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ABSTRACT

Although an event is normally perceived and understood in terms of its location within a temporally ordered network of interconnected causes and effects, there is little data regarding the principles people use in tracing causality for an outcome through immediate, proximal events to prior, distal events. To investigate: (1) the conditions under which the proximal cause of an event affects judgments of a distal cause; (2) the capacities persons need to be held responsible for their actions; and (3) the relationship between judgments of causation, blame, and restitution, subjects (N=144) read about situations in which an initial act, in combination with a later behavior by a second person, produced harm. The age and mental state of the second person were varied. Subjects then answered a series of questions about both the first and second protagonist. Results showed that cause and blame assigned to the initial action were greater when the second person was a child or mentally disturbed, as compared to a sane adult. Causal and moral responsibility were related to the understanding, reasoning capacity, and ability to control behavior of the person judged. Finally, support was obtained for an entailment model of the relations between judgments of causation, blame, and restitution. (Author/JAC)

# CAUSAL CHAINS:
# INTERVENING CAUSATION AND ATTRIBUTION OF RESPONSIBILITY

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## Abstract

The present study investigated (I) the conditions under which the proximal cause of an event affects judgments of a distal cause (II) the capacities persons need to be held responsible for their actions and (III) the relationship between judgments of causation, blame and restitution. Subjects read about situations in which an initial act, in combination with a later behavior by a second person, produced harm. The age and mental state of the second person were varied. It was found that cause and blame assigned to the initial action was greater when the second person was a child or mentally disturbed, as compared to a sane adult. Causal and moral responsibility were related to the understanding, reasoning capacity and ability to control behavior of the person judged. Finally, support was obtained for an entrallment model of the relations between judgments of causation, blame and restitution.

An event is normally perceived and understood in terms of its location within a temporally ordered network of interconnected causes and effects. Nonetheless, there is surprisingly little data regarding the principles people use in tracing causality for an outcome through immediate, proximal events to prior, distal events. One possible reason for this deficit resides in the nature of classic attribution theories. These theories deal mainly with the relation between actor (dispositions, intentions) and act where the relationship between the act and a subsequent outcome of the act is not in dispute (e.g., Miss Adams chooses Bagby; see Jones & Davis, 1965) or where the act does not produce an external outcome (e.g., enjoyment of a movie; see Kelley, 1967). Recently, however, it has been recognized that a full understanding of phenomenal causality requires attention to the location of an event within a perceived causal structure or sequence (cf. Einhorn & Hogarth, 1982; Fincham, in press; Kelley, 1983). One approach to the development of this more detailed understanding of phenomenal causality is to examine the attributions people make in situations where there is a complex relationship between an event or outcome and the act(s) which produced it. The present study examines the impact of different act-outcome links on judgments of causation, blame and restitution. The bases of these judgments, and the relationship between them, continues to intrigue social psychologists and hence these issues are also examined.

Recently, social psychologists have begun to incorporate ideas from jurisprudence in their analyses of attribution processes (e.g., Fincham & Jaspars, 1980; Hamilton, 1980; Shultz & Schleifer, 1983) and to gather data regarding the use of principles of causation embodied in the law in the formation of attributions (e.g., Fincham & Shultz, 1981; Shultz, Schleifer, & Altman, 1981). A problem often encountered in determining legal liability

is that of establishing a sufficiently close causal connection between an action and an event alleged to be an outcome of the action. In this regard a legal principle which may provide some insight into the perception of causal sequences is that of intervening causation (LaFave & Scott, 1972; Prosser, 1971). According to this principle, a person's responsibility for harm is diminished to the extent that some independent event which helps to produce the harm has intervened between his/her behavior and the harm. Thus, for example, a defendant who negligently left an open pit in the road was not liable for injury to a sheriff when it was determined that a prisoner independently threw the sheriff into the pit (Hart & Honore, 1959).

