

Motivational Biases in the Attribution of Responsibility for an Accident: A Meta-Analysis of the Defensive-Attribution Hypothesis

Jerry M. Burger
Wake Forest University

Research concerned with motivational distortion in the attribution of responsibility for an accident is reviewed. The results of a statistical combination of 22 relevant studies suggest a statistically significant but weak tendency to attribute more responsibility to an accident perpetrator for a severe than for a mild accident. An examination of interacting variables found, consistent with Shaver's defensive-attribution hypothesis, that when observers were personally and situationally similar to the accident perpetrator, they tended to attribute less responsibility to the perpetrator when accident severity increased. The opposite was found to be the case when the perceiver and the perpetrator were dissimilar. Experiments using stronger subject-involving manipulations also appeared more likely to produce evidence in support of the defensive-attribution hypothesis than did experiments with low-involvement manipulations. The relationship between this model and other theoretical and conceptual approaches is discussed, and recommendations for future research are suggested. It is concluded that research strongly supports the defensive-attribution hypothesis when the similarity variables are considered, and that this effect represents one example of how perceivers' self-protective motives influence responsibility attributions.

Since many of the basic postulates were outlined by Heider (1958) and expanded into general theoretical frameworks by Jones and Davis (1965) and by Kelley (1967), attributional processes have become the focus of extensive research by cognitive social psychologists. These researchers have been interested in the manner in which individuals arrive at both perceptions of causation concerning the actions of others and explanations of their own behavior.

A central feature of attribution theories is the assumption that an individual's perception of the causal relations in the environment is an important determinant of that person's reaction to environmental events. Attribution researchers describe men and women as "naive" or "intuitive" psychologists who continually examine covariations and probabilities in an effort to obtain a

maximum understanding and prediction of events in the world.

Unfortunately, extensive research has revealed that the intuitive psychologist's attributions of causality are subject to numerous distortions (cf. Nisbett & Ross, 1980; Ross, 1977). Among the proposed sources of attributional "error" is the distortion or biasing of perceptions of causality to satisfy the perceiver's personal motivations. The role of motivational distortion in causal attributions has been outlined theoretically (e.g., Heider, 1958; Kelley, 1971) and has been the focus of considerable research and controversy (cf. Bradley, 1978; Miller & Ross, 1975; Zuckerman, 1979.)

One area of attributional distortion to which motivational explanations have been applied concerns the perception of responsibility for events with tragic consequences, such as natural disasters, disease, crime, and accidents. Several investigators have observed strong attributional distortion by persons attempting to make sense of seemingly random catastrophes. Veltfort and Lee

Requests for reprints should be sent to Jerry M. Burger, P.O. Box 7778, Department of Psychology, Wake Forest University, Winston-Salem, North Carolina 27109.

(1943), for example, reported on the efforts of the citizens of Boston to find the responsible parties for a night club fire that killed nearly 500 persons, rather than acknowledge that such disasters might happen by chance. Bucher (1957) reported similar findings when interviewing citizens about the causes of airplane crashes. Chodoff, Friedman, and Hamburg (1964) reported that parents of dying children used several strategies to explain their child's fate, including self-blame, to avoid the conclusion that nothing could be done to prevent the occurrence of the disease in other children.

More recently, Wortman and her colleagues (Coates, Wortman, & Abbey, 1979; Janoff-Bulman & Wortman, 1977; Wortman, Abbey, Holland, Silver, & Janoff-Bulman, 1980) examined the attributional responses of the victims of such tragedies and their subsequent ability to cope with the ordeal. Janoff-Bulman and Wortman (1977), for example, found that individuals who were left paralyzed by accidents often interpreted their misfortunes in a manner that illustrated a need to ascribe meaning to the selective incidence of the accident. Further, these researchers found that the use of self-blame attributions was a predictor of effective coping. Janoff-Bulman (1979), interviewing rape-crisis center personnel, found that many rape victims tended to explain their attack with "behavioral self-blame," a belief that they somehow were responsible for the rape, thus enabling them to perceive future attacks as avoidable. Janoff-Bulman argued that this attributional response may reflect a positive coping strategy. Finally, Coates et al. (1979) reviewed evidence suggesting that the behavior of persons who come into contact with victims of tragedies may either facilitate or inhibit the victim's emotional recovery, depending on their perception of the cause of the unfortunate event.

All of these examples suggest that individuals often distort their perception of the cause of a tragic event. The investigators also implicate personal motives in this distortion of perception. To obtain a better understanding of motivational distortion of attributions of responsibility for seemingly random and tragic events, numerous investigators have examined the phenomena in experimental

laboratory settings. Most of these investigations have been concerned with the attribution of responsibility for a tragic accident. In addition to the immediate applied relevance for insurance claims and judicial decisions, as well as the clinical applications for designing effective coping strategies for the victims, this research provides a general paradigm within which to examine the more general issue of whether or not personal motives bias attributions of causality.

Unfortunately, empirical research on the attribution of responsibility for an accident has provided results that have been inconsistent, at times contradictory, and generally inconclusive. The purpose of this review therefore is to examine the research on motivational distortion of attribution of responsibility for an accident in an attempt to clarify the conclusions that can be drawn from this research.

The Defensive-Attribution Hypothesis

Walster (1966) introduced the theoretical position that underlies the basic paradigm used by researchers who investigate the role of self-protective motives in the attribution of responsibility for an accident. According to Walster, the awareness of a severe accident generates for the individual a need to believe that the unfortunate event was controllable and may therefore be averted in the future. Because of this motivation, the severity of the accident becomes an important determinant in the assignment of responsibility for the accident. It is easy to recognize that accidents with mild consequences may happen to each of us through no fault of our own. Walster suggested that

as the magnitude of the misfortune increases . . . it becomes more and more unpleasant to acknowledge that "this is the kind of thing that could happen to anyone." Such an admission implies a catastrophe of similar magnitude could happen to *you*. If we can categorize a serious accident as in some way the victim's fault, it is reassuring. We then simply need to assure ourselves that we are a different kind of person from the victim, or that we would behave differently under similar circumstances, and we feel protected from catastrophe. (p. 14)

