THE RELATIONSHIP BETWEEN INTENT TO HARM, ATTRIBUTIONS
AND CUES IN THE PERCEPTION OF AGGRESSION

by

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Abstract

This research dealt with attributions of intent to harm, responsibility, justification and affect made by subjects observing role-acted aggressive behaviour toward a victim. The primary question concerned the relationship between the types of attributions made (dependent variables) and the types of cues displayed by the protagonist (independent variables). The independent variables were systematically manipulated by depicting them in ten different videotaped scenes. One hundred, male, undergraduate psychology students at the University of British Columbia were volunteer subjects. The results were analyzed by grouping the independent variables on two bases: (1) by a priori criteria, and (2) according to the subjects' perceptions. The first analysis used a three-way 2x2x2 ANOVA, where the three fully crossed factors were the presence or absence of implicit or explicit verbal cues, or nonverbal cues. Simple main effects analyses were conducted on significant interactions. Trend analyses established the effects of increasing the number of cues displayed. The second analysis used an eight group one-way ANOVA plus trend analyses. The protagonists' use of nonverbal cues or an increase in the number of cues displayed was found to decrease attributions of responsibility to the victim, increase the victim's likeability, decrease the justification of the protagonist and decrease his likeability. When the protagonist became very aggressive these effects were reversed. Implications for pacifism of this backlash effect against the victim were discussed.
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Aggression has been defined in many different ways during the past half century of its study by the social sciences. For example, a number of authors have defined aggression as an instinct (Linn, 1973; Lorenz, 1967; McDougall, 1933). In general, the instictivist position is found most commonly in the areas of ethology and psychiatry, however, there are exceptions to this stance among some authorities actively involved or interested in these fields (e.g., Barnett, 1969; Carthy and Ebling, 1964; Delgado, 1969; Hall, 1964; Russell and Russell, 1968; Vernon, 1969; Washburn and Hamburg, 1968).

Another approach has been the attempt to define aggression in terms of the physiological correlates of the behaviour. Eleftheriou and Scott (1971), Kermani (1969), Moyer (1968a, 1968b, 1971a, 1971b, 1973) and Scott (1958) have reviewed and integrated the findings in this area. Other authors have employed broad definitions of aggression which include assertive, competitive types of behaviour as well as harming behaviour, thus making aggression both positive and negative in value (Ardrey, 1970; Eibl-Eibesfelt, 1970; Ilfeld, 1969, Robinson, 1971; Solnit, 1973; Storr, 1968). This approach has been widely criticized as being misleading and bound to lead to a great deal of confusion since such all-embracing definitions encompass so many different psychological functions (Cairns, 1972; Gianutsos, 1974; Johnson, 1972; Karczmar and Scudder, 1969; Klineberg, 1954).

Many writers have avoided or failed to use the concept of intent in defining aggression. To achieve this exclusion of intent, some have defined aggression as aversive stimulation (Buss, 1961; Patterson and Cobb, 1973; Ulrich and Symmannek, 1969), others have equated aggression
with hostility (Berkowitz, 1962; De Monchaux, 1964; Klineberg, 1954), and still others have replaced the words aggression and aggressive behaviour with the recently coined phrase "agonistic behaviour" (Bigelow, 1972; Johnson, 1972). Kaufmann (1970) and Knutson (1973) specifically avoid using intent in defining aggression, respectively preferring, instead, concepts related to expectations of inflicting harm or the compatibility of the behaviour to naturally occurring instances of aggression. Finally, Olweus (1972) includes intentional injury as aggression, but for an unspecified reason clearly negates the effect of this position by stating that accidental injury is not excluded from the definition.

In contrast to these positions, there may be a great deal to be gained by including the use of 'intent-to harm-or injure' as a central concept in defining aggression. Kahn and Kirk (1968) have suggested that the use of intent in defining aggression avoids dependence upon responses, results or the perceptions of the receiver of the act. At the same time this approach also makes the crucial distinction between accidental and intentional injury. If accidental injury were to be included as aggression then the harm caused would be, in part, a random event, thus making the definition of aggression of little value. Certainly the accidental-intentional distinction must acquire some validity when viewed in the light of our law processes where there is the need to establish the intent of the act in order to determine the degree of responsibility for the act (cf. Fishbein and Ajzen, 1973).

In this respect, it is of interest that several authors have implied intent in their definitions of aggression (e.g., Carthy and Ebling, 1964; Dollard, Doob, Miller, Mowrer and Sears, 1939; Staub, 1971) and two
prominent social psychological researchers (Berkowitz, 1965, 1970; Buss, 1971) have changed their positions such that they accept intent as a necessary concept in fully understanding aggressive behaviour. It would appear that there is a general trend for researchers studying the area of human aggression to accept and use intent-to-harm as a central concept defining aggression (Bandura, 1973; Bandura, Ross, and Ross, 1963; Berkowitz, 1965, 1970; Buss, 1971; Feshbach, 1964, 1970; Kahn and Kirk; 1968; Sears, Maccoby and Levin, 1957). Thus, the present author would conclude that the concept of intent-to-harm constitutes a vital element in the definition of aggression.

It is now of interest to consider the attribution of intent and the related attributions of responsibility and justification, in the perception of aggression.

Attribution of Intent

Attributions of intent in aggression may stem from two essentially different but complementary bases. The first position, called the logical inferential model, has been outlined by Heider (1958). Heider views attributions as logical derivations of the actions and circumstances surrounding the event. The second position, called the personal knowledge model (De Charms, 1968) views attributions as being inferred through the knowledge and experience of relating one's intentions to specific behaviours and situations.

De Charms (1968), Heider (1958) and Maselli and Altrochi (1969) have all contributed to the theoretical discussion of intention in psychology. (For more strictly theoretical views, see Boden (1973) and Daveney (1974); Gutkin also discusses intent but his categorization of
intention is basically the same as the three middle levels of Heider's (1958) categorization, which will be outlined later.) The views of the first four authors are summarized below under the classification of motivational aspects, behavioural aspects, outcomes produced and situational variables.

Motivation, as indicated by exertion, is tied to intention by suggesting the degree of desire for an outcome. Similarly, behaviour that is extreme and directed towards the perceiver rather than another person may increase the likelihood of intent being attributed to the behaviour. Likewise, as there is an increase in the number or complexity of the behaviours leading to a specific end, the intentions become clearer. This aspect of intention, explained as the taking of multiple means or paths to reach an invariant end, has been called equifinality by Heider (1958).

In considering outcomes, attributions of intent are likely to increase if the effects upon the perpetrator or receiver are either positive or negative (as opposed to neutral), or there are outcomes that would not have occurred had the perpetrator acted differently. In this fashion, if a number of ends are brought about by an action, the end of greatest value to the perpetrator is likely to be considered by others as being the desired goal or intended outcome.

Situational variables also mediate attributions of intent. A greater knowledge of another person, or being in a position of less power to others may increase the likelihood of attributions of intent. More commonly, intentions may be inferred through a consideration of the normal behaviour and usual motives of a person in that situation, or
inferred through the observation that the outcome reached is common to that type of situation — as catching fish is related to sitting in a boat with a fishing line. Lastly, intentions may be derived from self reports.

Epstein and Taylor (1967), Greenwell and Dengerink (1973), Nickel (1974), and Shortell, Epstein and Taylor (1970) have contributed empirical findings to the understanding of intention. They obtained comparable findings indicating that the protagonists' motivation was more important to the victim than the nature of the actual outcome that occurred. In eliciting aggressive responses from the victim, the perception of the opponents' aggressive intent was more important than physical attack or being defeated. Similarly, independent of the degree of harm received, individuals became more angry and retaliated more strongly when they perceived a greater degree of intent to harm behind the aggressive behaviour.

Attribution of Responsibility and Justification

In one of the earliest attempts to outline the relationships between responsibility, justification, and intentions, Heider (1958) distinguished between the following five levels of the attribution of responsibility: (1) Responsibility for an effect that is in any way associated or connected with the individual; (2) Responsibility for the unforeseeable effects of an action; (3) Responsibility for foreseeable effects which were not part of the goal and in this sense were not intended; (4) Responsibility for an intended effect; (5) Responsibility for an intended effect justified in part by external circumstances. The first three categories constitute impersonal causality, where some outcomes
may be the unintended result of personal actions. The last two categories constitute personal causality, where the outcomes in question are the intended result of personal actions, with responsibility being shared by the person and the environment at the fifth level. Fishbein and Ajzen (1973) note that not only can acts be classified into Heider's (1958) five categories but that the level of the "moral" development of individuals may also fit into this classification. Thus, the perceivers of an act may respond to it at any one of the five levels, based upon their own personal perspective on responsibility.

De Charms (1968) has postulated that justification for a behaviour, as found in Heider's fifth category, should decrease an observer's negative reaction to the perpetrator. At the same time, he notes that other variables, such as the personality characteristics of the perpetrator, may in some cases be more important than justification in increasing or decreasing an observer's negative reaction. Research by Sulzer and Burglass (1968) supports De Charms postulation concerning justification. They found that the attribution of responsibility to a fictional harm-doer increased when the harm-doer's actions were represented by the first to the fourth levels of Heider's categorization and then decreased when the harm-doer's actions were represented at the final level of justified intentional behaviour.

Results by Phares, Wilson and Klyver (1971), Phares and Wilson (1972) and Phares and Lamiell (1975) are also in agreement with De Charms' (1968) view on the importance of personality variables. These findings indicated that individuals with internal locus-of-control attribute more responsibility to either themselves or others for the outcome of non-
aggressive events than do individuals with external locus-of-control, who attribute more responsibility to the environment or circumstances. Research by Aderman, Archer and Harris (1975) suggests that for both accidental and intentionally harmful acts, observer attribution of responsibility to the perpetrator will increase when there is empathy for the victim and decrease when there is empathy for the perpetrator. In line with these results, McKillip and Posavac (1975) found that rater similarity to the victim of an accidentally harmful event reduced the amount of responsibility for the outcome attributed to the victim. This latter result may be explained in several fashions, including cognitive expectations of attraction to the victim, defensive attributions of lessened responsibility because of rater similarity to the victim, or empathy for the victim.

Research by Medway and Lowe (1975) found an increase in attributions of responsibility when the severity of the outcome increased, for both positive and negative outcomes. The effect was more salient for negative outcomes. At the same time, though, other research indicates that this effect may be moderated by the variable of personal attractiveness. Seligman, Paschall and Takata (1974) found an interaction between the attractiveness of women and the degree of responsibility attributed to them for outcomes. Attractive women were found to be more responsible than unattractive women for positive outcomes, whereas the converse held true for negative outcomes.

Apart from the effect of person-variables, Phares and Wilson (1972) indicate that situational variables also need to be considered in the attribution of responsibility. They found that the greatest amount of
responsibility was attributed to the perpetrator of an act when situations were clear (structured) and the outcome severe. However, little responsibility was attributed when the situations were ambiguous with severe outcomes. Thus the attribution of responsibility was mediated by the factor of situational ambiguity versus structure.

In extending this discussion beyond the attributions of intent, responsibility and justification, it is of value to also consider the specific cues which are used to infer aggressive intent in others.

**Cues of Intent to Harm**

In a dyadic situation with an outside observer, one may look to the perpetrator, the victim, the observer, or the situation for variables which could affect attributions of intent-to-harm. For example, with respect to situational variables, several studies have indicated that under conditions of fear and hostility arousal an individual's judgement may be distorted towards perceiving hostility or fear in others (Feshbach and Feshbach, 1963; Feshbach and Singer, 1957; Feshbach, Singer and Feshbach, 1963,; Murray, 1933). There may also be personality characteristics in the perceivers such as empathy or punitiveness (Sulzer and Burglass, 1968), hostile, suspicious, or mistrusting attitudes (Staub, 1971), internal vs. external locus of control qualities (Maselli and Altrocchi, 1969; Phares and Wilson, 1972), or the holding of perceptual sets (Zadney and Gerard, 1974) that will influence intent to harm judgements. Similarly, the possession by the perpetrator of positive qualities or achievements may influence intent to harm judgements (Maselli and Altrocchi, 1969). However, the focus of the present study is upon those cues that are displayed by the perpetrator of the aggressive acts.

To facilitate discussion and analysis, the cues associated with
the perpetrator have been divided into the following categories: explicit verbal, implicit verbal, explicit nonverbal, and implicit nonverbal. Explicit cues are those that directly indicate intent to harm or consist of actions necessary to or leading up to the infliction of harm. In contrast, the display of implicit cues by an individual only implies a situation in which there may be intent to harm.

Explicit verbal cues consist of such behaviours as a direct statement of intent to harm through the use of threats or threatening words, such as "I'll kill you" or "How would you like your teeth smashed in?"

Implicit verbal cues consist of events such as the following:
(a) A statement accusing another person of wrongdoing, maliciousness, bad intentions, illegal actions, or similar negative attributes; (2) The use of derogatory or insulting statements; (3) A change in the choice of language used; that is, a choice of more emphatic words (such as, perhaps, swear words) and the more frequent than normal usage of such words; (4) A change in voice intensity, with a rise in intensity implying a more excited state and a lowering in voice intensity implying a calmer state; (5) A change in the rapidity of speech, with an increase in speed implying a more excited state and a decrease in speed implying a calmer state.

The explicit verbal cues and the first three implicit verbal cues are derived from the observations of the present author. However, there is some research that supports the inclusion of voice intensity and voice rate as implicit verbal cues. Davitz and Davitz (1961) presented findings indicating that the four speech characteristics of loudness, pitch, timbre, and rate were correlated between 0.59 and 0.88 with the activity level of expressed emotions. Thus, feelings such as anger or
joy, subjectively rated by judges as active, were expressed with relatively loud voice, high pitch, blaring timbre and fast rate. This was in contrast to passive feelings, such as despair and boredom, which were expressed with a relatively quiet voice, low pitch, resonant timbre and slow rate. Since joy and anger are seen in a similar fashion, these features of speech may only be indicative of a change in emotional state rather than being directly indicative of intent to harm.