The limited psychological data which relate to this principle provide little evidence to suggest that lay persons use it in the attributions they make regarding sequences of causally related events. For example, a recent study by Vinokur and Ajzen (1982) found that distal causes are perceived to have greater causal impact on outcomes than proximal causes. This causal primacy effect, however, occurred only in the limited condition where, inter alia, there was no basis for judging the relative importance or "intrinsic relevance" of the causes. In a similar vein, two studies which explicitly examined factors influencing the relative importance of potential proximal and distal causes found that subjects attributed harm to distal causes (Brickman, Ryan, & Wortman, 1975; Shultz, Schleifer, & Altman, 1981). However, these studies did not attempt to control conditions which may be necessary in order to observe the influence of intervening causation. For example, intervening causes are unlikely to alter causal or moral responsibility assigned to a distal actor when; (I) the initial, distal event is sufficient to produce the effect, a feature which characterized the stimuli used by Brickman, et al. (1975); (II) there is a clear duty not to

perform the initial act as in the case of Shultz et al.'s (1981) stimuli; and (iii) the initial act is morally reprehensible (Hart & Honore, 1959). These studies suggest that that there likely to be complicated constraints on the circumstances under which intervening causes mitigate judgments.

The nature of the proximal event is also likely to influence the operation of the intervening causation principle. For an intervening event to mitigate judgments regarding an initial act it must occur independently of the initial act. It is hypothesized that the prototype of an intervening cause is deliberate human action as it often constitutes a limit in tracing causal connections (Hart & Honore, 1959). In common sense, causation may be traced through intermediate events to a voluntary human action intended to bring about the outcome but not through such action to prior events. Guided by the above observations, Fincham and Shultz (1981) tested the hypothesis that the distal actor's responsibility would be mitigated when the intervening event comprised a voluntary rather than accidental human action. Strong support was obtained for the lay attributors' use of the intervening causation principle.

Despite the strong evidence provided by Fincham and Shultz (1981) regarding the special status of voluntary human action as an intervening cause, it is likely that there are circumstances under which voluntary human actions do not mitigate attributions made about prior events. This may occur for example, when the voluntary actions in question are those of people with limited mental capacities, such as children or the mentally disturbed. Thus it might be hypothesized that causal and moral responsibility assigned to a distal actor is mitigated when the proximal event which helps to produce the outcome comprises (i) the voluntary act of an adult rather than a child or (ii) the voluntary behavior of a sane rather

than mentally disturbed person. The basis for such an hypothesis is that persons with limited mental capacities do not satisfy the preconditions which have to be met in order for a person to be held responsible for their actions and thus they do not affect attributions made regarding the distal actor. The present experiment thus seeks to clarify the boundary conditions under which voluntary human actions constitute intervening causes.

A second aim of the present experiment is to examine the (lack of) competencies attributed to children and the mentally disturbed and to relate these to attributions. In general, attribution theorists tend not to have specified the preconditions necessary for social inference processes to operate in the manner they have described. Jones and Davis (1965) briefly address this issue in specifying that the actor must possess knowledge of the effects of an act and have the ability to produce the act in order to make a correspondent inference plausible and appropriate. However, other capacities are also likely to mediate such judgments. In addition to knowledge or the ability to foresee the consequences of an action (Jones & Davis, 1965), the present study investigates the effects of three other capacities: awareness of the rules of conduct in the situation, the ability to reason logically about such rules and reach reasonable conclusions, and finally the ability to control one's behavior to conform with decisions that have been made (Hart, 1968). It is hypothesized that judgments regarding these capacities mediate attributions of causal and moral responsibility and hence will be directly related to these judgments.

At both a conceptual and empirical level there has been a great deal of confusion as to what constitutes a "responsibility attribution." As a consequence a variety of variables including perceived cause, blame punishment and compensation, have been used interchangeably as measures of

"responsibility." This is unfortunate as empirical distinctions between causal, moral and punishment judgments have been reported by a number of investigators (e.g., Fincham & Jaspars, 1979; Fincham & Shultz, 1981; Harvey & Rule, 1978; Reeder & Spores, 1983; Shultz et al., 1981) The present study therefore included separate measures of cause, blame and restitution in order to determine whether they are differentially affected by the presence of an intervening cause and variations in the capacities of the actor.

A final aim of the present study is to examine further the relationship between cause, blame and punishment/compensation judgments. Fincham and Jaspars (1980) have proposed an 'entailment model' of the relationship between these measures. According to this model causation (C) judgments determine, in part, perceived blame (B) which in turn, partly determines punishment judgments (P). This linear model can be schematically represented as C→B→P, where later judgments entail earlier ones. The present experiment provides a test of this model.