It may often be difficult, however, to blame the victim for the accident. If this is the case, the individual remains motivated

not to attribute the serious accident to uncontrollable forces. Walster explained:

If a serious accident is seen as the consequence of an unpredictable set of circumstances, beyond *anyone's* control or anticipation, a person is forced to concede the catastrophe could happen to him. If, however, he decides that the event was a predictable, controllable one, if he decides that *someone* was responsible for the unpleasant event, he should feel somewhat more able to avert such a disaster. (p. 74)

It may be hypothesized from this reasoning that an individual who perpetrates an accident is more likely to be perceived as responsible for that accident if there are severe negative effects from the incident than if the effects of the accident are mild. To test this hypothesis, Walster (1966) presented subjects with an extensive description of a stimulus person, Lennie. Included in this description was some information about an accident in which Lennie had supposedly been involved. The accident resulted when Lennie's parked car rolled down a hill. The subjects were informed either that the car rolled a short distance into a tree stump and resulted in minor damage or that the car rolled all the way down the hill and resulted in considerable damage. In addition, the subjects were informed either that only Lennie suffered from the accident or that other bystanders suffered or could have suffered from the accident.

The most important finding in this study was that the subjects attributed significantly more responsibility for the accident to Lennie when the consequences were severe than when they were mild. Consistent with Walster's (1966) analysis, the subjects in the severe-accident condition were seen as attributing the accident to a controllable source in an attempt to deny that the occurrence of such an accident is uncontrollable and could therefore happen to them.

Although Walster (1966) uncovered results supporting both the general notion of self-protective attributional distortion and her specific hypothesis as applied to the attribution of responsibility for an accident, the importance of this finding has been tempered by a considerable difficulty in replicating this effect. The first failure to replicate was reported by Walster herself (Walster, 1967). In two studies subjects

heard about an individual who had either gained a large, moderate, or small amount of money or had lost a large, moderate, or small amount of money in a house purchase. Other conditions, such as no gain or loss and no information about the gain or loss, were also included. Contrary to prediction, Walster found no increase in responsibility as severity increased. In fact, the tendency reported was for the subjects to assign less responsibility for greater losses.

Shaver (1970a, 1970b) conducted a series of experiments employing the basic procedures used by Walster (1966). When the severity of the accident was included as a variable in this research, Shaver failed to replicate the severity-responsibility relation reported by Walster. In one study (Shaver, 1970b, Experiment 3) a slightly negative relationship between accident severity and responsibility attributed to the perpetrator was found ($p < .15$).

To reconcile the discrepancies between his findings and those reported by Walster (1966), Shaver (1970b) introduced two new variables: personal and situational similarity. According to Shaver, before motivational distortion of the responsibility for an accident can occur, observers must first feel a degree of situational similarity. That is, the possibility must exist that someday the observers might find themselves in a position that is similar to that of the perpetrator. College students should find the automobile incident situationally similar, but they might not be able to relate as easily to, for example, a mountain-climbing accident. Shaver suggested that situationally similar observers will then be motivated to deny personal similarity to the perpetrator. The observers might consider themselves to be unlike the perpetrator and thus not likely to have acted as did the perpetrator (i.e., be involved in the accident). Nevertheless, if it is not reasonable to deny the personal similarity, the perceivers are said to find the attribution to chance or luck preferable to assigning the responsibility for the accident to the perpetrator. The observers thus seek blame-avoidance for their role in a potential future accident (Chaikin & Darley, 1973). On the other hand, if the observers do not see themselves as possible perpetrators (no personal

similarity) but rather as potential victims, the need to avoid an attribution to chance, as described by Walster, should be predominant. In this situation the perceivers are seeking harm-avoidance in a potential future accident.

This interpretation of the relation between accident severity and the assignment of responsibility to the perpetrator of the accident, as outlined by Walster (1966) and by Shaver (1970b), has become known as the *defensive-attribution hypothesis*. This explanation clearly features the importance of individual motives, in this case the need to avoid harm or blame, in the distortion or biasing of attributions.

A Meta-Analysis of the Defensive-Attribution Phenomenon

It follows from Shaver's (1970b) analysis that if observers are able to relate situationally to the accident perpetrator and are not provided with good reasons to believe that they are personally similar to the perpetrator, the observers will be motivated to avoid potential future harm and will thus attribute greater responsibility to the accident perpetrator when the severity of the accident increases. Because all of the research using the basic Walster (1966) paradigm also uses settings (e.g., an automobile accident) to which subjects can situationally relate, it would be expected that in the absence of a situational- or personal-similarity manipulation, these investigations would replicate Walster's basic finding (i.e., increased perpetrator responsibility with increased severity). In the 15 years since the publication of this finding, however, numerous investigations have failed to replicate the basic severity-responsibility relation reported by Walster. Because of these failures, one team of reviewers (Vidmar & Crinklaw, 1974) concluded that there is a lack of empirical evidence for the existence of the basic defensive-attribution phenomenon. Although some investigators have successfully demonstrated that the assignment of responsibility for an accident increases as the severity of the accident increases, many more have reported no such effect.

The difficulty the reviewer faces, given the

presently inconclusive data, is the determination of how many replications or failures to replicate are needed to reject or to accept the null hypothesis that no relationship exists between accident severity and attribution of responsibility to the perpetrator. One answer may be found in recent developments in procedures for statistically combining independent studies (Cooper, 1979; Glass, 1976; Rosenthal, 1978). Cooper (1979), for example, outlined a meta-analytic procedure for determining whether a given effect appears in the literature at a rate greater than would be expected by chance. By examining the reported p levels and sample sizes of the individual investigations, one is able to estimate the probability level, weighted and unweighted by sample size, at which the confirmation of the relation could occur by chance. By including the reported F values, Cooper presented a method for estimating the overall strength of the proposed relation as well. The meta-analytic procedure may therefore provide useful information when one reviews the research on the defensive-attribution hypothesis. Specifically, the procedures outlined by Cooper provide both a statistical test of the significance of the relation between accident severity and the assignment of responsibility to the perpetrator and an estimate of the strength of that relation.