The nonverbal indices of intent to harm are communicated largely through body postures, movements, preparatory acts and facial features. The bulk of the following characteristics were found through the analysis of cartoons and pictures, observation, introspection and the works of Eibl-Eibesfelt (1970, 1971), Ekman (1971), Ekman, Friesen and Ellsworth (1972), and Scheflen (1972). The types of nonverbal behaviour that were considered are generally classified as illustrators and affect displays (Ekman and Friesen, 1969). These terms refer to actions that illustrate ongoing behaviour or communicate information about the type and degree of emotion.

Explicit nonverbal cues consist essentially of body movements leading up to but not including the actual infliction of harm. Thus, such activities as the clenching of fists, threatening gestures with weapons, hands or feet, baring of teeth in animals, the display of species specific aggressive behaviour, and unsuccessful attack movements would all be included as part of a repertoire showing intent to harm. For example, Argyle (1974), Chevalier-Skolnikoff (1973) and Hess (1962) label the situalized symbolic threat movements of some animals as "intention movements" since they indicate what the animal is about to do.
Implicit nonverbal cues include movements as well as body and facial postures. Freedman, Blass, Rifkin and Quitkin (1973) found that hand gestures led up to periods of strong verbal expression of hostility, but often stopped during the intense period, to pick up again following the outburst. The timing and type of hand gestures were interpreted as mediating a buildup to the verbal expression or as mollifying the impact of the expression. These movements appear to fall in the category designated as 'illustrators' of verbal speech by Ekman and Friesen (1969). Cohen and Harrison (1973) obtained results supporting the contention that illustrators are used intentionally to facilitate communication. Similarly, Melbin (1974) comments that with respect to multichannel communication, using more than one modality (i.e., verbal and nonverbal) increases the reliability of the message, making it clearer, and heightens the force of the message, giving it more impact. Of interest in this respect are the early results of Ekman (1965) which suggest that head cues primarily carry information about the type of emotion shown whereas body cues reflect the intensity of the emotion.

Included in the present classification as implicit nonverbal cues are movements toward another organism, especially rapid movement or stealthy, furtive movement. Also included are movements, usually of the entire body, that to an uncomfortable degree intrude into the personal space of another person. Fast, vigorous movements like jabbing or pointing with a finger, not necessarily directed toward the other organism, are often used in cartoons to effectively denote anger. Other movements that may be considered as implicit nonverbal cues include shaking or trembling in anger or rage and behaviour resulting from redirected or
slightly suppressed aggressive behaviour, i.e., throwing objects down or slamming doors, etc. Stamping of feet as an aggressive display is found especially in children and also in some adults (Eibl-Eibesfelt, 1970, pp. 420-423, 457).

Body postures associated with communication of intent to harm (obtained through the analysis of cartoons) include rigidity of body, a leaning forward posture — especially noticeable from the waist up; the head is sometimes pushed assertively forward with the jaw rigidly set and sometimes thrust out. The back may become stiffened and the shoulders squared. Eibl-Eibesfelt (1971) indicates that when humans threaten they may rotate the arms slightly inward and raise the shoulders, along with the tensing of the small muscles in the back, neck, shoulders and arms which cause the hair to be erected. This functions to emphasize the shoulder regions and is very similar to threat behaviour in our closest anthropoid relative, the chimpanzee. Eibl-Eibesfelt (1971) notes that in many different cultures today male clothing emphasizes the shoulders. The intent to harm also becomes more evident as hands, which may be initially encumbered by being rested on the hips in an arms akimbo position or with thumbs hooked into the belt, are positioned freely and tensed for action.

Finally, facial configurations are associated with implicit non-verbal communications of intent to harm. Ekman (1971), Ekman (1973), Ekman, Friesen and Ellsworth (1972) and Ekman, Sorenson and Friesen (1969) present what they feel to be conclusive evidence indicating that there are universally recognized facial displays of emotions such as anger. Eibl-Eibesfelt (1970, pp.410, 420;1971,pp.19,173) has similarly indicated
that there is wide agreement in the expression of rage among people and it is shown by the baring of the teeth at the corners of the mouth. In Ekman's work (1971), the description of the appearance of the face for the emotion of anger is cited to be: "brows pulled down and inward, appear to be thrust forward; strong vertical, sometimes curved forehead wrinkles centered above the eyes. No schlera shows in eyes; upper lids appear lowered, tense and squared; lower lids also tensed and raised, may produce an arched appearance under eye; lid tightening may be sufficient to appear squinting. Either the lips tightly pressed together or an open, squared mouth with lips raised and/or forward; teeth may or may not show" (p. 251). Chevalier-Skolnikoff (1973) uses essentially the same description of facial anger as Ekman (1971), and considers these features to be similar to ape expressions of dominance, anger and fear-anger.

Other facial features to be noted include intense staring, with eye to eye contact which may accompany the narrowing of the eyes. As well, the nostrils are likely to be dilated as opposed to being pinched. The face may become very red or flushed as in a rage or may drain of blood and become very pale as in fear-anger. Veins may stand out on the forehead or in the neck region and possibly pulsate.

Since it can be seen that there may be a number of different cues or configurations associated with each area of the face, the possible confusion can be clarified by noting that the cues or sets of cues can be divided along a continuum of the degree of anger shown. Some responses such as firmed mouth or lips may change dramatically as the anger increases, becoming, for example, an open yelling mouth with teeth
showing. The more cues and the more extreme or emphatic the cues, the greater indication of intent to harm. As a general interpretation of the information presented thus far, intent to harm may often be communicated and inferred simply from the display of body and facial cues for anger that are directed toward another individual.

It should be mentioned that most of the previous writing has referred to cues in the context of direct communication of information. There are, as well, metacommunications which are communications giving information about the context or meaning of other signals (Ruesch and Kees, 1956, pp. 7, 64, 72; Scheflen, 1972, pp. 70-74; also discussed as "communicative contexts", Poyatos, 1975). For example, if a raised fist is followed by a smile or laugh, the laugh becomes a metacommunication relating to the raised fist signal, and indicates that it was done in fun or jest. The metacommunication may occur through explicit communicative behaviour (as in the last example) or through implicit communication via: "(1) roles or (2) institutionalized instructions ... inherent in the structure of social situations or (3) the rules governing the flow of messages" (Ruesch and Kees, 1956, pp. 7, 64, 72).

In summary, there is growing consensus on the necessity to include the concept of intent in the study of human aggression. There is, as well, a set of theoretical and empirical data available on the attributions of intent, responsibility and justification. Information has also been outlined concerning the numerous cues of intent to harm that are related to aggression. However, there appears to be no research relating the type or strength of an attribution to the type of cues perceived.
The present study was therefore designed to investigate the relationship between attributions made by an observer and the types of cues emanating from the perpetrator of an aggressive act. The types of cues considered were those previously classified as implicit and explicit, verbal and nonverbal. To aid in the study of this problem, the implicit and explicit nonverbal cues were dealt with as a single nonverbal category. Thus the independent variables consisted of the following types of cues: (a) implicit verbal cues — consisting of an accusation of wrongdoing, an increase in voice level, and an increase in emphatic vocabulary; (b) explicit verbal cues — consisting of three direct verbal threats of harm, and (c) nonverbal cues — consisting of facial anger, movement towards the victim, and a physical threat of harm to the victim. These individual cues were chosen as being representative of each of the three major categories of cues.

The problem that was considered concerned the relationship between these three categories of cues and the following: (1) the attribution of intent to harm; (2) the degree of confidence placed upon judgments of intent to harm; (3) the judgement of the likelihood that harm would occur; (4) the attribution of intentional harm (as opposed to accidental harm) if harm occurred; (5&6) the attribution of responsibility to the protagonist or the victim if harm occurred; (7) the degree of justification for the behaviour exhibited; (8&9) the degree of feeling of positive affect for the protagonist and the victim; (10) the degree of realism of the scene. These ten items constituted the dependent variables.

The nature of the relationship between cues, perceptions and attributions was investigated by creating a mini-drama and videotaping it.
In actuality, eight scenes were taped, varying only in the degree of aggressiveness shown by the protagonist (ranging from no aggressiveness to extremely aggressive). The situation concerned a lost wallet and a suspected thief. The owner of the wallet became upset and increasingly belligerent in his efforts to have the "thief" return the wallet. This increase in aggressiveness provided the opportunity for the experimenter to control the type and extent of the cues displayed by the protagonist. Each subject was randomly shown one of the videotaped scenes and asked to make judgements about the participants. Predictions concerning the types of judgements or attributions made by the subjects are outlined in the following set of hypotheses.

Hypotheses 1 & 2. It was hypothesized that the three major categories of cues and combinations of these categories would be used by people to infer intent to harm in others, to infer the likelihood that harm will occur, to distinguish between accidental and intentional harm, to attribute responsibility and justification for actions and as a basis for developing an affective response towards the individual expressing the cues. Therefore, it was hypothesized that the use of the three types of cues: (1) either separately or (2) in combinations, would yield significant increases in comparison to the control group, in the following attributions: an increase in intent to harm (DV.1); an increase in the likelihood that harm would occur (DV.3); an increase in judgements of the harm being intentional if it occurred (DV.4); an increase in attributions

---

1 The control group consisted of subjects shown the standard scene up to the point at which cues of intent to harm were introduced.
of responsibility to the protagonist if harm occurred (DV.5); an increase in the degree of positive affect for the victim (DV.9). On the other hand, use of the same three types of cues should significantly decrease the following attributions: victim responsibility (DV.6); the degree of justification for the behaviour exhibited by the protagonist (DV.7); and the degree of positive affect for the protagonist (DV.8).

Hypothesis 3. The cues for anger, directed against another person, were considered by the author as likely to constitute the main cues used by observers to infer intent to harm and the associated attributions of responsibility, etc. Furthermore, on the basis of the previous literature review, nonverbal cues of anger would probably be the most influential cues in terms of affecting the various attributions made by subjects. Therefore, it was hypothesized that the observation of nonverbal cues of intent to harm would cause subjects to make stronger attributions than the observation of verbal cues of intent to harm. This reasoning led to the hypothesis that for each of the dependent variables (except DV.2 and 10, the degree of confidence in intent to harm judgements and the degree of realism in the scene), the strength of the attributions would be as follows: (1) the weakest attributions would be made by the control group; (2) the observation of implicit verbal cues or explicit verbal cues would yield attributions of approximately equal strength, but these attributions would be significantly stronger than those made by the control group; (3) the observation of nonverbal cues or the combined set of implicit plus explicit verbal cues would yield attributions significantly stronger than those of the implicit or explicit verbal cues taken alone, but not significantly different from each other; (4) finally,
the observation of nonverbal cues paired with either implicit or explicit verbal cues, or the observation of all three types of cues combined together would yield the strongest attributions of all, attributions that would not be significantly different from each other but would be significantly stronger than any of the previous types of cues taken alone or in combinations. In brief, it was hypothesized that there would be significant differences between but not within the above four categories.

**Hypothesis 4.** It was predicted that the hostile intentions of the protagonist would become clearer as the number of cues displayed by him increased. This increase in the clarity of his intentions should lead to increasingly strong attributions being made by observers of his behaviour. Therefore it was hypothesized that a linear increase in the number of cues displayed would be matched by significantly increasing linear trends in the following attributions: an increase in intent to harm (DV.1); an increase in the likelihood that harm would occur (DV.3); an increase in judgements of the harm being intentional, if harm occurred (DV.4); an increase in the attribution of responsibility to the protagonist if harm occurred (DV.5); and an increase in positive affect for the victim (DV.9). The same linear increase in cues should be paralleled by the following significantly decreasing linear trends: a decrease in attributions of responsibility to the victim (DV.6); a decrease in the degree of justification for the behaviour exhibited by the protagonist (DV.7); and a decrease in positive affect for the protagonist (DV.8).

**Hypothesis 5.** The author considered that the following
relationships were likely to exist between the strength of an attribution made, the degree of confidence in it and the number of cues upon which it was based: As the number of cues displayed increased, it was predicted that the intentions would become clearer, thus resulting in an increased degree of confidence in the attributions made. At the same time, it was predicted that as the attribution made became stronger, the attributor would become less sure of the correctness of making such a strong judgement, thus resulting in a decrease in confidence in the attribution. Therefore, it was predicted than an increase in the number of cues displayed by the protagonist would result in a significant increase in either the strength of the attributions made by the observer or the degree of confidence in the attributions made, but would not result in a significant increase in both simultaneously. Specifically, it was hypothesized that if the level of attribution of intent to harm (DV.1) increased when there was an increase in the number of types of cues (i.e., the linear trend was significant for DV.1) then there would be no significant increase in the degree of confidence placed on the attribution (DV.2). (As a sequela, it was therefore also hypothesized that if the level of attribution of intent to harm [DV.1] remained the same as the number of types of cues increased, then there would be a significant increase in the degree of confidence placed on the attribution [DV.2]).

**Subsidiary hypotheses regarding methodology.** These final hypotheses were considered as the result of the many problems encountered in developing acted scenes that would appear to be realistic. Since it seemed likely that acted scenes would appear to be less realistic than
non-acted scenes, a videotape was produced of a non-acted scene which paralleled as closely as possible the acted control scene. To do this, two naive volunteers were candidly videotaped while interacting in a classroom situation highly analogous to that used in the acted scenes. It was hypothesized that the non-acted control scene would be judged more realistic than the initially acted control scene.

At the same time, it was considered likely that a non-aggressive scene followed by questions concerning aggression might lead one to believe that something was missing from the scene, and therefore judge it to be less realistic than the same scene followed by questions not concerning aggression. Therefore, two groups of subjects viewed the non-acted control scene. Following this, one group was asked to fill out a questionnaire containing aggression questions while the second group filled out a questionnaire containing non-aggression questions. It was hypothesized that the non-aggressive scene followed by non-aggression questions would be judged more realistic than the same scene followed by aggression questions.
Method

Subjects

One hundred male undergraduate psychology students attending the 1975-76 session at the University of British Columbia volunteered to participate in this study. Ten subjects were assigned at random to each of the following conditions: (1) initial control group; (2) implicit verbal cues exhibited; (3) explicit verbal cues exhibited; (4) nonverbal cues exhibited; (5) implicit verbal cues plus nonverbal cues exhibited; (6) implicit plus explicit verbal cues exhibited; (7) explicit verbal cues plus nonverbal cues exhibited; (8) implicit plus explicit verbal cues plus nonverbal cues exhibited; (9) natural control group (questionnaire effects); (10) natural control group (acting effects).