## Method

### Overview

Subjects read a single scenario which portrayed two protagonists and a sequence of events which resulted in damage to property. The first protagonist was a 35-year-old married man who was described as an average "man in the street." The characteristics of the second protagonist were varied according to a 3 (age) x 2 (mental status) design so that they constituted a 7, 14, or 22-year-old male who either did or did not display the symptoms of a mental disorder (schizophrenia). In each cell of the design, the voluntary action of the second protagonist produced property

damage which would not have been possible but for the prior action of the first ("reasonable man") protagonist. Subjects rated the extent to which each protagonist was the cause of the damage and should be blamed for it. They were also asked to judge the extent to which the protagonist (or his guardian) was liable for the cost of repairing the damage. Finally, several questions concerning the capacities of the second protagonist were included followed by manipulation checks.

Subjects

Subjects were 144 undergraduate students in introductory psychology who participated in the study as part of their course requirements. Equal numbers of males and females served as subjects.

Stimuli

The stimulus information consisted of a one-page scenario containing three paragraphs. The first paragraph was the same in all conditions and described the first protagonist, an average or "reasonable" man:

> Jack Jones is a 35-year-old married man. He owns a modest house in a middle-class neighborhood. Mr. Jones is generally considered to be an average sort of person by those people who know him and it has even been suggested that he is the kind of person one thinks of when people talk about "the man in the street."

The next paragraph described the second protagonist (Bob), and varied over conditions. The protagonist was portrayed as either normal or mentally disturbed. A psychotic disorder was chosen to ensure that "psychological disturbance" was credibly manipulated. Thus Bob exhibited a sufficient number of symptoms to be diagnosed as having a schizophrenic disorder according to the currently used Diagnostic and Statistical Manual of Mental

Disorders (DSM-III; American Psychiatric Association, 1980). Finally, the age of the protagonist was also varied.[1]

In the normal protagonist condition, the second paragraph read:

> At the beginning of February, Mr. Jones agreed to carpool with his neighbor. This came about as his neighbor's [7/14/22]-year-old son, Bob, had begun attending a therapy program run by Fairview Hospital. About 8 months ago, Bob had sustained a minor injury to his back. Since that time Bob has largely ignored the injury. Bob will admit to experiencing some pain when prodded by others although there have been a few occasions when he spontaneously mentioned his "sore back." About two weeks ago Bob woke up during the night because of pain in his back. Following this incident Bob saw an orthopedic surgeon. The surgeon ascertained that Bob's injury had not been a serious one but that Bob needed regular therapy in order to avoid possible complications. As a result of his examination the orthopedic surgeon recommended that Bob attend the outpatient program run by Fairview Hospital. The program was located near Fairview School, the school attended by Mr. Jones' son. Consequently, when his neighbor told him about the surgeon's findings and recommendation Mr. Jones readily agreed to carpool.

In the mentally disturbed protagonist condition it read:

> At the beginning of February, Mr. Jones agreed to carpool with his neighbor. This came about as his neighbor's [7/14/22]-year-old son, Bob, had begun attending a therapy program run by Fairview Hospital. Bob's school performance had begun to deteriorate about 8 months ago. Since that time Bob has remained somewhat distant from his friends and family, many of whom complain that he now shows little emotion. Bob does engage in conversation when prodded to do so although there have

been occasions when it has been difficult to follow the logic of what he is saying. About two weeks ago Bob noticed a blemish on his hand while eating and accused his mother of trying to poison him. Following this incident, Bob saw a psychiatrist. The psychiatrist ascertained that Bob heard voices on several occasions warning him of people who were trying to harm him. As a result of his examination, the psychiatrist recommended that Bob attend the outpatient program run by Fairview Hospital. The program was located near the Fairview School, the school attended by Mr. Jones' son. Consequently, when his neighbor told him about the psychiatrist's findings and recommendation Mr. Jones readily agreed to carpool.

The third paragraph of the scenario was again identical in all conditions, and described the event sequence which resulted in harm:

On Friday the 3rd of February, Mr. Jones picked up Bob from the Fairview program. On the way to pick up his son Mr. Jones decided to briefly stop off at one of his work sites to complete a job. Everyone had gone home when Mr. Jones and Bob entered the control room of the warehouse. Mr. Jones switched on the remote control for the lift arm which he used to move a carton nearer the entrance so that it could be picked up by the movers during the weekend. On completing this quick task Mr. Jones went to the bathroom leaving the lift arm switched on. Bob, who had closely watched the whole procedure, thought he would surprise Mr. Jones and try to inch the carton a little closer to the entrance. Within a few seconds Bob lost control of the lift arm which smashed into a car that was being stored in the warehouse. The door of the car was badly damaged.