The question that is addressed in the meta-analysis reported here is whether an increase in the severity of an accident described to experimental subjects leads to an increase in the extent to which those subjects assign responsibility for the accident to the perpetrator of the accident. An extensive review of published literature addressing this question uncovered 22 studies in 21 different articles that included a manipulation of accident severity and reported outcomes for a measure that assessed the extent to which the perpetrator was responsible for the accident. All studies that compared two or more levels of unfortunate outcomes (as compared with positive outcomes) were included. One study (Walster, 1967, Experiment 1) could not be included in the meta-analysis because the effects of severity in negative and in positive accidents were not reported separately. Where more than two levels of severity were

included in the design, only linear-effect data were examined.

The studies included in the meta-analysis and their associated data are presented in Table 1. All 22 studies used between-subjects research designs. The *n*s represent the number of subjects in the negative accident conditions for each study. When both positive and negative accident conditions were included and the number of subjects for each condition was not reported, the *n* for the negative conditions was estimated from the total number of subjects. When conditions irrelevant to the severity-responsibility question were included (e.g., a condition that did not include severity information), the subjects in these conditions were not included in the sample size figure. The *p* values listed in Table 1 are the reported *p* levels from

the main effect of the severity variable on the responsibility-of-the-perpetrator measure. Although several different types of responsibility measures were used, only those studies that reported the results of a measure that specifically assessed the extent to which the perpetrator of the accident was responsible for or could be blamed for the accident and/or for the effects of the accident were included. Related measures, such as how much the perpetrator should be fined or punished, were not included.

A major problem in using the present procedure is that nonsignificant *p* levels usually are not reported. Therefore, when the effect is reported as nonsignificant but no *p* level is given, a *p* value of .50 is inserted. The reader may note that this represents a conservative approach in that .50 is probably an

Table 1
Main Effect for Responsibility of Perpetrator in a Negative Accident

Author	Year	<i>n</i>	<i>p</i>	<i>z</i>	(<i>z</i>) (<i>n</i>)	<i>d</i>	<i>U</i> ₃
Walster	1966	88	.01	2.576	226.688	.64	74
Walster- Experiment 2	1967	95 ^a	.50	0	0	0	50
Shaver- Experiment 1	1970a	55	.50	0	0	0	50
Shaver- Experiment 1	1970b	19 ^b	.50	0	0	0	50
Shaver- Experiment 3	1970b	40	-.15	-1.44	-57.6	-.53	30
Shaw & Skolnick	1971	58 ^a	.50	0	0	0	50
McKillip & Posavac	1972	38	.50	0	0	0	50
Phares & Wilson	1972	80	.0005	2.813	225.04	4.01	99
Chaikin & Darley	1973	40	.50	0	0	0	50
Schiavo	1973	29 ^a	.50	0	0	0	50
Wortman & Linder	1973	113	.50	0	0	0	50
Ugwuegbu & Hendrick	1974	480	.04	2.054	985.92	.19	58
McKillip & Posavac- Experiment 2	1975	64 ^b	.50	0	0	0	50
Medway & Lowe	1975	42 ^a	.05	1.960	82.32	.48	68
Shaw & McMartin	1975	80	.50	0	0	0	50
Gleason & Harris	1976	192	.0005	3.591	689.472	.57	71
Lowe & Medway	1976	120 ^a	.001	3.291	394.92	.64	74
Schroeder & Linder	1976	96	.50	0	0	0	50
Whitehead & Smith	1976	162	.50	0	0	0	50
Pliner & Cappell	1977	112	.50	0	0	0	50
Shaw & McMartin	1977	160	.50	0	0	0	50
Younger, Earn, & Arrowood	1978	39 ^a	.50	0	0	0	50

^a *n* for negative outcome conditions not given separately; *n* used is estimated from the total *N* reported.

^b Relevant conditions only.

underestimation of the p level if the hypothesis being tested is indeed found in the real world.

As can be seen in Table 1, six studies reported a p level that indicates a significant positive relationship between accident severity and assignment of responsibility to the perpetrator. There were 15 studies that failed to uncover the effect and one study that reported a slightly negative relationship. In order to estimate the probability that the frequency of the severity-responsibility relationship occurs by chance, an overall z score for the 22 studies in Table 1 was calculated. The z score for each study was estimated from the reported p value and combined in a manner suggested by Cooper (1979). This resulted in an unweighted z score of 3.165 for the combined studies. This combined z score is statistically significant ($p < .001$). Thus, given the frequency with which a positive relationship between accident severity and responsibility assigned to the perpetrator appears in the published literature, it seems unlikely that chance alone can explain the findings. When the z scores are weighted according to the size of the sample for each study, a weighted z score of 3.943 is obtained. This z score is also statistically significant ($p < .00005$) and indicates an even lower likelihood that chance can account for the results.

One problem with the meta-analytic procedure is what Rosenthal (1979) designated as the "file drawer problem." This refers to the probability that many investigations that are relevant to the hypothesis examined by the meta-analyst exist but are not published. Furthermore, because studies reporting statistically significant results are more likely to be published than are studies not finding such results, these unpublished studies are more likely to be ones that fail to replicate the Walster (1966) main effect. To indicate the strength of the meta-analytic conclusion when these unknown studies are considered, Cooper (1979) described a procedure for calculating the "fail-safe number." That is, the number of studies needed with a summed z -score total of zero (e.g., all with $.50 p$ levels) to raise the overall probability level to $.05$ can be estimated. When the data from Table 1 are applied to the formula, a fail-

safe number of 59.4 is found. In other words, 60 relevant studies with a summed z score showing no relationship between accident severity and the assignment of responsibility for an accident to the perpetrator would need to be uncovered before it could be stated that the frequency with which the studies found in Table 1 report a significant positive relationship can be accounted for by chance alone.

As an indication of the overall strength of the severity-responsibility relationship, a d index, a standardized indicator of relationship strength, and a U_3 index, an indicator of population overlap, were calculated for each of the studies in a manner described by Cooper (1979). As seen in Table 1, the average d index for the 22 studies is $.27$, indicating that the distribution midpoints of subjects' scores in the high- and low-severity conditions for the perpetrator-responsibility measure were $.27$ standard deviations apart, assuming normality. The average U_3 index of 61 suggests that the average high-severity subject attributed more responsibility to the perpetrator of the accident than did 61% of the subjects in the low-severity conditions.