Preliminary Preparations

Production of the videotape stimulus materials. Two, non-professional male actors were videotaped while role playing an aggressive scene eight times. The protagonist displayed a different set of cues of intent to harm for each scene. Under the direction of the experimenter (see Appendix 1) the actors portrayed the scenes and cues on the basis of a script which they had improvised (see Appendix 2). Briefly, each scene was videotaped in a classroom in which two tables were placed end to end with chairs arranged around them. Some books and papers were placed on one of the tables. The victim was seated in the room when the protagonist entered, looking for his lost wallet. The protagonist, after briefly searching the room, asked the victim if he had found the wallet. The victim denied finding it. The protagonist then appeared convinced that the victim had the wallet and portrayed the different cues of intent-to-harm
toward the victim, in an attempt to have the wallet returned. To control for possible confounding effects because of subjects viewing actors for different lengths of time, the length of each of the eight scenes was standardized at 40-50 seconds.

As each scene was filmed it was reviewed by the actors and the experimenter and, if necessary, was refilmed until there was agreement that the scene had been acceptably portrayed. Problems were encountered in establishing the "purity" of the scenes; that is, that each scene had all the cues in it which were designed to be included. To achieve this "purity", seven complete filmings of the eight scenes were made and feedback was solicited from fifty-six subjects in two pilot studies. The seventh filming achieved a suitable degree of realism and "purity" (as judged by actors, experimenter and advisors).

A "natural" control scene was added to aid in interpreting subjects' responses to the degree of realism in the scenes (DV.10). This additional scene was also useful in determining the presence or absence of demand characteristics contained in the questionnaire given to the subjects. The natural control scene was a candid videotape of two male volunteers interacting in a classroom arranged in a fashion similar to the one used in the previous experimental scenes. The two volunteers were told that they would be in a videotaped study of interpersonal behaviour in small discussion groups. They were seated and while they waited for a third member of the group they were asked to decide between themselves which of several topics they would like to choose for the discussion. As they waited, their natural behaviour in this situation was filmed. They were then debriefed. The participants did not suspect that they were being
filmed or observed, nor did they react negatively to the procedure, including the use of the film as a part of the research study. Appendix 3 contains technical information relevant to the videotaping of all scenes.

Procedure

Subjects participated one at a time in the experiment and were randomly assigned to conditions. The instructions portraying the experiment as one in person perception were read to the subjects by the experimenter (see Appendix 4). Subjects were told that they would watch a very short videotape of a scene of two people interacting in a classroom and then answer a brief questionnaire. The videotape scene was shown to each subject while he was seated at a table in a small office-sized room. The distance from the subject to the 19' (.48m) T.V. monitor was 3½ to 4 feet (1.07 to 1.42 meters).

After viewing the scene, the subjects were given one of three questionnaires to complete. The first questionnaire (see Appendix 5) was given to the 80 subjects who watched the eight acted scenes. The ten questions on the questionnaire concerned the subjects' perceptions of intent-to-harm in the situation, his confidence in his judgement, his perceptions of the likelihood of injury in the situation or, if the injury did occur, whether it would be accidental or intentional, his judgements concerning the responsibility of the protagonist and victim if harm did occur, and his feelings toward them, along with his reaction concerning the degree to which the protagonist was justified and the degree to which the scene was realistic. These items provided the measure for each of the ten dependent variables. Each question was followed by a line 10 cm. long, anchored at each end by a short descriptive phrase. Subjects responded
by drawing a line crossing the scale line at the point which corresponded to their judgement on the question. Their responses were later coded by measuring the distance in centimeters from the left end of the scale to the point at which their line crossed the scale line.

The second part of the questionnaire requested the subjects to complete a behaviour checklist. This checklist was used to ascertain the subjects' perception of the behaviours displayed by the protagonist and the victim.

In addition to the 80 subjects who watched the acted scenes, 20 subjects were shown the natural control scene. Each of the two remaining questionnaires were given to one-half of these latter 20 subjects. The first questionnaire (see Appendix 6) contained one question related to the degree of realism of the scene along with four filler questions relating to other non-aggressive aspects of the scene. Thus, the first group of subjects saw a non-aggressive scene and answered questions of a non-aggressive nature. With minor changes in wording, the second questionnaire (see Appendix 7) paralleled the earlier questionnaire given to the 80 subjects who watched the acted scenes. Thus, the second group of subjects saw the same non-aggressive scene but answered questions concerned with events of an aggressive nature.

The results from the first questionnaire were compared to the results from the second questionnaire, the purpose of which was to determine whether the perceived realism of scenes varied as a function of asking appression-related questions following a non-aggressive situation. The results from the second questionnaire (based on a non-acted, non-aggressive scene) were also contrasted to the results from the initial
control scene (an acted, non-aggressive scene). This comparison was used to determine whether the perceived realism of scenes varied as a function of the scenes being acted or spontaneous.

These two questionnaires given to the additional 20 subjects were coded in the same fashion as the first questionnaire given to the original 80 subjects.

At the end of each session subjects were debriefed.

Rationale for Analyses

**Phase 1 - a priori grouping of independent variables.** The data were analyzed initially upon the basis of the eight original groupings of the independent variables (see Table 1).

**Phase 2 - empirical grouping of independent variables.** In considering factors which could affect the types of attributions being made by subjects, it became apparent that the subjects' perceptions of the cues involved in any particular scene would be important. Conceivably, their perceptions of the cues that were in a scene could be different from the cues that were intended and judged to be in the scene by the experimenter, the actors, and the advisors. Therefore, the data were also analyzed from the standpoint of the subjects' perceptions (see Table 1).

A summary of the ten dependent variables used in the study is presented in Table 2.
Table 1

Frequencies in Subject Groups According to *A Priori* or Empirical Classification of Independent Variables

<table>
<thead>
<tr>
<th>No Implicit Verbal Cues</th>
<th>Explicit Verbal Cues</th>
<th>Implicit Verbal Cues</th>
<th>Explicit Verbal Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Explicit Verbal Cues</td>
<td>No nonverbal cues</td>
<td>no nonverbal cues</td>
<td>No nonverbal cues</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Explicit Verbal Cues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>BC</td>
<td>AC</td>
</tr>
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<td>10</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subjects; Phase 1
*A Priori* Grouping of Independent Variables

<table>
<thead>
<tr>
<th>Group Labels</th>
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<th>B</th>
<th>BC</th>
<th>A</th>
<th>AC</th>
<th>AB</th>
<th>ABC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects; Phase 1</td>
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<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><em>A Priori</em> Grouping of Independent Variables</td>
<td>2^a</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>11</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>

Subjects; Phase 2
Empirical Grouping of Independent Variables

For example, in this group only two subjects perceived the scene that they viewed as being one in which there were no cues of intent to harm displayed.
Table 2
Summary of Dependent Variables

| DV 1 | the attribution of intent to harm. |
|DV 2 | the degree of confidence in intent to harm judgements. |
|DV 3 | the judgement of the likelihood that harm would occur. |
|DV 4 | the attribution of intentional harm (as opposed to accidental harm), if harm occurred. |
|DV 5 | the attribution of responsibility to the protagonist, if harm occurred. |
|DV 6 | the attribution of responsibility to the victim, if harm occurred. |
|DV 7 | the degree of justification for the behaviour exhibited by the protagonist. |
|DV 8 | the degree of feeling of positive affect for the protagonist. |
|DV 9 | the degree of feeling of positive affect for the victim. |
|DV 10| the degree of realism of the scene. |
Results and Discussion

Analysis Procedures

Phase 1 - a priori grouping of independent variables. In Phase 1, a three-way analysis of variance was performed on eight of the dependent variables (excluding DV2, the degree of confidence in intent to harm judgements, and DV10, the degree of realism of the scene). When significant interactions were found, analyses of simple main effects were conducted. This type of analysis fixes the value of one independent variable as being either present or absent and at that value, an F-test is performed on the second independent variable. The value of the first independent variable is then changed to the alternative level (i.e., if the variable was initially present it is changed to being absent) and again an F-test is performed on the second independent variable. The variable which is fixed at the two alternative levels is usually chosen on the basis of its theoretical importance over the second variable. This analysis allows the significance of the effect to be compared when the important variable is either present or absent.

Subsequent Phase 1 data analyses were used to determine the effect of combinations of cues and the relative importance of the various combinations. In addition, the types of trends in attributions produced by an increase in the number of cues displayed were analyzed. To do this, two one-way analyses of variance were performed by "stringing-out" or recombining the cells of the earlier factorial design. Multiple comparisons were made between cells and in the case of the recombined data, when main effects were significant, trend analyses were conducted. Finally, a consideration of possible methodological problems
warranted the conducting of several t-tests between the initial control group and the two groups shown the natural control scene.

Phase 2 - empirical grouping of independent variables. The first step in Phase 2 required a regrouping of the data. As noted earlier, each of the three basic cue types (explicit, implicit and nonverbal) was represented by three individual cues (e.g., nonverbal cues consisted of facial anger, movement close to another person, and a threatening gesture). An examination of the behaviour checklists determined the types of cues that each subject felt were portrayed in the scene. In any given scene, subjects might have perceived either greater or fewer cues than were intended by the consensus of experimenter, actors, and advisors. Complete agreement was often lacking between the "consensual" perception and the subjects' perception of which of the representative cues were contained in any particular scene. However, the degree of disagreement over a scene was usually a matter of only one or two cues. It was therefore decided to adjust the criteria which formed the basis for the three basic cue types. The new criteria were as follows: A basic cue type (implicit, explicit, or nonverbal) was considered to be represented if either of the following two conditions held: (a) the subject reported a minimum of two out of the three individual cues originally intended to be representative of that basic cue type or (2) the subject reported a maximum of four individual cues, three of which were originally intended to be representative of that basic cue type. Thus, all the data in each of the new subject groups (see Table 1) fell within the bounds of plus or minus one individual cue of the number of individual cues originally intended for that group. For example, one new subject group, labelled the
implicit verbal cues group (group A; see Table 1), consisted of six subjects, two subjects who reported the three individual cues originally intended to be representative of group A, one subject who missed one of the individual cues, and three subjects who reported one additional cue.

Twenty-one subjects who did not fall within the bounds of plus or minus one individual cue, were discarded in this phase of the analysis. In turn, because of the lack of correspondence between subjects' reported perceptions and the intended manipulations, the original eight groups were reduced to six groups (see Table 1).

Employing the same dependent variables as in Phase 1 (see Table 2), the data in the six groups under Phase 2 were analyzed with respect to the original hypotheses. In view of the missing cells and the unequal cell sizes, a three-way ANOVA could not be employed. Instead, a six-group one-way ANOVA was performed, followed by Scheffé-type multiple comparisons administered for all pairwise comparisons. Trend analyses were also performed.

**Results:** Phase 1: A Priori Grouping of Independent Variables

**Hypothesis 1.** The first hypothesis predicted that individually, the three major categories of cues would each produce significant increases, in comparison to the control group, in the following dependent variables: an increase in the attribution of intent to harm (DV1); an increase in the likelihood that harm would occur (DV3); an increase in the attribution of intentional harm, if harm occurred (DV4); an increase in the attribution of responsibility to the protagonist, if harm occurred (DV5); and, an increase in the degree of positive affect for the victim (DV9). At the same time, it was predicted that significant decreases would occur in the
following dependent variables: a decrease in the attribution of responsibility to the victim, if harm occurred (DV6); a decrease in the degree of justification for the behaviour exhibited by the protagonist (DV7); and a decrease in the degree of positive affect for the protagonist (DV8).

To test this hypothesis, eight three-way ANOVA's were performed using a fully crossed 2x2x2 factorial design. The three fully crossed factors were: (Factor A) implicit verbal cues (present or absent), (Factor B), explicit verbal cues (present or absent), (Factor C) nonverbal cues (present or absent). The ANOVA's are presented in Table 3.

The result of any F-test was considered statistically significant only if it reached the .01 level. This more rigorous criterion was established because of the large number of F-tests conducted and the consequent increase in experiment-wise Type I error. The one relaxation of this standard was to use the .05 significance level for the interaction of explicit verbal cues with nonverbal cues (BC) on dependent variable 5, the degree of responsibility of the protagonist. This exception was made since this result fit the pattern of significant explicit verbal by nonverbal cues (BC) interactions obtained for DV's 6, 7, and 8.

There was a significant main effect for explicit verbal cues (B) on the attribution of intent to harm. Subjects attributed more intent to harm to the protagonist when explicit verbal cues were present (mean = 6.56) than when they were absent (mean = 5.16). On the whole, however, the results of Table 3 indicate a lack of support for the first hypothesis.

The significant interaction effects found between explicit verbal
<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>M$\text{Sw}^b$</th>
<th>A$^c$</th>
<th>p</th>
<th>B$^d$</th>
<th>C$^e$</th>
<th>p</th>
<th>AB$^f$</th>
<th>p</th>
<th>AC$^g$</th>
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<tr>
<td>1 attribution of intent</td>
<td>5.33</td>
<td>1.02</td>
<td>n.s.</td>
<td></td>
<td>7.36</td>
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<td></td>
<td>1.59</td>
<td>n.s.</td>
<td>0.38</td>
<td>n.s.</td>
<td>1.35</td>
<td>n.s.</td>
<td>0.17</td>
<td>n.s.</td>
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<td>3 likelihood of harm occurring</td>
<td>6.42</td>
<td>0.27</td>
<td>n.s.</td>
<td></td>
<td>0.71</td>
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<td>4 judged intentional if harm occurs</td>
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<td>0.00</td>
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<td>0.00</td>
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<td>5 responsibility of protagonist</td>
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<td>n.s.</td>
<td></td>
<td>0.02</td>
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<td>n.s.</td>
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<td>n.s.</td>
<td>0.02</td>
<td>n.s.</td>
<td>0.09</td>
<td>n.s.</td>
<td>2.95</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

Table 3
Summary Table for Effects of Implicit, Explicit and Nonverbal Cues on Eight Dependent Variables

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\( ^a \)
Table 3 (continued)

Note. MS's for effects reproducible by F (for effect) x MSw

a  Effects significant at the .01 level or beyond are underscored (one exception, a result at the .05 level, is discussed in text).

b  \( df_w = 72 \) for all dependent variables (DV's 1, 3, 4, 5, 6, 7, 8, & 9).

c  \( df = 1 \) for all main and interaction effects also indicates columns of F-ratios.

d  n.s. indicates non-significant
cues and nonverbal cues (BC) on DV's 5, 6, 7, and 8 were not predicted. The interaction effects are illustrated in Figures 1, 2, 3, and 4. The analyses of simple main effects are outlined in Table 4.