A second event sequence was also used to ensure that the data were not idiosyncratic to the scenario described above. In this case, Mr. Jones left his car double parked and with the ignition on while he went into a store to buy some soda. Bob, who remained in the car, tried to move it but lost control. Again the door of a car was badly damaged.

Procedure

Subjects were tested in groups of 8-16 persons. Each read a single scenario representing one of the six cells of the experimental design (n = 24 per cell) following which they answered a set of questions about the first protagonist and a set of questions regarding the second protagonist. The order in which the sets of questions were answered was completely counterbalanced. All except one question were answered on a nine point scale (end points = 1 and 9). The first three questions in each set concerned the extent to which the protagonist was "the cause of" ('not at all' to 'entirely'), was "to blame for" ('not at all' to 'fully') and should pay for the damage to the car. This last judgment was obtained by specifying that it cost $1000.00 to repair the car door (which allowed the damage produced in each story to be held constant); subjects were asked how much the protagonist (or his guardian) should pay to the car owner for the repairs. The above set of questions was asked in two different orders.

An additional question was included to examine whether the experimental manipulations in the present study merely altered the perceived voluntariness of the intervening cause. Thus subjects judged the extent to which the action which comprised the intervening event was a 'voluntary act' ('not at all' to 'totally voluntary'). Several other questions were asked about the second protagonist (Bob). First, subjects were asked about the extent to which Bob "was aware of the normal rules for behavior in the

situation described" ('totally unaware' to 'totally aware'); the extent to which he "is able to reason logically about such rules and reach reasonable conclusions" ('totally unable' to 'totally able'); the extent to which he "would be able to control himself and successfully carry out such a decision" ('totally unable' to 'totally able') and the extent to which he "could foresee that his actions might lead to a negative outcome" ('not at all' to 'completely'). The final question comprised a manipulation check and asked whether the protagonist "suffers from a psychological disorder" ('no psychological disorder' to 'major psychological disorder').

## Results

An initial analysis showed that responses obtained for the two scenarios did not differ. Consequently, the data from these two scenarios were combined in subsequent analyses.[2]

### Manipulation Checks

A three way (age x mental status x order of judging causes) analysis of variance showed that mental disturbance was successfully manipulated. Bob was seen as more psychologically disordered in the mentally disturbed condition ($M$ = 6.43) than in the normal ($M$ = 2.61) condition, $F$ (1, 132) = 151.7, $p < .001$. No other significant effects were found. In order to test the hypothesis that voluntary actions of a proximal only alter actor do not invariably mitigate causal or moral responsibility, two criteria have to be met in the present study: (1) the behavior of the proximal actor should be perceived as voluntary, and (ii) perceived voluntariness should not vary across experimental conditions. Both criteria were satisfied as Bob's action was generally seen as voluntary ($M$ = 6.64), and these perceptions did not differ significantly across experimental conditions.

Judgments of Causation, Blame and Restitution

Distal actor. It was predicted that the distal protagonist was more likely to be seen as the cause of the accident, blameworthy and liable for restitution, when the second protagonist was a child rather than when he was an adult, and to be greater when the second protagonist was mentally disturbed rather than sane. Data bearing on these hypotheses are presented in Table 1 which shows that both hypotheses received general support. A 3 (age) x 2 (mental status) x 2 (order of judging actors) multivariate analysis of variance with perceived cause, blame and restitution as dependent variables was used to analyze these data. A significant age main effect showed that the distal actor was judged more severely when the second protagonist was young rather than old, $F$ (6, 262) = 4.89, $p < .001$. Univariate analyses confirmed this main effect for each dependent variable. Simple comparisons showed that the main effect in each case was due to the fact that judgments were higher when the intervening action was that of a 7-year-old rather than a 14-year-old ($p < .01$). There was no difference in judgments when the intervening actor was a teenager versus adult. A main effect for psychological status was also obtained, $F$ (3, 130) = 3.19, $p < .03$, showing that perceived cause, blame and restitution were greater for the distal actor when the intervening actor was mentally disturbed rather than sane. Univariate analyses of this effect were, however, significant only for perceived cause and blame. The only other significant finding was an order of judgment main effect, $F$ (3, 130) = 5.26, $p < .01$. Higher ratings were made for each attribution ($p < .01$) when the distal actor was judged first (cause $M$ = 3.96, blame $M$ =4.38, restitution $M$ = $514) rather than second (cause $M$ = 3.1, blame $M$ = 3.26, restitution $M$ = $287).