The statistical combination of relevant studies thus provides some support for the defensive-attribution hypothesis. Nevertheless, although it is probably true that the occurrence of the Walster (1966) main effect for accident severity on perpetrator-responsibility measures is more frequent than that expected by chance alone, the strength of the relationship may still be less than some investigators find comfortable.

The weakness of this finding is further illustrated by the fact that the sizes of the d index and the U_3 index are greatly affected by the results of one study (Phares & Wilson, 1972). If the data from this one study are dropped from the meta-analysis, the average d index drops from $.27$ to $.09$. If the effect size estimate from the Phares and Wilson study is replaced with the mean effect size for the remaining five supportive studies ($.50$), the average effect size across all 22 studies is still only $d = .11$.¹

¹ The author would like to thank an anonymous reviewer for suggesting this alternate view of the effect size estimates.

Thus, although found at a statistically significant rate, the small size of the basic defensive-attribution effect suggests that additional variables may need to be considered if the research is to provide meaningful support for the defensive-attribution hypothesis.

Personal and Situational Similarity

One variable that seems especially to be relevant to the defensive-attribution hypothesis and that may therefore help to explain the weakness of the severity main-effect data is the extent to which the subjects perceive themselves to be situationally and personally similar to the accident perpetrator. It is especially important to consider these two variables because, according to the defensive-attribution hypothesis as outlined by Shaver (1970b), differences in either one may lead to opposite effects. Observers who see themselves as personally and situationally similar to the perpetrator may foresee the possibility that the same misfortune could happen to them. These persons are then motivated to avoid future blame by ascribing the cause of the accident to something or someone other than the perpetrator. Attributing a severe accident to the perpetrator would tend to implicate the perceivers as the source of a similar accident, should one occur in the future. Experimental subjects who see themselves as personally and situationally similar to the accident perpetrator may therefore be motivated to attribute responsibility to the perpetrator in a manner that is exactly the opposite of that described by Walster (1966). Instead of attributing more responsibility to the accident perpetrator and less to chance as accident severity increases, some subjects may be motivated to attribute less responsibility to the perpetrator and more to chance as severity increases. If Shaver's (1970b) analysis is correct, the introduction of motives counterbalancing the basic avoidance-of-chance motive may account for the failure to replicate the basic Walster findings in many of the studies examined earlier.

Determining the strength of the defensive-attribution position therefore requires a closer examination of the personal and situational similarity between the subject and the perpetrator. Fortunately, several of the 22 stud-

ies listed in Table 1 did examine personal- and/or situational-similarity variables. First, Chaikin and Darley (1973) manipulated the extent to which their subjects were situationally similar to either the accident perpetrator or the accident victim. The subjects watched a videotape of a "worker" and a "supervisor" engaged in a block-stacking task. Half of the subjects were informed that they would soon take the role of the worker in a similar exercise. The other half were told they would be the supervisor. All of the subjects observed the supervisor on a videotape accidentally topple the blocks, which the subjects were led to believe would result in either a small or a large monetary loss for the worker. Chaikin and Darley found that, as predicted, the future supervisors, who were situationally similar to the accident perpetrator, attributed significantly less responsibility to the supervisor than did the future workers. A marginally significant interaction ($p < .15$) was also uncovered, suggesting that the reluctance to blame the situationally similar perpetrator was strongest in the severe-accident condition. The findings thus tend to support Shaver's (1970b) interpretation of the defensive-attribution hypothesis.

Shaw and McMartin (1977) used a situational- and a personal-similarity variable in their experiment. Male and female introductory psychology students were given a description of an accident that had happened to either a man (Jim) or a woman (Jill). In addition, the subjects were informed that the accident resulted either from a mishap in a chemistry lab or from a cooking mishap. Shaw and McMartin assumed that men would be more situationally similar to the chemistry accident perpetrator and more personally similar to the male perpetrator, whereas women would feel situationally similar to the cooking accident perpetrator and personally similar to the female perpetrator. They found that the amount of responsibility attributed to the accident perpetrator increased with increased accident severity only when personal relevance was low and decreased with increased accident severity when personal relevance was high. Further, this effect was found only when situational relevance was high. Thus, motives for blame

avoidance (when personally similar) and harm avoidance (when personally dissimilar) influenced responsibility attributions when the accident perceiver was situationally a potential perpetrator or victim and when the accident resulted in severe consequences. These findings are entirely consistent with Shaver's (1970b) analysis of the defensive-attribution hypothesis.

Shaver (1970b) told one group of subjects who were presented with the Walster (1966) automobile accident story to imagine that the severe accident perpetrator's attitudes, values, and feelings about the work were very much like their own. Another group was told to imagine that the perpetrator was not at all like them. Shaver found that the dissimilar group attributed significantly greater responsibility for the accident to the perpetrator than did the similar group. In another experiment, Shaver presented male and female subjects with a story about a mild or severe industrial accident involving a male mechanical engineer. It was assumed that the male subjects would find the perpetrator more personally similar than would the female subjects. It is interesting to note that no differences in attributed responsibility were found. Instead, whereas men in the mild-accident conditions reported feeling more personally similar to the accident perpetrator than did the women, men in the severe-accident condition tended to report less personal similarity to the perpetrator than did the women. Thus, instead of avoiding blame through lowering attributions of responsibility to the perpetrator, male subjects in the severe-accident condition appeared simply to have denied personal similarity. A third experiment by Shaver reported a tendency for introductory psychology students to attribute greater responsibility to the (male) perpetrator in the automobile accident story when he was described as older than the subjects than when he was described as similar in age or younger. Shaver pointed out, however, that this one failure to produce the curvilinear effect predicted for the personal-similarity variable is probably due to cultural norms concerning increased responsibility with increased age.