The results from Figure 1 indicate that when nonverbal cues were absent, subjects attributed more responsibility to the protagonist for harmful outcomes, when explicit verbal cues were present (mean = 8.74) than when they were absent (mean = 7.96). However, when nonverbal cues were present, the effect was reversed and subjects attributed more responsibility to the protagonist when explicit verbal cues were absent (mean = 8.82) than when they were present (mean = 7.93). The simple main effects analysis (see Table 4) demonstrates that neither of these two differences in the attribution of responsibility reached significance.

The graphs in Figures 2, 3, and 4 are similar in appearance. They reveal that when nonverbal cues were absent, subjects attributed greater responsibility to the victim for harmful outcomes, felt that the protagonist's behaviour was more justified, and felt a greater degree of positive affect for the protagonist, when explicit verbal cues were absent (means = 3.37, 3.55, 3.40, respectively) than when they were present (means = 1.31, 1.93, 1.17, respectively). These differences in responses all reached significance at the .01 or .001 levels (see Table 4). However, a changeover in effect occurred when nonverbal cues were present; subjects attributed more responsibility to the victim, felt the protagonist to be more justified, and felt a greater liking for the protagonist, when explicit verbal cues were present (means = 1.62, 2.60, 2.56, respectively) than when they were absent (means = 0.89, 1.36, 1.36, respectively). The simple main effects analysis (see Table 4) indicates
Figure 1
Graph of Interaction Effects Between Explicit Verbal Cues and Nonverbal Cues on the Attribution of Responsibility to the Protagonist (DV5)
Figure 2

Graph of Interaction Effects Between Explicit Verbal Cues and Nonverbal Cues on the Attribution of Responsibility to the Victim (DV6)
Figure 3

Graph of Interaction Effects Between Explicit Verbal Cues and Nonverbal Cues on the Degree of Justification for the Protagonists' Behaviour (DV7)

Degree of Justification for the Protagonists' Behaviour 10.00

3.60
3.50
3.40
3.30
3.20
3.10
3.00
2.90
2.80
2.70
2.60
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
.90
.80
.70

No Explicit Verbal Cues
(3.55)

Explicit Verbal Cues
(2.60)

(1.93)

Absent Nonverbal Cues
Present
Figure 4

Graph of Interaction Effects Between Explicit Verbal Cues and Nonverbal Cues on the Degree of Positive Affect for the Protagonist (DV8)

Degree of Positive Affect for the Protagonist

0.70
0.80
0.90
1.00
1.10
1.20
1.30
1.40
1.50
1.60
1.70
1.80
1.90
2.00
2.10
2.20
2.30
2.40
2.50
2.60
2.70
2.80
2.90
3.00
3.10
3.20
3.30
3.40
3.50
3.60
3.70
3.80
3.90
4.00
4.10
4.20
4.30
4.40
4.50
4.60
4.70
4.80
4.90
5.00
5.10
5.20
5.30
5.40
5.50
5.60
5.70
5.80
5.90
6.00
6.10
6.20
6.30
6.40
6.50
6.60
6.70
6.80
6.90
7.00
7.10
7.20
7.30
7.40
7.50
7.60
7.70
7.80
7.90
8.00
8.10
8.20
8.30
8.40
8.50
8.60
8.70
8.80
8.90
9.00
9.10
9.20
9.30
9.40
9.50
9.60
9.70
9.80
9.90
10.00

No Explicit Verbal Cues

Explicit Verbal Cues

Absent Nonverbal Cues

Present Nonverbal Cues

(3.40)

(1.36)

(2.56)

(1.17)
# Table 4.

Simple Main Effects for the Explicit Verbal Cues and Nonverbal Cues Interaction (BC)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Source</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>B at C&lt;sub&gt;1&lt;/sub&gt;&lt;sup&gt;b&lt;/sup&gt;</td>
<td>B at C&lt;sub&gt;2&lt;/sub&gt;&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>F&lt;sup&gt;c&lt;/sup&gt;</td>
<td>p&lt;sup&gt;d&lt;/sup&gt;</td>
<td>MS</td>
</tr>
<tr>
<td>5 Responsibility of protagonist</td>
<td></td>
<td>3.29</td>
<td>6.08</td>
<td>1.85</td>
<td>n.s.</td>
</tr>
<tr>
<td>6 Responsibility of victim</td>
<td></td>
<td>5.48</td>
<td>42.44</td>
<td>7.74</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>7 Justification of protagonist</td>
<td></td>
<td>3.58</td>
<td>26.25</td>
<td>7.33</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>8 Positive Affect for protagonist</td>
<td></td>
<td>3.37</td>
<td>49.73</td>
<td>14.76</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

<sup>a</sup> df<sub>W</sub> = 72 for all dependent variables

<sup>b</sup> 1 = cues absent; 2 = cues present

<sup>c</sup> df = 1 for simple main effects

<sup>d</sup> n.s. indicates non-significant
that the first difference, with respect to the attribution of responsibility to the victim, did not reach significance, but the latter two effects concerning justification and positive affect for the protagonist did reach significance at the .05 level.

**Hypotheses 2, and 3.** The second hypothesis predicted that the three major categories of cues when used in combinations would produce significant increases, in comparison to the control group, in the following dependent variables: an increase in the attribution of intent to harm (DV1); an increase in the likelihood that harm would occur (DV3); an increase in the attribution of intentional harm, if harm occurred (DV4); an increase in the attribution of responsibility to the protagonist, if harm occurred (DV5); and an increase in the degree of positive affect for the victim (DV9). At the same time, it was predicted that significant decreases would occur in the following dependent variables: a decrease in the attribution of responsibility to the victim, if harm occurred (DV6); a decrease in the degree of justification for the behaviour exhibited by the protagonist (DV7); and a decrease in the degree of positive affect for the protagonist (DV8).

The third hypothesis predicted that certain combinations of the three major categories of cues would be more important than others, by causing stronger attributions to be made by subjects on the dependent variables. Specifically, it was predicted that: (1) the weakest attribution would be made by the control group; (2) implicit or explicit verbal cues would yield approximately equal attributions, but ones which would be significantly stronger than the control group; (3) nonverbal cues or the combined set of implicit plus explicit verbal cues would
yield approximately equal attributions but ones which would be significantly stronger than those of the implicit or explicit verbal cues taken alone; (4) finally, nonverbal cues paired with either implicit or explicit verbal cues, or all three types combined would yield the strongest attributions of all, ones which would not be significantly different from each other, but would be significantly stronger than any of the previous types of cues taken alone or in combination.

To test these two hypotheses, a one-way ANOVA was performed by "stringing-out" the eight cells of the earlier 2x2x2 factorial design. This was followed by multiple comparisons among the eight means, both pairwise and specified complex comparisons, using Scheffé's method.2 The results of these comparisons are outlined in Table 5, where the means are presented, and in Table 6 where the ANOVA and multiple comparison results are given.

The one significant finding in Tables 5 and 6 indicates that contrary to prediction, the combination of explicit and implicit verbal cues plus nonverbal cues (mean = 3.64) was significantly different from the combination of implicit verbal plus nonverbal cues (mean = 0.64) in creating a feeling of positive affect for the protagonist in subjects. It had been predicted that there would be no difference between these two combinations of cues.

Overall, the one contrary significant result plus the general lack

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2 Due to the conservativeness of the Scheffé procedure and the possibility of making Type II errors, thus failing to interpret important information, it was decided to accept for discussion all results which reached the .10 level of confidence.
Table 5

Mean Scores for Eight Groups

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Con</td>
</tr>
<tr>
<td>1 attribution of intent</td>
<td>4.53</td>
</tr>
<tr>
<td>3 likelihood of harm occurring</td>
<td>4.21</td>
</tr>
<tr>
<td>4 judged intentional if harm occurs</td>
<td>0.40</td>
</tr>
<tr>
<td>5 responsibility of protagonist</td>
<td>7.58</td>
</tr>
<tr>
<td>6 responsibility of victim</td>
<td>3.55</td>
</tr>
<tr>
<td>7 justification of protagonist</td>
<td>4.02</td>
</tr>
<tr>
<td>8 positive affect for protagonist</td>
<td>3.37</td>
</tr>
<tr>
<td>9 positive affect for victim</td>
<td>6.73</td>
</tr>
<tr>
<td>Dependent Variable</td>
<td>A N O V A</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 2</td>
</tr>
<tr>
<td></td>
<td>MSw</td>
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<tr>
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<td>5.33</td>
</tr>
<tr>
<td>3 likelihood of harm occurring</td>
<td>6.42</td>
</tr>
<tr>
<td>4 judged intentional if harm occurs</td>
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<tr>
<td>5 responsibility of protagonist</td>
<td>3.29</td>
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<tr>
<td>6 responsibility of victim</td>
<td>5.48</td>
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<td>7 justification of protagonist</td>
<td>3.58</td>
</tr>
<tr>
<td>8 positive affect for protagonist</td>
<td>3.37</td>
</tr>
<tr>
<td>9 positive affect for victim</td>
<td>4.75</td>
</tr>
</tbody>
</table>

\(^a\) Significant at the .05 level.
Table 6 (continued)

Note. MS's for effects reproducible by $F$ (for effect) x $MS_w$

- **a** All $F$-ratios non-significant with the exception of the ABC vs AC contrast on DV8 which reached significance at the .10 level.

- **b** $df = 72$ for all dependent variables

- **c** $df = 7$ for all dependent variables

- **d** n.s. indicates non-significant
of significant findings seen in Tables 5 and 6 indicates a lack of support for either the hypothesis that combinations of the three types of cues would yield significant changes on eight of the ten dependent variables or the hypothesis that certain combinations of cues were more important than others.

**Hypothesis 4.** The fourth hypothesis predicted that as the number of types of cues were increased there would be linear increases in attributions among the following dependent variables: an increase in the attribution of intent to harm (DV1); an increase in the likelihood that harm would occur (DV3); an increase in the attribution of intentional harm, if harm occurred (DV4); an increase in the attribution of responsibility to the protagonist, if harm occurred (DV5); and an increase in the degree of positive affect for the victim (DV9). At the same time, it was predicted that there would be significant linear decreases in attributions among the following dependent variables: a decrease in the attribution of responsibility to the victim, if harm occurred (DV6); a decrease in the degree of justification for the behaviour exhibited by the protagonist (DV7); and a decrease in the degree of positive affect for the protagonist (DV8).

To test the hypothesis, the scores were regrouped into conditions containing no cues (control group), one cue (implicit verbal [A], explicit verbal [B], and nonverbal [C]), two cues (implicit plus explicit verbal [AB], implicit plus nonverbal [AC], explicit plus nonverbal [BC]), and three cues (implicit and explicit verbal plus nonverbal cues [ABC]). A one-way ANOVA was performed on each of the eight dependent variables. If the F-ratio was significant, a trend analysis was performed. The
ANOVA summary table is presented in Table 7 and the trend analyses are graphed in Figures 5, 6, 7, and 8.

The results outlined in Table 7 and Figures 5, 6, 7, and 8 demonstrate mixed support for the fourth hypothesis. There was no support for the prediction that as the number of cues increased, there would be increasingly strong attributions of: the likelihood that harm would occur (DV3), the judgement of the harm being intentional if it did occur (DV4), the degree of responsibility of the protagonist (DV5), and the degree of positive affect for the victim (DV9). However, support was found for the predictions that as the number of cues increased there would be an increase in the attribution of intent to harm (DV1), and a decrease in the attribution of victim responsibility (DV6). Thus, in a comparison of the subjects viewing the eight scenes, as the protagonist became more belligerent toward the victim, subjects inferred in the protagonist an increasingly greater degree of intent to harm the victim. At the same time, they also attributed increasingly less responsibility to the victim if harm should actually occur.