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Insert Table 1 about here

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To test whether judgments would be altered when the proximate, intervening cause was an act of a child or a mentally disturbed person but not when it was the act of a sane adult, the data were further analyzed using Dunnett's (1955) technique for comparing treatment means with a control mean. Those means that differed from the corresponding sane adult mean are marked with a superscript in Table 1. The predicted pattern of results was obtained for blame judgments and, with one minor inexplicable exception (14-year-old mentally disturbed protagonist), for judgments of causation. In the case of restitution judgments, a different pattern emerged as only the cell means which involved the 7-year-old differed from the control mean.

Proximal actor. To examine whether age or mental status affected causation, blame or restitution judgments regarding the proximal actor, a 3 (age) x 2 (mental status) x 2 (order of judging actors) multivariate analysis of variance was conducted. As expected, a significant age main effect was found, $F$ (6, 262) = 8.53, $p < .001$ (see Table 2). Univariate analyses showed that the 7-year-old was given lower ratings than the 14-year-old and adult on all three dependent measures ($p < .01$).

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Insert Table 7 about here

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A main effect was also found for mental status, $F$ (3, 130) = 5.06, $p < .003$, and reflected the fact that the mentally disturbed protagonist was less likely to be seen as the cause of the outcome and to be held blameworthy than the same protagonist ($p < .01$). Mental status did not, however, affect restitution judgments. Finally, an order of judgment main effect was obtained, $F$ (3, 130) = 7.97, $p < .001$. Univariate analyses showed that higher restitution judgments occurred when the financial liability of the proximal actor was judged before ($795) that of the distal actor ($551).[3]

Capacity Judgments and Attributions of Causation, Blame and Restitution.

To evaluate whether the perceived capacities of the intervening actor predicted the level of cause, blame and restitution assigned to him, three regression analyses were conducted. The protagonist's (i) awareness of the rules for behavior, (ii) ability to reason about the rules, (iii) ability to control his behavior in accordance with his decision and (iv) ability to foresee the outcome of his action were used as predictor variables in equations where the dependent variable constituted cause, blame or restitution judgments, respectively. To ensure that the results did not merely reflect inflated relations produced by the experimental manipulations, the correlations between the variables in each cell of the design were converted to $Z$ scores and the average correlations were calculated. These were then used in the regression analysis.

The regression equations accounted for a significant proportion of the variance in perceived cause $F$ (4, 139) = 3.54, $p < .01$, and perceived blame, $F$ (4, 139)= 2.97, $p < .05$. Table 3 shows the multiple correlation and proportions of unique variance accounted for by the predictor variables.[4] It can be seen that only awareness was a significant predictor of both perceived cause and perceived blame although the capacity to control one's behavior was also a significant predictor of the former judgment.

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Insert Table 3 about here

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The relationship between cause, blame and compensation.

The correlations between cause, blame and restitution judgments in each cell of the design were averaged following $Z$ transformations to again ensure that they reflected the subjects' implicit notions regarding their relationship. These correlations were used for a set of path analyses (Kenney, 1979), the results of which are presented in Table 4. The analyses were done separately for both the proximate and the distal cause.

In each case a single-step model in which perceived cause determines restitution judgments was compared to one where perceived blame constituted an additional, intermediate variable. The latter accounted for an increased proportion of the variance in restitution judgments in the case of both the distal (13 percent, $p < .05$) and proximate (17 percent, $p < .05$) cause. In addition, the entailment model which specified that causation judgments determine blame judgments which, in turn, determine judgments of restitution (a restricted model as there are more equat'ons than unknowns which produce

nonunique solutions), was contrasted with one which specified an additional direct path between judgments of causation and restitution (a saturated model as the number of equations and unknowns are equal which generates a unique solution). The nonsignificant large sample chi-square values ($L$) indicated that the inclusion of this extra path did not contribute to the predictive power of the linear restricted model (Kim & Kohout, 1970). The corresponding path diagrams and proportion of variance in restitution judgments ($R^2$) accounted for by each model are presented in Table 4.