McKillip and Posavac (1972, 1975) also

matched descriptions of accident perpetrators and accident perceivers in some conditions to examine the importance of personal similarity for accident-responsibility assignment. McKillip and Posavac (1972) selected subjects who held attitudes that were either similar or dissimilar to the attitudes used to describe the perpetrator of a severe or mild accident. A significant interaction was found such that more responsibility was assigned to the perpetrator in the severe-accident condition when the subjects perceived themselves to be different from the perpetrator than when they perceived themselves to be similar, yet more responsibility was assigned to the perpetrator in the mild-accident condition when the subjects perceived themselves to be similar. McKillip and Posavac (1975) also reported a significant interaction when creating attitudinally similar and dissimilar conditions. In this study no significant differences in attribution of responsibility for the accident to the perpetrator were found in the mild-accident condition. In the severe-accident condition, however, subjects perceiving attitudinal similarity between themselves and the perpetrator attributed less responsibility to the perpetrator than did those perceiving less similarity.

Finally, Lowe and Medway (1976) described the accident perpetrator to introductory psychology students as either a middle-aged salesperson in a sewing machine store or a college student in a psychology course. Although a significant Severity \times Similarity interaction again emerged, the means were in the opposite pattern of that predicted by the defensive-attribution hypothesis. Attribution of responsibility for the accident to the perpetrator did not differ between the similar and dissimilar conditions when the accident was described as mild, but in the severe-accident conditions more responsibility was attributed to the perpetrator by the similar than by the dissimilar subject. Although this finding may at first appear to contradict the defensive-attribution position, an examination of the accident description used by Lowe and Medway helps to explain the results. The character described to the subjects as the accident perpetrator in this experiment was also the only accident victim in the story, receiving either a lower salary

or a poorer grade. It thus seems probable that the subjects related to the stimulus person as the accident *victim*. In such a case one would predict from the defensive-attribution hypothesis that the subjects who perceived great personal similarity to this person would be motivated not to attribute the accident to uncontrollable (i.e., chance) forces that would suggest that the same misfortune could happen to them. Consistent with this analysis, Lowe and Medway found that these subjects attributed more responsibility to the perpetrator/victim in the severe conditions than in the mild-similar conditions or in the personally dissimilar conditions.

Thus, those investigations that used the basic Walster (1966) paradigm and that also examined the personal or situational similarity of the subjects and the perpetrator tend to find nearly unanimous support for the defensive-attribution hypothesis. It is important to note that although only one of the studies that examined personal and/or situational similarity reports a significant main effect for severity on attribution of responsibility to the perpetrator (Lowe & Medway, 1976), the interaction between these variables and personal/situational similarity, or other effects found in all but one of these studies, can be interpreted in support of the defensive-attribution hypothesis. Thus, when one examines the role of personal and situational similarity in the defensive-attribution model, much stronger support for the position is found than is reflected in the earlier meta-analytic approach.

Given the role of these similarity variables as described explicitly by Shaver (1970b) and supported so strongly in those studies examining them, it is surprising that so much of the research using the Walster (1966) paradigm does not either control for or in some manner account for personal and situational similarity. It can be seen that the number of studies that fail to replicate the basic defensive-attribution effect is not by itself an adequate criterion for rejecting the hypothesis.

Involving Versus Noninvolving Manipulations

Another variable that may affect the strength of the defensive-attribution effect

is the extent to which the experiment involves and is important for the subjects, that is, the experimental realism (Aronson & Carlsmith, 1968). In 18 of the 22 studies listed in Table 1, the subjects were simply provided with a written description of the accident and the circumstances surrounding it (usually accompanied by a cover story about research in a credible area, such as jury decisions). Procedures for increasing experimental realism have included (a) playing tape recordings of several persons describing the perpetrator (Walster, 1966) or of the perpetrator describing his or her own accident (Walster, 1967, Experiment 2); (b) telling subjects they will discuss their views on the accident afterward (Shaver, 1970b, Experiment 3); and (c) telling subjects they will soon be placed in a situation similar to that of another "subject" who they observe on a television monitor (Chaikin & Darley, 1973).

It is tempting to suggest that the more involving experiments are more likely to tap personal motives and thus are more likely to find support for the defensive-attribution position. Indeed, the experiment may need to be involving if the motives to avoid harm or blame are to be present. In order to test this possibility, the 22 studies listed in Table 1 were divided along two lines. First, the studies were placed in either an involvement (attempted to improve experimental realism beyond mere presentation of written materials) or a noninvolvement category. Second, the studies were divided into those that could be interpreted in support of the defensive-attribution hypothesis and those that could not. The results of this categorization are presented in Table 2. As can be seen in the table, three of the four studies using involving procedures found support for the defensive-attribution hypothesis. In addition, eight of the 18 studies not using these procedures produced results in support of the position. The numbers are small, but it might tentatively be concluded that although involvement-increasing procedures are not necessary to demonstrate defensive-attribution phenomena, they may increase experimental realism and thus increase the chances of replicating the phenomena that do seem to be replicable. It may be noted that the anecdotal

Table 2
Categorization of Experiments by Involvement Procedures and Support of the Defensive-Attribution Hypothesis

Supportive	Nonsupportive
Involvement procedures	
Walster (1966) Shaver (1970b, Experiment 3)* Chaikin & Darley (1973)*	Walster (1967, Experiment 2)
No involvement procedures	
McKillip & Posavac (1972)* Phares & Wilson (1972) Ugwuegbu & Hendrick (1974) McKillip & Posavac (1975, Experiment 2)* Medway & Lowe (1975) Gleason & Harris (1976) Lowe & Medway (1976) Shaw & McMartin (1977)*	Shaver (1970a, Experiment 1) Shaver (1970b, Experiment 1) Shaw & Skolnick (1971) Schiavo (1973) Wortman & Linder (1973) Shaw & McMartin (1975) Schroeder & Linder (1976) Whitehead & Smith (1976) Pliner & Cappell (1977) Younger et al. (1978)

Note. An asterisk indicates that the results support the defensive-attribution position only when personal- or situational-similarity variables are examined.

dotal evidence from real-world tragedies mentioned at the beginning of this article certainly meets this involvement requirement.