On the other hand, there was only partial support for the predictions that an increase in the cues displayed by the protagonist would result in a decrease in subjects' ratings of the justification for the protagonist's behaviour and a decrease in positive affect for him. Again, by comparing the subjects who watched the eight different scenes, it was found that up to a moderate point, as the protagonist became increasingly belligerent toward the victim, subjects decreased their liking for the protagonist and felt his behaviour to be increasingly less justified. However, when the protagonist reached the final stage of belligerency, almost at the point of physically harming the passively responding
### Table 7
ANOVA Summary for Trend Analyses

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>F-ratios for Effects</th>
<th></th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Linear</td>
<td>Quadratic</td>
<td>Cubic</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>MSw^a</td>
<td>P^b</td>
<td>P^c</td>
<td>P^d</td>
<td>P</td>
<td>F^d</td>
<td>P</td>
<td>F^d</td>
<td>P</td>
</tr>
<tr>
<td>1 attribution of intent</td>
<td>5.30</td>
<td>2.77</td>
<td>&lt;.05</td>
<td>10.44</td>
<td>&lt;.01</td>
<td>&lt;1</td>
<td>&gt;.25</td>
<td>&lt;1</td>
<td>&gt;.25</td>
</tr>
<tr>
<td>3 likelihood of harm occurring</td>
<td>6.11</td>
<td>.77</td>
<td>n.s.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 judged intentional if harm occurs</td>
<td>.23</td>
<td>.67</td>
<td>n.s.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 responsibility of protagonist</td>
<td>3.16</td>
<td>1.83</td>
<td>n.s.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 responsibility of victim</td>
<td>5.58</td>
<td>2.71</td>
<td>=.05</td>
<td>4.89</td>
<td>&lt;.05</td>
<td>3.71</td>
<td>n.s.</td>
<td>&lt;1</td>
<td>n.s.</td>
</tr>
<tr>
<td>7 justification of protagonist</td>
<td>3.69</td>
<td>4.17</td>
<td>&lt;.01</td>
<td>1.25</td>
<td>n.s.</td>
<td>11.61</td>
<td>&lt;.01</td>
<td>&lt;1</td>
<td>n.s.</td>
</tr>
<tr>
<td>8 positive affect for protagonist</td>
<td>3.60</td>
<td>6.40</td>
<td>&lt;.001</td>
<td>&lt;1</td>
<td>n.s.</td>
<td>14.11</td>
<td>&lt;.001</td>
<td>2.61</td>
<td>n.s.</td>
</tr>
<tr>
<td>9 positive affect for victim</td>
<td>4.66</td>
<td>.75</td>
<td>n.s.</td>
<td></td>
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</tr>
</tbody>
</table>

Note. Differences occur between the summation of the sums of squares of the linear, quadratic and cubic components, and the sum of squares for the main effect, e.g., DV 1 - main effect SS = 44.07, Σ linear, quadratic and cubic SS = 55.37. The reason for the occurrence of these differences is explained in Appendix 8.

^a^ df = 76 for all eight dependent variables  
^b^ df = 3 and 76 for all eight dependent variables  
^c^ n.s. indicates non-significant  
^d^ df = 1 for all eight dependent variables  

M.S.'s for effects reproducible by F(for effect) x MSw
Figure 5
Trend Analysis for DV 1 -
Attribution of Intent to Harm

Average Score

Number of types of cues
Sample size in parentheses
Figure 6

Trend Analysis for DV6 -

The Attribution of Responsibility to the Victim

Average Score

<table>
<thead>
<tr>
<th>Number of types of cues</th>
<th>Sample size in parentheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (10)</td>
<td>1 (30)</td>
</tr>
<tr>
<td>1 (30)</td>
<td>2 (30)</td>
</tr>
<tr>
<td>3 (10)</td>
<td></td>
</tr>
</tbody>
</table>
Figure 7
Trend Analysis for DV7 -
The Degree of Justification for the Protagonist's Behaviour

Average Score

Number of types of cues
Sample size in parentheses
Figure 8

Trend Analysis for DV8 -

The Degree of Positive Affect for the Protagonist

Average Score

10.00

4.00
3.90
3.80
3.70
3.60
3.50
3.40
3.30
3.20
3.10
3.00
2.90
2.80
2.70
2.60
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00

(3.64)
(3.37)
(2.21)
(1.12)

0
1
2
3

(10)
(30)
(30)
(10)

Number of types of cues
Sample size in parentheses
victim, subjects viewing this scene dramatically reversed the trend established by subjects viewing the less aggressive scenes. In comparison to the earlier trend, subjects liked the protagonist more and felt his behaviour to be more justified. Thus, the display of no belligerency or a high degree of belligerency toward the passive victim resulted in the protagonist being liked more and being judged more justified than when he displayed only a moderate degree of belligerency toward the same victim.

Hypothesis 5. It was hypothesized that the relationship between the degree of confidence in an attribution and the strength of the attribution made would be that individually, both would increase with an increase in the number of cues displayed by the protagonist, but that together, an increase in one would cause a lack of increase in the other. This prediction was supported by the significant positive trend in the attribution of intent to harm (DV1) (see Table 7 and Figure 5) with a corresponding lack of significance of change in the degree of confidence placed on the attributions made (DV2), \( F(3,76) = 1.49, p > .10 \). This result indicates that as the protagonist increased his display of aggressive cues toward the victim, subjects attributed to the protagonist increasingly stronger intentions of harming the victim. At the same time however, the subjects' degree of confidence in the attribution being made did not change as the display of cues of intent to harm increased.

Subsidiary hypotheses regarding methodology. The final hypotheses predicted that non-acted scenes would be more realistic than acted scenes, and that non-aggressive scenes followed by non-aggression questions would be more realistic than the same scenes followed by questions concerning aggression. These hypotheses were explored by conducting t-tests on the
differences in the degree of realism of the scenes (DV10), found between the following groups: (1) initial control group (acted, non-aggressive scene followed by aggression related questions); (9) natural control group (non-acted, non-aggressive scene followed by non-aggression related questions); and, (10) natural control group (non-acted, non-aggressive scene followed by aggression related questions).

The first comparison of acted vs. non-acted scenes was obtained by contrasting Groups 1 and 10, _t(18) = .39, p > .25. The second comparison of aggression vs. non-aggression questions, following a non-aggressive scene, was obtained by contrasting Groups 9 and 10, _t(18) = .34, p > .25. The final comparison combined the above effects in an attempt to consider the largest difference possible, that of an acted scene followed by aggression questions (Group 1) vs. a non-acted scene followed by non-aggression questions (Group 9), _t(18) = .70, p > .10.

These results indicate that neither the effects of acting nor the effects of asking aggression questions following a non-aggressive scene are important enough to significantly alter the subjects' perceptions of the degree of realism of the scene. All three control scenes were viewed as being approximately equal in realism.

Discussion: Phase I - A Priori Grouping of Independent Variables

The results obtained from Tables 3 and 6 demonstrated that overall, implicit verbal, explicit verbal, and nonverbal cues, when used individually or in combinations and compared to a control group, produced little effect on judgements concerning harmful intentions, attributions of responsibility or justification, or the degree of liking for another individual. Similarly, the results reported in Table 6 (hypothesis 3)
showed that grouping types of cues together according to their predicted importance also failed to produce significant changes in interpersonal judgements. As well, grouping cues by predicted importance failed to establish that some cues were more important than others in their effect upon interpersonal judgements. The one exception to the above results was the finding that subjects attributed more intent to harm to the protagonist when explicit verbal cues were present than when they were absent (see Table 3). In view of the total number of negative results and the failure of this one significant effect to be demonstrated across more than one dependent variable, it seems inappropriate to attach importance to the finding. Therefore, on the whole, the three types of cues, studied on the basis of their a priori grouping, appeared to have little effect upon important interpersonal judgements in an aggressive situation.

However, in contrast to the above outcomes, a consideration of the interaction effects found in Figures 1, 2, 3, and 4, and Table 4 together with the trend analyses outlined in Table 7 and graphed in Figures 5, 6, 7, and 8, suggested that important and consistent influences on attributions and judgements did exist. An increase in the number of cues displayed by the protagonist resulted in subjects attributing to the protagonist significantly more intent to harm the victim (see Figure 5 and Table 7). In view of the earlier mentioned findings it is interesting that the attribution of intent to harm appeared to depend more upon the number of aggressive cues displayed than the qualitative aspect of the type of cues which were displayed.

In addition, an increase, to a moderate point, in the number of cues displayed by the protagonist resulted in a significant decrease in
the attribution of responsibility to the victim if a harmful outcome should occur (see Figures 2 and 5, and Tables 4 and 7). This effect was reversed in both cases (see Figures 2 and 5) when the protagonist displayed a high number of cues of intent to harm the victim. At this second stage, subjects increased their attribution of responsibility to the victim, but the increases did not attain significance (see Tables 4 and 7). (The results depicted in Figure 1, although not attaining significance, are in accord with the reversal phenomenon.) These reversals are mentioned because they are consistent with the findings for both the attribution of justification for the protagonists' behaviour (DV7) and judgements concerning the degree of positive affect for the protagonist (DV8) (see Figures 3, 4, 7, and 8, and Tables 4 and 7). In both cases, the display of a moderate number of cues was seen by subjects to significantly decrease the protagonists' justification and to decrease their liking of him. However, the display of a high number of cues reversed this trend and increased both the degree of justification for the protagonists' behaviour and the degree of the subjects' liking for the protagonist (the results producing this reversal reached significance in Figures 3, 4 and 8 but not 7).

Thus, consistently across both the trend analyses and the interaction effects, when the protagonist increased the number of cues of intent to harm displayed toward the victim from zero cues or a few cues to a moderate number of cues, subjects viewed the victim more favourably and the protagonist less favourably. However, when the protagonist increased the cues of intent to harm displayed toward the passively responding victim, almost to the level of physical violence, subjects
viewing this scene reversed the earlier trend and tended to see the victim less favourably and the protagonist more favourable than had subjects viewing the previous more moderate scenes. These results suggest some type of backlash effect against the victim. It may be the case that when a protagonist displays a high degree of intent to harm toward another person and yet the second person does not defend himself (as was the case here), observers may feel the victim to be less innocent than he would like to appear. Alternatively, since the victim did not bother to defend himself, if he was to get hurt it may be judged to be partly his fault. This backlash effect will be discussed further, following the results of Phase 2.

Two findings from Phase 1 remain to be discussed. The first result was that the relationship between the strength of the attribution made and the degree of confidence in the attribution was such that an increase in the number of cues displayed by the protagonist would increase either the strength of the attribution or the confidence in the attribution, but not both at the same time (see Table 7 and Figure 5). Thus, it appears that while an increase in cues may increase the clarity of the situation, resulting in increasingly strong attributions of intent to harm, the effect is not mediated through an increase in confidence on the part of the subjects making the attributions.

The final result concerned the methodology and indicated that neither acting nor the type of questionnaire used affected subjects' ratings of the degree of realism found in the three control scenes; all were rated approximately equal. This, in turn, established the fact that if there were demand characteristics operating between these control groups, they were not mediated by differences in realism.
Results: Phase 2 - Empirical Grouping of Independent Variables

Hypotheses 1, 2, and 3. The first two hypotheses predicted that the three major categories of cues taken either individually (hypothesis 1) or in combination (hypothesis 2) would each produce significant increases, in comparison to the control group, in the following dependent variables: an increase in the attribution of intent to harm (DV1); an increase in the likelihood that harm would occur (DV3); an increase in the attribution of intentional harm, if harm occurred (DV4); an increase in the attribution of responsibility to the protagonist, if harm occurred (DV5); and, an increase in the degree of positive affect for the victim (DV9). At the same time, it was predicted that significant decreases would occur in the following dependent variables: a decrease in the attribution of responsibility to the victim, if harm occurred (DV6); a decrease in the degree of justification for the behaviour exhibited by the protagonist (DV7); and, a decrease in the degree of positive affect for the protagonist (DV8).

The third hypothesis predicted that certain combinations of the three major categories of cues would be more important than others by causing stronger attributions to be made by subjects on the dependent variables. Specifically, it was predicted that: (1) the weakest attributions would be made by the control group; (2) implicit or explicit verbal cues would yield approximately equal attributions, but ones which would be significantly stronger than the control group; (3) nonverbal cues or the combined set of implicit plus explicit verbal cues would yield approximately equal attributions but ones which would be significantly stronger than those of the implicit or explicit verbal cues taken alone; (4) finally,
nonverbal cues paired with either implicit or explicit verbal cues, or all three types of cues combined would yield the strongest attributions of all, ones which would not be significantly different from each other, but would be significantly stronger than any of the previous types of cues taken alone or in combinations.

The three hypotheses were tested by performing a one-way ANOVA on the six cells outlined under Phase 2 (subjects) in Table 1. This was followed by Scheffé type multiple comparisons\(^3\), employed for all pairwise and a number of specified complex comparisons. The results of these comparisons are outlined in Table 8, where the group means are presented, and in Table 9 where the ANOVA and multiple comparison results are displayed.

The results in Table 9 indicate that when analyzed according to subjects' perceptions, the use of cues either separately or in combinations do not yield significant changes in the following dependent variables: the attribution of intent to harm (DV1); the likelihood that harm would occur (DV3); the attribution of intentional harm, if harm occurred (DV4); or, the attribution of responsibility to the protagonist, if harm occurred (DV5). The results also show that with respect to these same four dependent variables there was no demonstration that some combinations of cues were more important than others.