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Insert Table 4 about here

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## Discussion

The major findings of the present study show that: (a) cause and blame assigned to a distal actor in a causal chain is lower when the proximal event constitutes the act of a sane adult rather than the act of a young child or a mentally disturbed person; (b) cause, blame and restitution judgments are affected by the age and mental status of the person judged; (c) the capacities of foreseeability, understanding, reasoning and control of conduct reliably predict causal and moral responsibility; and (d) there is tentative evidence for a linear relationship between cause, blame and restitution judgments such that causal judgments determine blame judgments which, in turn, determine judgments of restitution.

The first finding qualifies Fincham and Shultz's (1981) results which showed that the voluntary nature of an intervening act was sufficient to

mitigate judgments of cause, blame and restitution. In the present study, no differences were found in the perceived voluntariness of the proximal event yet it generally reduced judgments of causation and blame regarding the distal actor only when the event constituted the action of a sane adult. This finding does not appear to simply reflect the use of the discounting principle as two events combined to produce an outcome in all the cells of the experimental design. Rather, it seems that the manipulations of age and mental status alter the interpretation of the initial act possibility because of a special duty to oversee the acts of children and the mentally disturbed. Hence, when the duty is abrogated, as in the present study, greater causal and moral responsibility is assigned. These results suggest that it is not simply the internal or external nature of causes which need to be considered in evaluating causal chains and may therefore account for the lack of any effect found for proximal causes in Brickman et al.'s (1975) study. It also appears that the causal primacy effect found by Vinokur and Ajzen (1982) only operates in conditions where the subjective weighting of the causes is equal. The data available to date show that the distal cause in a causal chain is assigned <u>less</u> significance only when the proximal cause is voluntary, provided the voluntary act is that of someone who possesses the capacities ascribed to a normal adult in our society.

It is, however, noteworthy that subjects attributed greater causality, and with the exception of one experimental condition (mentally disturbed 7-year-old), blame and restitution to the proximal actor than the distal actor. This raises an interesting question as to where subjects typically start in locating cause and blame when confronted with a sequence of events. The notion of intervening causation outlined in the introduction is a legal concept and does not specify a psychological process. Nonetheless, it

focuses on the distal actor and seems to imply that causation and/or blame are shifted, in whole or in part, to a proximal actor when certain conditions are met. On the other hand, the above mentioned finding suggests that attributors may typically begin by locating causation and blame in the proximal actor and only then, when circumstances warrant it, trace causal and/or moral responsibility to a distal actor. Thus while the notion of intervening causation is useful when considering actual judgments made about a distal event, it may not represent the psychological process which typically occurs when subjects make attributions about a complex sequence of events. The present data are, however, only suggestive in this regard. While they show that judgments of the distal actor conform to what might be expected according to the legal principle of intervening causation, it remains to determine the exact process followed in reaching such judgments. Examining the starting point and typical direction which judgments follow when complex sequence of events are appraised, might also shed light on the puzzling order effect found for judgments of proximal and distal events.

Our second finding, that the attibutions examined are affected by the age and mental status of the person judged, may not be surprising yet it is conceptually important as it relates to the preconditions which have to be fulfilled in order to apply attribution models. Little attention has been paid to this issue. Previous research on attributions of causal and moral responsibility has often used both children (e.g., Fincham & Jaspars, 1979; Harris, 1977) and adults (e.g., Fincham & Shultz, 1981; Shultz et al., 1981) as stimuli. These studies are usually portrayed as a single integrated literature yet the present findings suggest that attributions differ according to the age of the person evaluated. In the present study, 14-year-olds were judged in the same way as adults, whereas 7-year-olds were

not. The age of stimulus protagonists used in research may therefore affect which factors apparently influence judgments such as cause and blame. Similarly, age and mental status did not affect judgments in exactly the same way which conflicts with Justinian's observation that a child is "not very different from a madman" (cf. Platt & Diamond, 1966). Older actors (both mentally disturbed and sane) were judged more harshly than a normal 7-year-old child. One might therfore surmise that everyday understandings of child behavior and the behavior of the mentally disturbed differ. Both of these factors are, however, most likely summary variables which may differentially affect the perception of mental capacities. It is these capacities which are held to mediate cause, blame and restitution judgments.