Motivational Versus Nonmotivational Interpretations

Heider (1958) proposed that one factor determining whether or not an attribution will be "selected" by an individual is the extent to which the explanation can "fit the wishes of the person" (p. 172). Heider thus found himself in agreement with those who have argued in various areas of psychology over the past several decades that perceptions can be biased by personal motives (cf. Nisbett & Ross, 1980).

Although several attribution researchers have expanded this notion of motivational distortion and have produced a large amount of data consistent with the position, there are those who maintain that these findings are easily explained by nonmotivational processes, such as attention and previous information (e.g., Miller & Ross, 1975). Because some "motivational" distortion of attributions can be accounted for without invoking motivational constructs, investigators pro-

moting the former position have been required to demonstrate the necessity of using these motivational constructs to explain attributional distortion (e.g., Bradley, 1978; Zuckerman, 1979).

The defensive-attribution hypothesis, as outlined by Walster (1966) and by Shaver (1970b), clearly proposes motivational processes to explain differences in responsibility attributed to an accident perpetrator when the variables of accident severity and of personal and situational similarity are manipulated. These findings, however, may also be subject to nonmotivational interpretations.

Much of the research that finds an association between accident severity and the attribution of responsibility has been criticized for confounding the severity of the accident with the probability that such an event would occur (cf. Brewer, 1977; Wortman & Linder, 1973). It can be argued that severe accidents are much less likely to occur than are mild accidents. Mild accidents happen to all of us and therefore do not appear to covary with specific individuals. When such accidents are examined within Kelley's (1967) model of causal attribution, there would seem to be little reason to assign a great deal of responsibility to the actor (per-

petrator) in the mild-accident condition. Nevertheless, because severe negative outcomes are not likely to be found across all individuals, these events are much more likely to be attributed to the actor (perpetrator). The basic defensive-attribution effect, that assignment of responsibility to the accident perpetrator increases with the severity of the accident, can therefore be explained in terms of the probability of the event without invoking the motivational elements described by Walster (1966) and by Shaver (1970b).

One study (Wortman & Linder, 1973) manipulated the likelihood of the outcome in addition to the severity of the accident when describing to subjects a drug overdose accident.² They described the probability of becoming ill after swallowing a drug as either very certain or very unusual. Either the accident victim was described as suffering from serious or not serious consequences after taking the drug, or no information about the consequences was given. Wortman and Linder found more responsibility assigned to the perpetrator, who has supposedly left the drug out in the open, in the high-likelihood conditions than in the low-likelihood conditions. When the probability of the consequences was held constant, however, no effect for accident severity on assignment of responsibility was found. Although the likelihood of the perpetrator leaving the drug out in the open was not examined in this study, the results suggest that the increase in responsibility assigned to the perpetrator with increased severity, found in some investigations, may be due to differences in perceived outcome probability rather than to differences in defensive motivation.

Brewer (1977) expanded this notion in a nonmotivational model for predicting accident-responsibility attributions. According to Brewer, the *prior expectancy* that the outcomes would occur in the absence of the perpetrator and the *congruence* between the accident outcome and the perpetrator's action (likelihood that the action would lead to the outcome) are the two key determinants of responsibility attribution. Although it seems entirely plausible that many of the studies examining the defensive-attribution

phenomenon can be explained with these nonmotivational terms, there are two sources of evidence that suggest that a self-protective motivation may play an important role in producing the effect as well.

First, a few investigators have included on their attribution questionnaires an item calling for the subject to estimate the probability or likelihood of the accident outcome.³ Two of these studies (Schroeder & Linder, 1976; Younger, Earn, & Arrowood, 1978) found no significant difference between high- and low-severity conditions on either the perpetrator-responsibility measure or the probability-of-occurrence measure. Two other studies (Lowe & Medway, 1976; Medway & Lowe, 1975), however, reported no effects for severity on measures of outcome probability, but they still reported significant effects for severity on the perpetrator-responsibility measure that were consistent with the defensive-attribution hypothesis. Therefore, although it is probably true that in some situations the interpretation of an effect is clouded by the confounding of severity and outcome, it is possible to create conditions that demonstrate the defensive-attribution phenomenon in which accident severity and the likelihood of the outcome do not seem to be confounded. Studies illustrating the latter condition suggest that motivational factors, such as those posited by Walster (1966), may be necessary to explain the significant but weak severity main effect that was uncovered in the meta-analysis reported earlier.

The second factor that suggests that outcome probability alone cannot account for the defensive-attribution findings is the inability of this explanation to account for the Severity \times Similarity interaction effects. As described earlier, the strongest support for

² Whitehead and Smith (1976) also used a likelihood manipulation. Nevertheless, because they described the probability of a house-damaging accident in terms of what the owner was told before the purchase of the house, the manipulation seems to be tapping the role of foresight and the gamble taken by the perpetrator (victim), not the effect of the perceiver's estimate of likelihood on responsibility attributions.

³ Schiavo (1973) also examined probability estimates, but he did not report separately results for positive and negative accident conditions.

the defensive-attribution hypothesis comes from several investigations that examine the personal and/or situational similarity between the perceiver and the perpetrator. If the probability of the outcome rather than its severity is responsible for the increase in responsibility that is assigned to the perpetrator with increased severity, it seems difficult to account for the decrease in the effect with increased similarity and the increase in the effect with decreased similarity that is found in several studies. Brewer (1977) suggested that similar perceivers may have seen less congruence between the perpetrator's behavior and the accident outcome than did dissimilar perceivers. Nevertheless, there does not appear to be any indication that this was the case in any of these studies uncovering the severity-similarity interaction.

To conclude, some investigations attempting to demonstrate the accident severity main effect on attribution of responsibility may demonstrate a nonmotivational assessment of events in addition to or instead of a motivational distortion of perception. Non-motivational interpretations, however, are unable to account for all of the defensive-attribution findings, particularly the measures of perceived probability and, more important, the Severity \times Similarity interactions. It therefore seems fair to conclude that, on the basis of current evidence, motivational distortion of attributions of responsibility for an accident do exist in at least some situations.