However, the pattern of results changes when dealing with the following

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\(^3\) As mentioned earlier, due to the conservativeness of this procedure and subsequent possibility of making Type II errors, it was decided to accept for discussion all results which reached the .10 level of significance.
Table 8

Mean Scores for Groups

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Group</th>
<th>Group</th>
<th>Group</th>
<th>Group</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>attribution of intent</td>
<td>2.85</td>
<td>4.68</td>
<td>6.03</td>
<td>5.32</td>
<td>5.98</td>
</tr>
<tr>
<td>likelihood of harm occurring</td>
<td>7.70</td>
<td>3.40</td>
<td>3.60</td>
<td>4.22</td>
<td>3.68</td>
</tr>
<tr>
<td>judged intentional if harm occurred</td>
<td>0.50</td>
<td>0.33</td>
<td>0.50</td>
<td>0.45</td>
<td>0.17</td>
</tr>
<tr>
<td>responsibility of protagonist</td>
<td>8.10</td>
<td>7.88</td>
<td>8.65</td>
<td>8.91</td>
<td>9.29</td>
</tr>
<tr>
<td>responsibility of victim</td>
<td>7.75</td>
<td>4.22</td>
<td>0.55</td>
<td>0.96</td>
<td>1.33</td>
</tr>
<tr>
<td>justification of protagonist</td>
<td>6.05</td>
<td>3.37</td>
<td>1.03</td>
<td>1.44</td>
<td>2.48</td>
</tr>
<tr>
<td>positive affect for protagonist</td>
<td>5.20</td>
<td>4.37</td>
<td>0.83</td>
<td>1.30</td>
<td>1.62</td>
</tr>
<tr>
<td>positive affect for victim</td>
<td>1.20</td>
<td>6.23</td>
<td>8.00</td>
<td>7.60</td>
<td>6.97</td>
</tr>
</tbody>
</table>
Table 9
One-Way ANOVA, Pairwise and Complex Contrasts for Significance of Cues and Combinations

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>ANOVA</th>
<th>F-ratios for contrasts</th>
<th>F-ratios for contrasts</th>
<th>F-ratios for contrasts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Attribution of intent</td>
<td>5.11</td>
<td>1.24</td>
<td>n.s.</td>
<td>.228</td>
</tr>
<tr>
<td>Likelihood of harm occurring</td>
<td>5.93</td>
<td>1.20</td>
<td>n.s.</td>
<td>.459</td>
</tr>
<tr>
<td>Judged intentional if harm occurs</td>
<td>0.24</td>
<td>0.56</td>
<td>n.s.</td>
<td>.127</td>
</tr>
<tr>
<td>Responsibility of protagonist</td>
<td>2.62</td>
<td>1.11</td>
<td>n.s.</td>
<td>.013</td>
</tr>
<tr>
<td>Responsibility of victim</td>
<td>4.42</td>
<td>5.57</td>
<td>&lt;.0005</td>
<td>.957</td>
</tr>
<tr>
<td>Justification of protagonist</td>
<td>3.29</td>
<td>3.06</td>
<td>&lt;.05</td>
<td>.389</td>
</tr>
<tr>
<td>Positive affect for protagonist</td>
<td>3.06</td>
<td>6.35</td>
<td>&lt;.005</td>
<td>.147</td>
</tr>
<tr>
<td>Positive affect for victim</td>
<td>3.62</td>
<td>6.37</td>
<td>&lt;.005</td>
<td>1.303</td>
</tr>
</tbody>
</table>

Note: The table includes F-ratios for pairwise and complex contrasts for each dependent variable. The significance levels are indicated by asterisks: **p < .01, *p < .05, n.s. = not significant.
<table>
<thead>
<tr>
<th>Note: MS's for effects reproducible by $F$ (for effects) x $MS_w$</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Effects significant at the .10 level or beyond are underscored.</td>
</tr>
<tr>
<td>b $df_w = 53$ for all 8 dependent variables</td>
</tr>
<tr>
<td>c $df = 5$ for all 8 dependent variables</td>
</tr>
<tr>
<td>d n.s. indicates non-significant</td>
</tr>
<tr>
<td>* $p &lt; .10$</td>
</tr>
<tr>
<td>** $p &lt; .05$</td>
</tr>
<tr>
<td>*** $p &lt; .01$</td>
</tr>
<tr>
<td>**** $p &lt; .005$</td>
</tr>
</tbody>
</table>
four dependent variables: the attribution of responsibility to the victim, if harm occurred (DV6); the degree of justification for the protagonist's behaviour (DV7); and, the degree of positive affect for either the protagonist (DV8) or the victim (DV9). In contrast to the display of implicit or explicit verbal cues, the display by the protagonist of nonverbal cues significantly reduced the following: the attribution of responsibility to the victim (DV6), the attribution of justification to the protagonist (DV7), and the amount of positive affect for the protagonist (DV8). At the same time, the use of nonverbal cues significantly increased the amount of positive affect for the victim (DV9). Thus, there was limited support for the first hypothesis, since nonverbal cues produced the predicted changes in four dependent variables. Specifically, when the protagonist displayed nonverbal cues of intent to harm against the victim, he was liked less and felt to be less justified, whereas the victim was liked more and felt to be less responsible if harm should occur.

The second hypothesis concerned the effects of combinations of the three major types of cues. The attribution of responsibility to the victim, if a harmful outcome should occur, was reduced when any of the combinations of implicit plus explicit verbal cues or implicit plus nonverbal cues or implicit plus explicit plus nonverbal cues were present in the situation. On the other hand, the degree of justification for the behaviour of the protagonist was reduced only for the combination of implicit verbal cues plus nonverbal cues. None of the three combinations of cues yielded a significant change in feeling for the protagonist, but all three did significantly increase the amount of positive affect for
the victim. Thus, when the protagonist displayed combinations of the implicit, explicit and nonverbal cues of intent to harm, the victim was liked more and felt to be less responsible if harm should occur (and for one combination the behaviour of the protagonist was felt to be less justified). Therefore, with respect to a limited set of dependent variables there is some support for the second hypothesis.

The final results are relevant to the third set of predictions concerning differences in importance between cues or combinations of cues. The cues were grouped in accordance with the predictions outlined under the third hypothesis (see pp. 55-56 and Table 9). As such, the four groupings of cues, ranked from those predicted to cause the weakest attributions to those predicted to cause the strongest attributions, were as follows: (1) the control group; (2) implicit verbal cues, group A; (3) implicit and explicit verbal cues (AB) plus nonverbal cues (C); (4) implicit, explicit and nonverbal cues (ABC) plus implicit verbal and nonverbal cues (AC). Implicit, explicit and nonverbal cues (ABC) plus implicit and nonverbal cues (AC), and implicit and explicit cues (AB) plus nonverbal cues (C) both produced significant decreases in attributions of responsibility to the victim compared to either the control group or the implicit verbal cues group (A). The same two groupings of cues as above, ABC plus AC, and AB plus C, also caused a significant decrease in positive affect for the protagonist over that of group A but not over that of the control group. (This outcome was unusual since the difference between the control group [mean = 5.20] and the combinations of cues [combined mean = 1.44] was larger than between group A [mean = 4.37] and the combinations of cues [combined mean = 1.44]. This anomaly was most likely due
to the small cell size of the control group (two subjects) in comparison to the cell size of Group A (six subjects).)

The grouping of implicit, explicit and nonverbal cues (ABC) with implicit and nonverbal cues (AC), also yielded a significant decrease in the justification of the protagonist when compared to the control group. Lastly, all the groups, implicit, explicit and nonverbal (ABC) plus implicit and nonverbal (AC), and implicit and explicit (AB) plus nonverbal (C), and, implicit cues alone (A), yielded a significant increase in positive affect for the victim over that of the control group. (Also, as predicted, for all eight dependent variables, no significant differences were found between the groups of implicit, explicit and nonverbal cues [ABC] compared to implicit and nonverbal cues [AC], nor between the groups of implicit and explicit cues [AB] compared to nonverbal cues alone [C].)

In general, the few significant findings indicate that combinations of cues which include nonverbal cues may be more important than combinations which do not, or may be more important than nonverbal cues (or other cues) taken by themselves. The evidence for this interpretation is weak and limited to attributions of responsibility to the victim (DV6), judgements concerning the justification of the protagonist (DV7), and judgements concerning the degree of positive affect for either the protagonist (DV8) or the victim (DV9).

These results are in concurrence with the outcomes predicted under the third set of hypotheses. However, the significant results obtained constitute only a small number of verified outcomes in contrast to the large number of unverified predictions concerning the relative
importance of combinations of cues. As such, the results indicate only limited support for the third hypothesis.

**Hypothesis 4.** The fourth hypothesis predicted that as the number of types of cues were increased there would be linear increases in attributions among the following dependent variables: an increase in the attribution of intent to harm (DV1); an increase in the likelihood than harm would occur (DV3); an increase in the attribution of intentional harm, if harm occurred (DV4); an increase in the attribution of responsibility to the protagonist, if harm occurred (DV5); and an increase in the degree of positive affect for the victim (DV9). At the same time, it was predicted that there would be significant linear decreases in attributions among the following dependent variables: a decrease in the attribution of responsibility to the victim, if harm occurred (DV6); a decrease in the degree of justification for the behaviour exhibited by the protagonist (DV7); and a decrease in the degree of positive affect for the protagonist (DV8).

To test this hypothesis, the scores were regrouped into conditions containing no cues (control group); one cue (implicit verbal [A], explicit verbal [B], and nonverbal cues [C]); two cues (implicit plus explicit verbal [AB], implicit plus nonverbal [AC], explicit plus nonverbal [BC]); and three cues (implicit and explicit verbal plus nonverbal cues [ABC]). A one-way ANOVA was performed on each of the eight dependent variables. If the F-ratio was significant, a trend analysis was performed. The results are presented in Table 10, where the ANOVA summary table is presented, and Figures 9, 10, 11, and 12, where the trend analyses are graphed.

The results outlined in Table 10 and Figures 9, 10, 11, and 12
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>F-ratios for Effects</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MSW (^a)</td>
<td>F (^b)</td>
<td>p (^c)</td>
<td>F (^d)</td>
</tr>
<tr>
<td>1 attribution of intent</td>
<td>5.05</td>
<td>1.64</td>
<td>.n.s.</td>
<td></td>
</tr>
<tr>
<td>3 likelihood of harm occurring</td>
<td>5.75</td>
<td>1.96</td>
<td>.n.s.</td>
<td></td>
</tr>
<tr>
<td>4 judged intentional if harm occurs</td>
<td>0.24</td>
<td>0.16</td>
<td>.n.s.</td>
<td></td>
</tr>
<tr>
<td>5 responsibility of protagonist</td>
<td>2.57</td>
<td>1.59</td>
<td>.n.s.</td>
<td></td>
</tr>
<tr>
<td>6 responsibility of victim</td>
<td>4.86</td>
<td>6.17</td>
<td>&lt;.001</td>
<td>24.16</td>
</tr>
<tr>
<td>7 justification of protagonist</td>
<td>3.52</td>
<td>2.91</td>
<td>&lt;.05</td>
<td>11.95</td>
</tr>
<tr>
<td>8 positive affect for protagonist</td>
<td>3.50</td>
<td>3.41</td>
<td>&lt;.05</td>
<td>10.29</td>
</tr>
<tr>
<td>9 positive affect for victim</td>
<td>3.66</td>
<td>6.30</td>
<td>&lt;.001</td>
<td>21.47</td>
</tr>
</tbody>
</table>
Table 10 (continued)

Note: As in Table 7, the summation of the sums of squares of the linear, quadratic, and cubic components do not match the sums of squares for the main effect. As before, this difference is due to using weighted means in deriving the main effects whereas a harmonic mean was used in deriving the component sum of squares (see Appendix 8).

a \[ \text{df} = 55 \text{ for all eight dependent variables.} \]

b \[ \text{df} = 3 \text{ for all eight dependent variables} \]

c \[ \text{n.s. indicates non-significant} \]

d \[ \text{df \neq 1 for all eight dependent variables} \]

M.S.'s for effects reproducible by F (for effects) x MSw
Figure 9

Trend Analysis for DV6 - The Attribution of Responsibility to the Victim

Average Score

Number of types of cues
Sample size in parentheses
Figure 10

Trend Analysis for DV7 -

The Degree of Justification for the Protagonist's Behaviour

Average Score

Number of types of cues
Sample size in parentheses
Figure 11

Trend Analysis for DV8 -

The Degree of Positive Affect for the Protagonist

Average Score

10.00
7.00
6.80
6.60
6.40
6.20
6.00
5.80
5.60
5.40
5.20
5.00
4.80
4.60
4.40
4.20
4.00
3.80
3.60
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00

(5.20)
(2.95)

(2.01)
(1.47)

0
1
2
3

(2)
(10)
(23)
(24)

Number of types of cues
Sample size in parentheses
Figure 12

Trend Analysis for DV9 -

The Degree of Positive Affect for the Victim

Average Score

Number of types of cues
Sample size in parentheses
demonstrate mixed support for the fourth hypothesis. There was no support for the prediction that as the number of cues increased, there would be an increase in the attribution of intent to harm (DV1), an increase in the likelihood that harm would occur (DV3), an increase in the judgment of the harm being intentional if it did occur (DV4), nor an increase in the attribution of responsibility to the protagonist (DV8).

On the other hand, the prediction of a decrease in positive affect for the protagonist (DV8) as he displayed more aggressive cues, was supported. As well, there was partial support for the prediction that an increase in the cues displayed by the protagonist would result in decreases in the responsibility of the victim (DV6) and in the degree of justification for the protagonists' behavior (DV7). Partial support was also found for the predicted increase in positive affect for the victim (DV9). In the case of the three latter dependent variables, the support was only partial because in each case the predicted decrease or increase occurred, but was followed by a significant and non-predicted reversal in effect. Thus, by comparing the subjects that watched the eight different scenes, it was found that up to a moderate point, as the protagonist became increasingly belligerent toward the victim, subjects decreased their liking for the protagonist and felt his behavior to be less justified. At the same time, subjects increased their liking of the victim and felt him to be increasingly less responsible if a harmful outcome should occur. However, when the protagonist continued in his aggressive manner to the point of nearly harming the passively responding victim, subjects viewing this scene reversed the trend established by subjects viewing the less aggressive scenes. In comparison to the earlier trend, subjects liked the
victim less, and felt him to be more responsible for harmful outcomes and also felt the protagonist to be more justified in his behaviour (subjects also increased their liking of the protagonist but the increase did not reach significance).

**Hypothesis 5.** It was hypothesized that the relationship between the degree of confidence in an attribution and the strength of the attribution made was such that individually, both would increase with an increase in the number of cues displayed by the protagonist, but that together, an increase in one would cause a lack of increase in the other. According to the predicted relationships, the obtained non-significant trend analysis for DV1 (the attribution of intent to harm) (see Table 10) should have been accompanied by a significant increase in the amount of confidence displayed in the attribution (DV2). The increase in confidence approached but did not attain significance, $F(3,55) = 2.22, p < .10$, and thus the predicted relationship was not supported by the results.

**Subsidiary hypotheses regarding methodology.** The final hypothesis concerning realism effects was not reanalyzed under Phase Two. This decision was reached on the basis of two factors. The first reason was the fact that because of the experimental design, the natural control condition subjects (group 9) did not complete a behaviour checklist of the cues which they perceived to be in the scene (see Appendix 6). Thus, their data could not be reanalyzed on the basis of their perceptions. Secondly, following the restrictions placed on regrouping the data according to subjects' perceptions (outlined under Analysis Procedures, Phase Two, in the Results and Discussion section), the initial control group (group 1) consisted of only two subjects and the natural control group
(group 10) consisted of nine subjects. Conducting \( t \)-tests on such uneven cell sizes given a total sample of only eleven subjects appeared inappropriate.