The third finding provided partial support for this view as the ability to understand what constitutes appropriate behavior, to foresee the consequences of behavior, to reach decisions regarding such behavior and to follow through on these decisions did indeed predict causal and blame judgments. Jones and Davis' (1965) precondition for the attribution of intentions, viz, the ability to foresee the outcomes of one's act, did not account for any unique variance on the dependent measures (< 1 percent in each case). Rather, it was the awareness of appropriate behavior in the situation, and in the case of perceived cause, the ability to control one's actions, which accounted for the greatest amounts of unique variance. However, the magnitude of the variance accounted for, while significant, is low. This may reflect the general and rather abstract manner in which these questions were asked. For example, the person's general awareness regarding appropriate behavior in the situation may not be as important as their knowledge concerning the particular act they perform.[5] Other capacities are also likely to be important. Systematic examination of the insanity defense

as embodied in different rules (i.e., M'Naughten Rule, Durham Test and Model Penal Code) is likely to prove useful in future research on this issue.

It should be noted, however, that the capacities of the actor were not useful in predicting restitution judgments. This is consistent with the finding that age and sanity had less impact on restitution than cause and blame judgments for both proximal and distal causes. One possible reason for these differences resides in the fact that the restitution judgment, unlike cause and blame judgments, clearly involved consideration of an innocent third party (the owner of the car). To this extent, the attributor is oriented to the future and there is less need to establish as close a connection between the compensator and the harm - what is important is that an innocent party does not suffer. A legal analogue is the distinction between criminal and tort law. The young and insane are generally liable for their torts (where compensation is an issue) but not their crimes (where moral judgment and punishment are a concern). Given that the stimuli portrayed a tort, the data are consistent with this legal distinction except that lay attributors seem to partially consider capacities in making restitution judgments. The above analysis suggests a further distinction which has been overlooked in attribution research, the difference between punishment and restitution. The interchangeable use of these concepts (e.g., Fincham & Jaspars, 1980; Shultz, et al., 1981) may not be justified to the extent that punishment concerns the perpetrator of the harm and is therefore past oriented whereas restitution considers the victim of the harm and is future oriented. Whether attributors make such distinctions is an empirical question and may depend in part on whether they view punishment as retributive or utilitarian.

The final finding concerning the relationship between judgments of cause, blame and restitution supports the hypothesized entailment model: judgments of cause determine those of blame which in turn determine restitution judgments (C→B→R). This model was supported for judgments of both the proximal and distal actor and is unlikely to reflect the order in which the judgments were made as different orders were used. Indeed, the finding appears to be a robust one as it is consistent with prior research (Fincham & Shultz, 1981; Shultz et al., 1981) which has used a variety of stimuli.

The present data, cannot, however, be used to rule out two other models of theoretical interest. One of these (R→B→C) specifies that judgments of restitution determine those of blame and cause. Lloyd-Bostock (1983) presents indirect evidence which suggests that this is precisely what occurs when compensation is sought in industrial accidents. That is, individuals decide on a likely source of compensation and then make causation and blame judgments to justify obtaining compensation from this source. However, whether this model applies in situations where the attributor is not motivated by gain, is open to question. It seems quite possible that judgments made in situations where the attributor has a stake in the outcome of a decision process may be quite different than in situations where compensation is not at issue.

The remaining model (C←B→R) is somewhat counter-intuitive in most situations as it assumes that an initial blame judgment determines those of causation and restitution. To the extent that common sense notions are embodied in the law, examination of legal writings does not support this model. Unless a person is judged to have actually caused harm, the question of their blameworthiness normally does not arise (except in the few, often

problematic cases of strict or vicarious liability). The need to obtain further empirical evidence regarding the sequence of these judgments is apparent. One possibility is to use reaction time when measuring cause, blame and restitution judgments. The entailment model implies that restitution judgments should take longer to make (entails causal and blame judgments) than blame judgments (entails causal judgment only) with causal judgments taking the least time. Thus different reaction time patterns are implied by the alternative models.

The present study may be seen as providing evidence regarding the utility of principles derived from the legal literature and a priori analyses made by philosophers in social psychological research. On the one hand, psychological theory stands to gain a great deal from consideration of the sophisticated analyses of legal philosophers and practicioners who have been analyzing human conduct for hundreds of years, albeit from a somewhat different perspective (cf. Darley, Klosson & Zanna, 1978). On the other hand, psychologists may provide empirical validation for claims made about the "common sense" basis of legal and moral principles. Although there has been some enthusiasm for such an interdisciplinary endeavor by social psychologists (e.g., Darley et al., 1978; Fincham & Jaspars, 1980; Hamilton, 1980, but see Shotter, 1981, for a contrary view) some caution is necessary. For example, legal precepts are designed to serve the purpose of administering the law and when they are found to conflict with psychological processes, it does not automatically imply that they should be changed. Nor should they be accepted as psychological models or as necessarily relevant to psychological processes. Nonetheless, the investigation of man as lawyer may prove to be at least as valuable an approach to understanding ordinary

Judgments of cause and moral responsibility as the erstwhile investigation of man the scientist embodied in attribution theories.