Alternative Theoretical Approaches

One problem that remains to be resolved for the defensive-attribution hypothesis is distinguishing between this position and similar theoretical and conceptual approaches. Related conceptual approaches that are discussed here are the just-world hypothesis (Lerner & Matthews, 1967; Lerner & Miller, 1978), empathy processes (Aderman, Archer, & Harris, 1975; Aderman, Brehm, & Katz, 1974), self-blame reactions by real-world victims (Janoff-Bulman & Wortman, 1977), and attributions of responsibility for accidents with positive outcomes (Shaw & Skolnick, 1971).

The just-world hypothesis maintains that individuals are motivated to perceive the world as a just place in which people generally get what they deserve and deserve what they get. According to this view, when a bystander is hurt in an automobile accident, a perceiver should see the victim as somehow responsible for his or her suffering, thus restoring the belief that suffering is distributed in the world in a just manner. The predictions derived from the just-world hypothesis therefore tend to parallel those made by the defensive-attribution hypothesis. Indeed, the two approaches appear to be based on the same self-protective motive. As Lerner and Miller (1978) explained:

The justness of others' fates thus has clear implications for the future of the individual's own fate. If others can suffer unjustly, then the individual must admit to the unsettling prospect that he too could suffer unjustly. . . . To witness and admit to injustices in other environments does not threaten people very much because these events have little relevance for their own fates. As events become closer to their world, however, the concern over injustice increases greatly, as does the need to explain or make sense of the events. (p. 1031)

Thus, the harm-avoidance need not to attribute the accident to chance, particularly when the similarity between the perceiver's and the victim's "worlds" increases, appears to be an important feature in both theories. It seems fair to conclude, as did Chaikin and Darley (1973), that the defensive-attribution hypothesis and the just-world hypothesis spring "from the same assumptions about individuals" (p. 274). As such, it may not be possible to derive situations in which the two approaches make different predictions.

It has been suggested (Chaikin & Darley, 1973) that the just-world hypothesis and the defensive-attribution hypothesis may make opposing predictions when individuals perceive themselves to be potential victims (i.e., situational similarity). That is, a strict belief-in-a-just-world analysis suggests that one must blame similar others who suffer (even if this means potentially blaming oneself), whereas the defensive-attribution hypothesis makes the opposite prediction. Although Chaikin and Darley failed to produce the just-world effect when subjects perceived themselves as potential victims, Lerner and Miller (1978, p. 1037) maintained that the

just-world hypothesis does not apply to situations in which individuals perceive for themselves the "same possible common fate" as for the victim.

The difference between the two theories may lie simply in the focus on different reactions to tragic situations. Defensive-attribution research generally postulates and examines changes in attributions of responsibility and alterations in the perception of personal similarity to the victim. Just-world research, on the other hand, generally examines the derogation of victims. By perceiving victims as evil persons, one can maintain a sense of justice when observing their suffering. The possibility exists, however, that victim derogation, assessed by experimenter-generated questionnaires, may be merely a reflection of the denial of personal similarity posited by the defensive-attribution hypothesis. That is, assuming we ordinarily do not derogate ourselves, one effect of denying personal similarity to the victim is to attribute negative characteristics to him or her. This suggestion allows for the interesting possibility that the victim derogation effect might not be found when using subjects who are low in self-esteem.

Whether or not situations can be conceived in which the two theories make different predictions thus remains to be seen. In the absence of any such distinctions, future researchers may benefit from treating the two hypotheses as different statements of the same basic theory.

Perhaps more confusing is the question of what role empathy processes play in defensive-attribution phenomena. Aderman et al. (1975) induced different levels of empathy by instructing subjects to imagine themselves as innocent or responsible victims or as nonvictims of an automobile accident during a 5-minute wheelchair ride. The "innocent" victims tended to attribute more responsibility to accident perpetrators in subsequent descriptions of foreseeable yet unintentional accidents than did the "responsible" victims or the nonvictims. Thus, the effects of providing subjects with empathy-inducing instructions for the innocent victim appear to parallel the effects of perceived similarity between subject and victim in

many defensive-attribution studies. The possibility therefore exists that empathy may play a role in some part of the defensive-attribution model. How empathy affects defensive attributions should be the focus of future research. The causal sequence of the perception of similarity, feelings of empathy, attentional focus, the motivation to avoid harm or blame, and attributions of responsibility is not at all clear at this point. Further, how empathy-inducing instructions might interact with the severity of the accident and the practical applications of such findings are questions that should also be addressed in future research.

Although not stated as a formal theory, the recent work of Wortman and her colleagues cited earlier (p. 497) also seems to be related to the defensive-attribution hypothesis. These researchers found evidence of motivational distortion in the attribution of responsibility by victims of tragic events. It is interesting to note that they (e.g., Janoff-Bulman, 1979; Janoff-Bulman & Wortman, 1977) found, contrary to the defensive-attribution data, that victims often blame themselves for these seemingly random events. Although this self-blame strategy appears to have a self-protective basis (e.g., rape victims can tell themselves that future attacks are avoidable), this research suggests that the defensive-attribution model may need to be expanded to include some self-blame phenomena.

Finally, some investigators such as Shaw and Skolnick (1971) have suggested that attributions of responsibility for accidents with positive outcomes may be related to the defensive-attribution phenomenon. According to this point of view, although the accident perceiver may be motivated to believe that the consequences that arise from a negative accident are associated with the perpetrator (rather than occur randomly) and may therefore be avoided, the perceiver is also motivated to believe that the benefits associated with positive outcomes are randomly distributed (rather than limited to the perpetrator) and may therefore happen to the perceiver as well. Shaw and Skolnick reasoned that, if their analysis is correct, increased severity of a positive accident would

result in a decrease in the amount of responsibility assigned to the perpetrator. Through such an attribution, the perceiver can maintain that such a good fortune may also befall him or her. Although there is some support for this position (McMartin & Shaw, 1977; Shaw & Skolnick, 1971), the theoretical relation to the defensive-attribution hypothesis is dubious. The self-protective motives underlying reactions to negative accidents are simply not present in reactions to positive accidents. Thus, although appearing similar on the surface, positive accident attributions are probably based on different motivations and may therefore have little to say about defensive-attribution phenomena.

