attributions). One could then average the 40 correlations for each of the 10 dimension combinations. This procedure yielded average correlations that were all positive and significantly different from zero, all p's $< .001$.

A more informative approach would be to treat the above-described 400 correlations as raw data in a repeated-measures ANOVA, with interpersonalness-noninterpersonalness and success-failure as grouping factors, and actor-observer attributions and the 10 dimension combinations as repeated-measure factors. This analysis would enable one to examine the effects of the actor-observer, success-failure, and interpersonal-noninterpersonal manipulations on the relationships between the attributional dimensions. Because of the large number of significance tests for which there were no *a priori* predictions, the Bonferroni solution for guaranteeing the overall expected Type I error to be less than .05 was applied (Dunn, 1961). In addition, because of the interrelatedness of the repeated measures, the Greenhouse-Geisser correction factors were applied where appropriate (Winer, 1971).

The results of this rather conservative analysis showed several interesting effects. As expected from the Anderson (1983b) results, all 10 average dimension correlations were positive. In addition, each was significantly greater than zero (as in the other average-correlations analysis presented above), p's $< .001$. These averages are presented in Table 3. Also as expected from the Anderson (1983b) results, there was a significant main effect of the 10 dimension combinations, $F(9,144) = 18.06$, $p < .001$. As can be seen in Table 3, controllability and intentionality yielded the highest average correlation ($m = .93$). Globality and stability yielded the lowest average correlation ($m = .25$). The pattern of interdimensional correlations is quite similar to that reported earlier (Anderson, 1983b).

The main effect of the actor-observer manipulation was also significant. On average, the interrelationships of the causal dimensions were higher for actor attributions than for observer attributions, $F(1,16) = 33.05$, $p < .001$.

Both of these main effects were further qualified by a significant interaction between them, $F(9,144) = 4.70$, $p = .003$ (Greenhouse-Geisser). As shown in Table 3, the actor-observer difference was particularly large for the stability-intentionality and the controllability-stability relationships; the actor-observer difference was smallest for the locus-stability and the controllability-intentionality relationships.

These data thus confirm that naturalistically generated attributions are not orthogonally represented along the standard causal dimensions. The lack of significant success-failure or interpersonal-noninterpersonal effects (main effects or interactions) further demonstrates that the interrelationships between the causal dimensions of open-ended attributions do not depend upon a particular type of situation.

The theoretical import of these effects should not be overestimated. As long as researchers and theoreticians in this area clearly distinguish between the logical orthogonality of the models and empirical orthogonality in data, and adopt appropriate methodological techniques when testing theoretical hypotheses, there seems to be no reason to abandon the current models.

But the high magnitude of these intercorrelations clearly shows that manipulations of attributions, experimental or therapeutic, cannot be thought of as unidimensional. A manipulation designed to change the locus of someone's attributions for failure, for example, will likely also change the controllability (average $r = .75$), the stability (average $r = .70$),

TABLE 3

Average Interdimensional Correlations Based on Actor (A) versus Observer (O) Attributions

TYPE OF ATTRIBUTIONS	C AND I	C AND L	L AND S	L AND I	C AND G	G AND I	L AND G	C AND S	S AND I	G AND S	AVERAGE
A	.93	.80	.70	.75	.58	.55	.51	.53	.45	.30	.61
O	.92	.70	.70	.64	.51	.48	.46	.40	.31	.21	.53
Average	.93	.75	.70	.70	.55	.51	.49	.46	.38	.25	.57
Difference (A−O)	.01	.10	.00	.11	.07	.07	.05	.13	.14	.09	.08

Note. C = controllability; I = intentionality; L = locus; S = stability; G = globality.

the intentionality (average $r = .70$), and possibly the globality (average $r = .49$) of that person's attributions. Subsequent changes in the person's thoughts, feelings, or behaviors *may* be due to changes in the locus of the attributions, but may instead be due to changes in other attributional dimensions. In short, failure to take into account the interrelatedness of attributional dimensions may lead to serious errors in interpreting effects of attributional manipulations.

CONCLUSIONS

The present results support several general theoretical and methodological conclusions. The effects of the causal structure of situations on final attributions, as proposed earlier (Anderson, 1983b), were quite strong and consistent. The pattern of observer attributions for the ASAT situations was practically identical to the causal structure of those situations. This is exactly what the causal-structure position predicts, because the present design permitted few cognitive or motivational factors to operate on the observer attributions. The pattern of actor attributions was also influenced by the underlying causal structure, but to a significantly lesser extent, presumably because of cognitive factors operating on actors at the final attribution stage.

The consistently positive correlations between actor and observer attributions also lend support to the basic hypothesis that perceived causal structure influences both actor and observer attributions. These correlations further suggest that individual differences in attributional style may result from perceived causal-structure differences, rather than (or in addition to) final-stage attributional processing. Certainly, attribution manipulations that consist of merely suggesting plausible causal candidates to the subject prior to task performance (e.g., Anderson, 1983c; Anderson & Jennings, 1980) appear to be operating at the stage of problem formulation (i.e., causal structure).

Furthermore, the results lend support to the Jones and Nisbett (1972) and the Monson and Snyder (1977) prediction that for situations not of the actor's choosing, there is a general tendency for actor attributions to be relatively more external and unstable than observer attributions. This pattern occurred for all situation types except for noninterpersonal failure. In these latter situations, actor attributions were more internal and stable than observer attributions—a result contradicting the motivational-bias position that failure attributions generally are egodefensive in nature.

Finally, the results from tests of the orthogonality hypothesis have important implications for the design and testing of attribution theories

and therapies. Because the results conclusively demonstrate that the causal dimensions of most interest to psychologists are highly interrelated, and not orthogonal as usually assumed, great efforts must be made to simultaneously assess the impact of each attribution dimension on people's subsequent thoughts, feelings, and actions. For example, if one wants to assess the impact of stability of attributions for failure on subsequent motivation, one must assess more than the stability of the attributions being manipulated. The locus, controllability, intentionality, and globality of the manipulated attributions must also be measured. Through use of regression techniques, one can then assess the effects of the stability manipulation on motivation, with some degree of control over the other dimensional effects (e.g., Anderson & Arnoult, 1985).

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