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## Footnotes

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1. The ages of 7 and 14 years were chosen as, under the law, children below 7 years of age are presumed to be incapable of evil intent (doli incapax) and are thus without criminal capacity whereas those who have reached 14 are treated as fully responsible for their actions (LaFave & Scott, 1972). In between these two ages there is a rebuttable presumption of incapacity. It is not clear that subjects were aware of this legal convention, but we wanted our results to reflect the reactions of ordinary people to actors who differ in their legal status.

2. As there were no significant differences between the sexes on any of the dependent measures, this variable is not given any further attention.

3. The order effects were unexpected and are difficult to interpret. Conceivably, they reflect a discounting effect when the second act is rated.

4. These values actually constitute Darlington's (1968) usefulness index. This index is the amount $R^2$ would drop if the predictor were removed from the regression equation and the remaining variables were reweighted. As the test of zero usefulness is equivalent to the hypothesis that the variable has a population beta weight of zero, it can be tested for significance in the same way. Where predictor variables are intercorrelated the usefulness index is equivalent to the square of the semipartial correlation coefficient.

5. This distinction in fact differentiates different legal systems (e.g., continental and English) when limited capacities are at issue (Hart, 1968).

6. As pointed out by a reviewer, this model may apply in certain circumstances such as those characterized by strong biases. For example, outgroup members may be blamed for an event and appropriate causes then found to justify the evaluative judgment and its various consequences. However, the fact that a cause is found to justify blame suggests that the entailment model reflects accurately the social representation of the relationship between cause, blame and restitution even though it does not reflect the actual judgment processes in this particular case.

Table 1

Mean judgements for causation, blame and restitution assigned to distal actor

| Condition | Mental Status | |
|---|---|---|
| | Disturbed | Sane |
| **Causation** | | |
| 7 years | 5.08[a] | 4.04[a] |
| 14 years | 3.04 | 3.17 |
| Adult | 3.76[a] | 2.08 |
| **Blame** | | |
| 7 years | 5.06[b] | 4.58[b] |
| 14 years | 3.66[b] | 3.08 |
| Adult | 3.62[b] | 2.29 |
| **Restitution** | | |
| 7 years | 608[c] | 483[c] |
| 14 years | 400 | 360 |
| Adult | 294 | 258 |

[a, b, c] Shows means differ from corresponding, sane adult mean at $p < .05$.

Table 2

Mean judgments for causation, blame and restitution assigned to proximal actor

| Condition | Mental Status | |
|---|---|---|
| | Disturbed | Sane |
| **Causation** | | |
| 7 years | 5.88 | 6.54 |
| 14 years | 7.30 | 7.96 |
| Adult | 7.33 | 8.04 |
| **Blame** | | |
| 7 years | 4.71 | 5.42 |
| 14 years | 6.42 | 7.79 |
| Adult | 7.00 | 8.17 |
| **Restitution** | | |
| 7 years | 454 | 537 |
| 14 years | 654 | 841 |
| Adult | 772 | 779 |

Table 3

Multiple correlations and unique variance

associated with the predictor variables

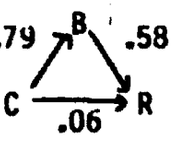
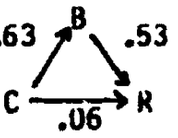
| Attribution Measures | R | Predictor variables: Awareness | Reason | Control | Foreseeability |
|---|---|---|---|---|---|
| Cause | .304* | .078** | .030 | .098* | .009 |
| Blame | .280** | .052** | .005 | .001 | .004 |
| Restitution | .232 | .049 | .001 | .003 | .008 |

* $p < .01$

** $p < .05$

Table 4

Results of path analyses of the relationship among judgments of cause (C), blame (B), and restitution (R)

| | Restricted Model | | Saturated Model | | |
|---|---|---|---|---|---|
| Cause | Path Diagram | $R^2$ | Path diagram | $R^2$ | L(1) |
| Distal | C .79 B .63 R | .396 |   | .397 | < 1 |
| Proximate | C .63 B .57 R | .342 |   | .327 | < 1 |