In summary, within a broad theoretical context, defensive-attribution research, just-world research, Wortman's real-world victim research, and research on attributions for positive accidents all point to motivational distortion of attributions of responsibility. Within a narrower framework, there appears to be considerable evidence that the self-protective motives outlined by the defensive-attribution hypothesis can have important effects on attributions of responsibility for tragic events. The need for integrating into a broader conceptual model the several areas of related research discussed above provides a challenge for future researchers in these areas.

Recommendations for Future Research

The above review suggests several conceptual and methodological recommendations for researchers working in the defensive-attribution area in the future. The review suggests that a question for future research should not be whether the defensive-attribution effect exists but rather under what conditions it can be found. Most important, it has been shown that future researchers need to manipulate or control for the extent to which subjects perceive themselves to be personally and situationally similar to the accident victim. Failure to account for these variables can lead to results that are exactly the opposite of those found by Walster (1966).

The relationship between personal and sit-

uational similarity itself appears to be one aspect of the defensive-attribution research that is in need of further refinement. As Shaver (1970b, Experiment 3) found, instead of altering their perceptions of accident responsibility, individuals who witness a severe accident perpetrated by a person similar to themselves may simply deny the similarity. A more useful model would be able to predict the conditions under which the various behavior options will be selected. In addition, this expanded model should address the relationship between perceptions of personal and of situational similarity. Chaikin and Darley (1973), for example, found that manipulations of situational similarity resulted in some changes in perceived personal similarity as well.

One methodological suggestion for future investigations is the use of additional dependent variables that can aid in the examination of proposed mediating constructs. For example, although the attribution to chance (luck, fate, uncontrollable forces) plays a central role in the defensive-attribution hypothesis, surprisingly few researchers report investigations of this variable. Similarly, measures of perceived probability of the occurrence of such an accident would aid in the comparison of motivational versus non-motivational interpretations of the findings.

Another criticism of past research that should be considered in the future concerns the different levels at which a person can be seen as "responsible" for an event (cf. Fishbein & Ajzen, 1973; Vidmar & Crinklaw, 1974). Heider (1958) outlined five different levels of responsibility, from holding a person responsible for anything associated with him or her to attributing responsibility only for intentional, uncoerced acts with foreseeable consequences. The failure of researchers to designate to subjects the level of responsibility on which they are to base their attributions may lead to the application of different levels by different subjects, thus increasing error variance and clouding interpretation of the findings. In addition, the different accident descriptions used by experimenters may suggest the use of different responsibility levels. Shaw and Sulzer (1964), for example, found differences in attributed

responsibility when subjects were presented with stories reflecting each of the five levels of responsibility.

Future research might also explore further the external validity and some of the practical applications of the defensive attribution research findings. For example, all of the studies listed in Table 1 used undergraduate students as subjects. Although this criticism is certainly not unique to this area of research, it is possible that perceptions of responsibility and justice vary across different populations. Practical applications of these research results might include further examination of reactions to real-world tragedies. Further research is needed to determine the most effective coping strategies for victims and for the victims' associates (e.g., Coates et al., 1979). Should crime victims, for example, accept the fact that they were in the wrong place at the wrong time or attribute their victimization to something they did in the past that can be corrected in the future? Janoff-Bulman (1979) suggested that different types of self-blame, finding fault with one's character versus blaming one's actions, may result in different coping effectiveness. The expansion of these findings into related areas may also be fruitful. For example, it seems reasonable to suggest that people assign punishments in an effort to control the occurrence of certain behavior in the future. The more severe the consequences of the action, the more likely it may be that a parent, teacher, or juror would want to control the probability of the actions' occurrence in the future and assign punishment accordingly. Public reactions to tragic and regrettable events may stem from similar motives to deny the randomness of the occurrence. The American public's continued obsession to find former President John F. Kennedy's "real" assassin(s) (McCauley & Jacques, 1979) may stem from a need to take some action to prevent such an event from recurring.

Finally, it is suggested that future investigators in this and in other areas might more often report statistics (F values, standard deviations) that will allow more meaningful meta-analyses. The sensitivity of the meta-analysis is especially lessened when the re-

viewer is forced to assume no differences between conditions for results reported only as nonsignificant.

Conclusions

This review has been concerned with examining in detail one attributional phenomenon that has created a considerable amount of confusion in the literature. By examining the role of individual perceiver's motivations, specifically motives of harm avoidance and blame avoidance, in the attribution of responsibility for an accident, it is hoped that a greater understanding of whether, how, and when such individual motives influence the attribution process can be obtained.

In general it seems fair to conclude, on the basis of the evidence to date, that individual motives, as outlined in the defensive-attribution hypothesis by Walster (1966) and by Shaver (1970b), do significantly influence the attribution of responsibility for an accident. Some statistically significant but weak support for this conclusion comes from analyzing the combined results of many investigations conducted over a 15-year period that examine the effect of accident severity on the attribution of responsibility for the accident to the accident perpetrator. Stronger support for the defensive-attribution hypothesis can be found in studies that include a variable that is concerned with the personal and situational similarity between the observer and the accident perpetrator. When these variables are included in the research design, the defensive-attribution phenomenon appears to be quite robust.

The conclusions drawn from the review of studies using the basic defensive-attribution paradigm introduced by Walster (1966) should be considered in conjunction with other sources of evidence supporting or failing to support the general view that personal motives of harm and blame avoidance affect the attribution of responsibility for a tragic event. One source of evidence comes from investigations of reactions to real-life tragedies, such as natural disasters and disease. Experimental evidence of responsibility attributions in related areas, such as crime,

may also support this general view. Scroggs (1976), for example, found that adult subjects assigned more punishment to a rapist when the consequences to the victim were described as very severe than when the consequences were described as less severe.

Within a broader scope, it has been suggested that individuals use attributions of causality in order to make sense out of events in the world, thus enhancing feelings of personal control over the environment (cf. Kelley, 1971; Wortman, 1976). In the face of the seemingly random occurrence of fires, accidents, disease, or crime, the desire to understand and master the environment may be extremely strong. If the motivation behind engaging in attribution processes is understanding, then this same motivation to avoid attributions to chance, as proposed by Walster (1966), may play a role in a much wider range of attributional phenomena than that reviewed here.

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