**Discussion: Phase 2 - Empirical Grouping of Independent Variables**

The Phase 2 results concerning the first hypothesis (see Table 9) contrast in part with the findings of Phase 1 (see Table 3). Under Phase 1, the one significant result indicated that the addition of explicit verbal cues to a scene would cause subjects to attribute significantly more intent to harm to the protagonist (DV1). This effect for explicit verbal cues was not maintained across the other dependent variables. When the results were reanalyzed according to the subjects' perceptions under Phase 2, there was no effect for explicit verbal cues on any of the dependent variables, including the attribution of intent to harm (DV1). However, there was an effect for nonverbal cues which was expressed consistently across four dependent variables. Specifically, when the protagonist added nonverbal cues to the type of cues he was displaying toward the victim, subjects tended to like the victim more and feel him to be less responsible for any harmful outcome, and they tended to dislike the protagonist more and feel his behaviour to be less justified. Thus, in contrast to the results of Phase 1, the results of Phase 2 indicated that of the three types of cues, implicit, explicit, and nonverbal, the nonverbal cues were the only ones to consistently demonstrate an effect upon interpersonal judgements in an aggressive situation.

The second hypothesis stated that combinations of the three major types of cues, when displayed by the protagonist, would cause significant increases or decreases in the types of attributions and judgements being
made by the subjects. As well, the third hypothesis predicted that some of these combinations of cues would be more important than others in the sense of causing a stronger effect. Neither of these hypotheses were supported under Phase 1 (see Table 6). Under Phase 2 (see Table 9) there was some support for the general concept that combinations of cues may influence attributions but there was no consistent effect for any specific combination across more than three of the eight dependent variables. Similarly, under Phase 2 (see Table 9) the small number of significant findings concerning the third hypothesis gave only very tentative support to the underlying rationale for the hypothesis, that is, that nonverbal cues would be more important than verbal cues in affecting the attributions made in an aggressive situation. Even though these latter results do not provide strong support, they are consistent with earlier findings (see Phase 2, hypothesis 1), which also suggested the importance of nonverbal cues in affecting interpersonal judgements.

In the discussion of the Phase 1 results concerning the significant trend analysis for the attribution of intent to harm (DV1) (see Table 7 and Figure 5), it appeared that this attribution was more dependent upon the number of aggressive cues displayed than the type of cues which were displayed. In view of the failure of this significant trend analysis to be demonstrated under the Phase 2 results, the above explanation is tentative at best.

The results that appear to be the most consistent across both Phases 1 and 2 were the judgements concerning responsibility, justification and affect for the victim and protagonist when there was an increase in the number of aggressive cues displayed by the protagonist. These
results are outlined in Tables 7 and 10 and graphed in Figures 6 through 12. In both cases the results produced approximately equivalent patterns which together can be described as follows: In contrast to the scene in which there were no cues of intent to harm, the display toward the victim, by the protagonist, of a moderate number of cues of intent to harm, resulted in the protagonist being liked less and being considered less justified in his behaviour, while the victim was liked more and was considered less responsible if a harmful outcome should occur. However, in both Phases 1 and 2 the majority of these results were reversed as the protagonist increased his aggressiveness. Thus, as the protagonist became almost physically abusive toward the passively responding victim, subjects viewing the scene, in comparison to subjects viewing more moderately aggressive scenes, tended to decrease their liking of the victim and feel him to be somewhat more responsible for harmful outcomes. At the same time, these subjects tended to increased their liking of the protagonist and consider his behaviour to be more justified. These reversals in effects, while possibly indicating some type of backlash against the victim, need to be considered within the overall context of the absolute values found in Figures 6 through 12. In scenes where the protagonist displayed aggressive cues he was always liked considerably less than the victim, the victim was rated as having very little responsibility for any harmful outcome and the protagonist’s behaviour was always considered to be poorly justified. The significance of this apparently consistent reversal phenomenon and the restrictions which are placed upon it by the absolute value of the reversals will be expanded upon during the concluding discussion.
The final discussion in this section concerns the support found under Phase 1 for the fifth hypothesis. The results were interpreted as showing that an increase in the number of cues displayed by the protagonist would increase the clarity of the situation and result in increasingly strong attributions to the protagonist of intent to harm. At the same time, it was suggested that the increase in the strength of the attributions was not mediated by a corresponding increase in confidence in the attributions on the part of the subjects. The Phase 2 results, while demonstrating a trend toward the predicted relationship between the degree of confidence and the strength of the attribution made, did not attain significance. This lack of consistency across Phases 1 and 2 suggests that the initial interpretation is at best tentative in nature. The alternative hypothesis that subjects make stronger attributions because they become more confident, remains plausible.
Concluding Discussion

In this chapter the three observations that can be made on the basis of this study will be discussed. Then, several difficulties affecting the study will be outlined. Lastly, comments will be made concerning possible future studies in this area.

The first finding of note stems from the complementary results obtained under the first and third hypotheses of Phase 2. The first hypothesis showed that when significance was attained for single types of cues, it was primarily for scenes containing nonverbal cues in contrast to scenes where nonverbal cues were absent. This evidence concurred with the results from the third hypothesis, which provided some support for the underlying rationale that cues of anger directed toward another person are typically used to infer intent to harm and that nonverbal cues tend to be the most important anger cues. However, some may question whether nonverbal behaviour is more important than an explicit threat of harm. In response to this, the significant distinction lies in the credibility differences between talking and doing — verbal threats, without an indication of nonverbal anger, may not be as credible as nonverbal threats.

The second observation of interest is the concurrence of this study with the popular psychological belief that the prediction and understanding of people depends more upon knowing their perception of reality than in knowing the reality perceived by others. In the present study, the number of significant changes in individuals' attributions and judgments was greater when the situation was analyzed according to the individuals' perceptions (Phase 2), than when analyzed according to the
intended reality imposed by experimental design (Phase 1). The importance of this can be seen in individual questionnaires wherein subjects indicated the presence of words or behaviours that did not occur in the particular scene they had observed yet presumably made attributions and judgements on the basis of these perceptions.

The last outcome worthy of note was the finding that as the protagonist became aggressive toward the victim, subjects viewing these scenes considered the protagonists' behaviour less justified and liked him less than subjects viewing the scene where he had not been aggressive. Similarly, the victim was liked more and was considered less responsible if anything harmful should happen. These results were hardly surprising but what was of interest were the findings in the situation where, by design, the victim remained passive even when the protagonist grabbed his shirt front and threatened to punch him out. In comparison to scenes where the protagonist displayed more moderately aggressive behaviour, subjects viewing the latter scene liked the protagonist more and felt his behaviour to be more justified. At the same time, they liked the victim less and felt him to be more responsible if something harmful should happen. It is possible that the reversals in these judgements may be a type of backlash against the victim.

At least two different factors may be responsible for this "backlash" effect. The first factor may be that of "suspected guilt". In the post-experimental interview several subjects mentioned that the protagonist probably would not have acted so strongly if he was not sure of his accusation. This, coupled with the lack of vigorous protesting of innocence on the part of the victim, may have led some observers to
conclude that the victim was less than innocent.

The second possible explanation for the backlash effect may stem from the lack of self defense on the part of the victim. In this case, the reaction to the victim could have resulted from the logic that those who refuse to reasonably defend themselves are responsible, at least in part, for any harm that befalls them. A consideration of the results for the third dependent variable indicated that subjects felt the likelihood that the aggressor would actually harm the victim was very low (see Tables 3, 6, 7, 9, and 10). From the debriefing it became apparent than many subjects considered the aggressor to be bluffing; threatening in order to scare the victim into giving back the wallet if he had it, but not likely to carry out the threat. Thus, subjects may have reacted against the victim for not taking a more assertive posture against what they considered to be a non-serious threat.

On the other hand, in our culture of violence there may well be a reaction against those people who, in a situation of personal danger, openly display their own non-violent stance. The extent of this reaction should vary with the degree to which there actually exists a culture of violence and the degree to which individuals are socialized into accepting this norm. If this line of reasoning is valid, pacifism as a technique for generating public support should be less effective when the "public" is part of a violent subculture or among members of the public who consider violent action to be an acceptable approach to problem solving.

A word of caution needs to be inserted for all would-be aggressors who might decide that in the interests of good public relations it would be best to proceed to a very aggressive stance against pacifists, rather
than taking a more moderate position. The findings here suggest that even though a very aggressive stance by the protagonist may result in some "backlash" against the passive victim, the victim was always considered in a much more favourable fashion than was the protagonist. The display of aggressive behaviour in itself, rather than the type or extent of the aggressive behaviour, appears to be the principle factor in eliciting negative reactions from observers.

One further comment is necessary concerning the overall outcome of the study. A central purpose of the present research was the attempt to develop some type of classification scheme linking the three major types of cues (implicit, explicit and nonverbal) and their combinations, to attributions of intent to harm. In essence, it was an attempt to operationalize the concept of intent which is commonly used in definitions of aggression. Apart from the suggestion that nonverbal cues may be the most important cues governing attributions in general, this goal was not achieved.

The general absence of significant results with respect to the basis upon which subjects make "intent-to-harm" judgements is inconsistent with the fact that such judgements are a common occurrence in everyday life. This lack of correspondence between the research and subjective observations of life may be the result of an ineffective manipulation of the independent variables, the inappropriate grouping of independent variables, or demand characteristics operating to obscure true outcomes. These problems will be considered in the following paragraphs.

The first problem concerns the appropriateness of the independent variables and their classification, since their relevance is largely a
product of the present author. A validation of their usefulness is required, particularly of the classification scheme. For example, it is possible that some of the cues used in the present study, like that of intrusion into another's personal space, may rarely play a major role in intent to harm judgements. More importantly, a consideration of Table 1 illustrates that from the subjects' perception, the presence of explicit verbal cues always entailed the presence of implicit verbal cues, even when the latter were experimentally omitted. Thus, it was possible to produce the perception of implicit verbal cues alone but not of explicit verbal cues alone. The original implicit/explicit distinction is therefore subject to limitations.

A second problem concerns the manipulation checks used in the study. A major difficulty lay in producing scenes that contained only those independent variables designed to be included in that scene. Part of this difficulty was solved by the actual nature of the lines used by the actors or by having the protagonist turn slightly away from the camera so that nonverbal cues were not discernable in specific scenes. Other problems, such as requiring the protagonist to speak in a louder than normal voice, were more difficult to resolve. The scenes were correctly rated by observers to contain louder than normal speech, but when tested by a soundmeter, there was very little difference in decibel levels between scenes. It seemed that the protagonist could speak in a forceful tone of voice which objectively was no louder than average but psychologically appeared to be louder. This illustrates the type of difficulty involved in clearly establishing the successfulness of the manipulations.
As well, caution in interpretation is warranted by the fact that some results in Phase 2 may have reached significance largely due to the effect of the differences between the control group and the remaining groups. Since the control group consisted of only two subjects it may have introduced a substantial sampling error into the results.

The final set of difficulties to be considered may also reflect upon the general lack of significant findings. The results discussed in Appendix nine are consistent with the hypothesis that there were demand characteristics operating in the initial control scene. These demand characteristics caused subjects to judge the scene as being more aggressive in content than a similar naturally occurring non-acted scene. Thus, the control scene for this study may have been less than optimally effective. (The results contained under the subsidiary hypothesis of Phase 1 indicated that these demand characteristics were not mediated through a difference in realism between the scenes.)

In future research there may be several ways of avoiding the problems discussed here. One approach would be to present to a large number of subjects, films depicting the sequence of events leading up to but not including an aggressive event. Subjects could then rate the degree of intent to harm displayed in the film and indicate the type of cues upon which their rating was based by filling in a behaviour checklist analogous to the one used in this study (see Appendix 5). Through the use of factor analysis or multiple regression analysis it may be possible to establish an empirically based classification scheme for cues of intent to harm.

The second suggestion is that is may be possible to avoid the
problems which were found in the attempted manipulations of the independent variables (the cues of intent to harm). One approach would be to substitute in place of the acted scenes, written and/or cartoon descriptions of the events. Thus it would be possible to establish clearly that the intended manipulations in fact took place. However, problems may still occur with subjects misperceiving the cues contained in a scene, thus necessitating an analysis based on the subjects' point of view. There may also be difficulty in generalizing the results to real life situations.

A final suggestion for avoiding the "manipulation problem" and any problems concerning the reality of the scenes, would be to follow the design of the present research, but use professional actors, film makers, and script writers. This could be an expensive approach to solving the problem.

In summation, the present research attempted to study the relationship between verbal and nonverbal cues of intent to harm, as portrayed by a protagonist towards a victim, and attributions of intent to harm, responsibility, justification and affect made by third party observers of the scene. Some significant relationships were found, primarily between nonverbal cues or an increase in the overall number of cues, and attributions of responsibility to the victim or justification to the protagonist, or judgements of positive affect for either victim or protagonist. Limitations and difficulties in interpreting the results were discussed.
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APPENDIX 1 : ACTING INSTRUCTIONS

Acting Instructions to Persons X and Y

Person X will be the person displaying the aggressive cues and will be standing throughout the scene. Person Y will be the person seated throughout the scene.

It will be explained to persons X and Y that I am studying the cues which people use to infer intent to harm (aggression) in others, and the related judgements concerning responsibility, justification, etc. They will then be told about the verbal and nonverbal cues and the fact that they will need to act the same scene eight times with person X putting in different specific sets of cues each time. There will be no actual aggression taking place.

Cues

The following types of cues will be used:

Implicit verbal - accusation of wrong doing
  - increase in voice loudness
  - increase in emphatic vocabulary

Explicit verbal - three direct threats of intent to harm

Nonverbal
  - facial anger
  - movement toward and particularly close to another person
  - explicit physical threat - raised fist.
Scenes  Control Scene

The control scene will also act as the standard introduction for each of the seven experimental scenes. All scenes will take place with person X walking into a small seminar room where person Y is seated at a table. Person X had left the room a short time ago and is very certain that he has accidently left his wallet in the room. The wallet had a large amount of money in it. Person X should look for his wallet and ask person Y if he's seen it or found it. Person X and person Y are just acquaintances, they've seen each other before and were in the room together earlier. Person X is not able to find his wallet nor the money.

Restrictions: In this scene person Y must remain seated at all times. Person X must speak with his voice at a normal level and cannot use strong emphatic words like swear words. Person X is simply looking and does not accuse person Y either verbally or through body language (which includes not moving too close to person Y).

Scene A - Implicit Verbal

Control scene plus an (one) accusation by person X that person Y probably took the wallet. The voice of person X should become loud (shouting) and he should use swear words.

Restrictions: No explicit verbal nor nonverbal cues to be used. Person X cannot display facial or body cues of anger, the face must be "bland" when shouting.
**Scene B - Explicit Verbal**

Control scene plus three direct threats by person X that he will harm person Y.

Restrictions: Person X can use no implicit or nonverbal cues. This means no facial or body cues of anger and no increase in voice level when making the accusations.

**Scene C - Nonverbal**

Control scene plus person X says nothing but becomes very angry, moves very close to person Y and threatens him with a fist.

Restrictions: person X does not speak after the control scene.

**Scene AB - Implicit and explicit verbal**

Control scene, then A, then B. In keeping with a normal situation when person X is doing scene B the voice should remain loud.

Restrictions: Person X should display no nonverbal cues such as facial or body cues of anger.

**Scene AC - Implicit verbal and nonverbal**

Control scene, then A, then C. Facial anger cues can start during the time of scene A.

Restrictions: no explicit verbal threats by person X.
Scene BC - Explicit verbal and nonverbal

Control scene, then B, then C. Facial anger cues can start during the time of scene B.

Restrictions: There can be no raise in the voice level of person X when making the verbal statements under part B.

Scene ABC - Implicit, explicit verbal and nonverbal

Control scene, then A, then B, then C. This scene will be shot second (following the shooting of the control scene). It will be used to define the normal actions and lines of the two actors. These same actions and lines will then be used throughout the other scenes. It is important that person Y respond in the same fashion to person X across all the scenes. The end of each scene will be person Y's final denial of having the wallet.
APPENDIX 2 : SCRIPT IMPROVISATION BY ACTORS

Script Improvisations by Persons X and Y

Control Scene

(X walks into the room, goes over to the table to the right of where Y is sitting and looks around the table for his wallet.)

X: Excuse me, have you seen a wallet?
Y: (Looks up) No, I haven't seen one.
X: Are you sure?
Y: Ya, I'm sure.
X: (Walks aroung table to end by camera, looks around table, moves to edge of table 2 feet from Y.) Was there anyone else in the room?
Y: No, just me.
X: (Very disappointed voice) Oh no! There was a lot of money in that wallet.

(X's voice level, normal at all times, not raised. X's body movements rather placid overall; avoid leaning forward for emphasis during last couple of lines.)

(Y always reacts in a neutral fashion, not helpful, not antagonistic.)

Scene ABC Implicit & Explicit Verbal & Nonverbal

Control scene then:

(Pause)

X: (looks around table immediately in front of him, voice raising, may use body and facial cues of anger) Christ, you were the only
one in the room! Are you sure you haven't seen it?

Y: I haven't seen it.

X: (loud voice, angry face) You fucking thief, you must have that goddamn wallet!

Y: No, I don't have it.

X: (loud voice, angry face and body cues) If you've got it, you're in trouble! I'll shove that stupid grin down your throat!

Y: I haven't got it.

X: (steps very close to Y and grabs his shirt) If you're lying, I'll kill you!

Y: I told you I haven't got it.

Scene AC Implicit Verbal & Nonverbal

Control scene then:

(Pause)

X: (Looks around table immediately in front of him, voice raising, may use body and facial cues of anger) Christ, you were the only one in the room! Are you sure you haven't seen it?

Y: I haven't seen it.

X: (loud voice, angry face) You fucking thief, you must have that goddamn wallet!

(X then steps very close to Y and grabs his shirt.)

Y: I told you I haven't got it.
Scene BC Explicit Verbal & Nonverbal

Control scene then:
(X looks around table immediately in front of him, not moving his position, standing upright, hands on hips, face gets angry but voice calm.)

X: If you've got it, you're in trouble! I'll shove that stupid grin down your throat!

Y: I haven't got it.

X: If you're lying, I'll kill ya! (face angry, but voice calm; steps very close to Y and grabs his shirt).

Y: I told you I haven't got it.

Scene C Nonverbal

Control scene then:
X says nothing, looks around the table some more (not moving his position), his face becomes angry, brows down, eyes narrowed, mouth clenched. Glances toward Y, then looks under some papers on the table becoming more angry, looks back at Y, pauses then steps very close to Y and grabs his shirt.

Y: I told you I haven't got it.

(The situation being portrayed is one of threat, X is threatening Y by moving very close and grabbing his shirt.)

Scene A Implicit Verbal

Control scene then:
(Pause) (looks around table immediately in front of him)

X: (standing upright, hands on hips, not moved from end of table, no
facial or body cues of anger, voice raising.) Christ, you were the only one in the room. Are you sure you haven't seen it?

Y: I haven't seen it.

X: (standing as before, no facial or body cues, voice very loud) You fucking thief, you must have that goddamn wallet!

Y: No, I don't have it.

Scene B Explicit Verbal

Control scene then:

(X looks around table immediately in front of him, not moving his position, calm voice, no facial or body cues of anger, standing upright, hands on hips.)

X: If you've got it, you're in trouble! I'll shove that stupid grin down your throat!

Y: I haven't got it.

X: (calm voice, no facial or body cues, etc.) If you're lying, I'll kill ya!

Y: I told you, I haven't got it.

Scene AB Implicit & Explicit Verbal

Control scene then:

(Pause)

X: (standing upright, hands on hips, not moved from end of table, no facial or body cues of anger, voice raising, looks around table immediately in front of him.) Christ, you were the only one in the
room! Are you sure you haven't seen it?

Y: I haven't seen it.

X: (standing as before, no facial or body cues, voice loud) You fucking thief, you must have that goddamn wallet.

Y: No, I don't have it.

X: (loud voice, no facial or body cues) If you've got it, you're in trouble! I'll shove that stupid grin down your throat!

Y: I haven't got it.

X: (still standing upright, avoid leaning forward, hands still on hips, not moved from end of table, no facial or body cues of anger, loud voice) If you're lying, I'll kill ya!

Y: I told you I haven't got it.

Natural Control Scene

Both individuals enter the room together, take seats, read an instruction sheet, then chat small talk. Both when interviewed later were unaware of being videotaped nor suspected that they were being observed.
### Filming Characteristics for Experimental and Natural Videotape Scenes

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Experimental Scene</th>
<th>Natural Scene</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Camera f stop</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>2. Camera magnification</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td>3. Camera focus</td>
<td>7 ft. (2.13 m.)</td>
<td>8 ft. (2.44 m.)</td>
</tr>
<tr>
<td>4. Camera distance to actors/candid subjects.</td>
<td>6 1/2 ft. - 13 1/2 ft. (1.98 m. - 4.11 m.)</td>
<td>10 ft. - 11 ft. (3.05 m. - 3.35 m.)</td>
</tr>
<tr>
<td>5. Distance between pickup mike and actors/candid subjects.</td>
<td>3 ft. - 9 ft. (.91 m. - 2.74 m.)</td>
<td>7 ft. - 9 ft. (2.13 m. - 2.74 m.)</td>
</tr>
<tr>
<td>6. Distance between protagonist and victim (before stepping closer) or between the two candid subjects.</td>
<td>2 1/2 ft. (.76 m.)</td>
<td>3 ft. (.91 m.)</td>
</tr>
<tr>
<td>7. Protagonist -- height and weight</td>
<td>5'8&quot;, 165 lb. approx. 6', 190 lb. (1.73 m., 75 kg)</td>
<td>(1.83 m., 86.4 kg.)</td>
</tr>
<tr>
<td>8. Victim -- height and weight</td>
<td>5'9&quot;, 142 lb. approx. 5'9&quot;, 160 lb. (1.75 m., 64.5 kg)</td>
<td>(1.75 m., 72.7 kg.)</td>
</tr>
</tbody>
</table>
APPENDIX 4: INSTRUCTIONS TO SUBJECTS

Instructions

I have been doing some research on person perception (which is the way people see each other) and I am interested in studying the perception of behaviours displayed between people in a social situation.

The present study is very straight-forward and what I would like you to do is to watch this very short (about 40-50 seconds long) videotape scene of two persons interacting in a classroom. In the situation, one person is standing and walks into the room and one person is seated at a table in the room. (For subjects observing the natural control scenes, in place of the previous sentence insert the following: In the situation, both people come into the room and then sit down, one on the left and the other on the right.) I will only play it through once so watch it very carefully please. Then I will ask you to fill in a short questionnaire at the end and that's all there is to it.
APPENDIX 5 : QUESTIONNAIRES GIVEN TO SUBJECTS VIEWING THE EIGHT ACTED SCENES

Questionnaire

Age:
Marital Status:
Education:
Present Job:

Part A

In filling out this questionnaire try to answer in the fashion that you would if you had just seen the situation really taking place. For all questions, except #4, indicate your response by drawing a line crossing the scale line at the point which corresponds to your judgement of the degree of that item.

Example:

I like apples.

DISAGREE / AGREE

This indicates a strong degree of agreement.

Questions

1. Rate the degree to which you think the person standing in the scene may be indicating that he is intending to harm the person sitting.

NO INTENTION AT ALL FULLY INTENTIONAL

2. Rate the degree of confidence which you have in making the judgement in question #1.

NO CONFIDENCE AT ALL TOTALLY CONFIDENT
3. In this situation, rate the likelihood that the person standing would harm the person seated.

NO LIKELIHOOD COMPLETELY LIKELY
AT ALL

4. Remembering that sometimes people get hurt accidentally, if the person seated was harmed by the person standing do you think that it would be: (a) intentional or (b) accidental?

5. If harm to the person seated did occur at the end of the scene, indicate the degree of responsibility that the person standing would have for the harm that occurred.

NO RESPONSIBILITY TOTALLY RESPONSIBLE
AT ALL

6. If harm to the person seated did occur at the end of that scene, indicate the degree of responsibility that the person seated would have for the harm that occurred.

NO RESPONSIBILITY TOTALLY RESPONSIBLE
AT ALL

7. Indicate the degree to which you feel that the behaviour of the person standing was justified in this situation.

NO JUSTIFICATION TOTALLY JUSTIFIED
AT ALL

8. Indicate your feelings toward the person standing.

VERY NEGATIVE VERY POSITIVE
9. Indicate your feelings toward the person seated.

VERY NEGATIVE

______________________________

VERY POSITIVE

10. How realistic was the scene?

NOT REALISTIC

AT ALL

______________________________

TOTALLY REALISTIC
Instructions for Behaviour Checklist (See following page)

In this second part of the questionnaire I would like you to place a checkmark beside the behaviour or behaviours which you think that the person standing displayed in this situation. After you have placed a checkmark in the yes column beside a behaviour, please write in the specific behaviour or behaviours that you saw or the words that you heard. For example, if in the videoscene the person standing accused the person seated of going through a red light, then you place a check mark in the yes column beside #1. To the right of that you would write: "Accused him of going through a red light."

It is important to note that either none, some or all of the behaviours listed on the next page may be in this scene. Also you will notice that question #8 concerns the person seated. While we are primarily interested in the person standing, if you did observe the person seated using any of the behaviours please jot their number down in the appropriate place. If the person seated did not use any of the behaviours then just place a checkmark in the No column and leave the second part blank.
# Part B

## Behaviour Checklist

<table>
<thead>
<tr>
<th></th>
<th>NO</th>
<th>YES</th>
<th>If yes, specific behaviour seen/words heard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td>Person standing accuses person seated of doing something wrong or illegal.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td>Person standing raises his voice level above normal, shouts, or speaks in a very forceful tone of voice.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td>Person standing uses emphatic vocabulary, strong language or words.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td>Person standing verbally threatens the person seated, uses threatening words or makes threats against the person seated.</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td>Person standing shows facial anger.</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td>Person standing moves extremely close to the person sitting, very much closer than normal talking distance.</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td>Person standing physically threatens the person seated, uses physical movements to indicate threat.</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td>Did the person seated display any of the above behaviours? If yes, which behaviours?</td>
</tr>
</tbody>
</table>
APPENDIX 6: QUESTIONNAIRE GIVEN TO SUBJECTS VIEWING THE NATURAL CONTROL SCENE (For Determining Questionnaire Effects)

Questionnaire

Age:
Marital Status:
Education:
Present Job:

In filling out this questionnaire try to answer in the fashion that you would if you had just seen the situation really taking place. For all questions, indicate your response by drawing a line crossing the scale line at the point which corresponds to your judgement of the degree of that item.

Example:
I like apples.

DISAGREE / AGREE

This indicates a strong degree of agreement.

Questions

1. Rate the degree to which you feel that the two people know each other.

<table>
<thead>
<tr>
<th>Total Very Close</th>
<th>Strangers</th>
<th>Friends</th>
</tr>
</thead>
</table>

2. How realistic was the scene?

<table>
<thead>
<tr>
<th>Not Realistic</th>
<th>Totally Realistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>At all</td>
<td></td>
</tr>
</tbody>
</table>

3. In terms of personality, how would you rate the two individuals on the characteristics of responsibility and honesty or openness?

(continued on next page)
3. continued.

The person seated on the left:

Very Irresponsible

______________________________

Totally Responsible

Dishonest

______________________________

Very Honest

Covers Up

______________________________

Forthright

The person seated on the right:

Very Irresponsible

______________________________

Totally Responsible

Dishonest

______________________________

Very Honest

Covers Up

______________________________

Forthright

4. Indicate your feelings toward the person seated on the left.

Very Negative

______________________________

Very Positive

5. Indicate your feelings towards the person seated on the right.

Very Negative

______________________________

Very Positive
APPENDIX 7 : QUESTIONNAIRE GIVEN TO SUBJECTS VIEWING THE NATURAL CONTROL SCENE (For Determining Acting Effects)

Questionnaire

Age:
Marital Status:
Education:
Present Job:

Part A

In filling out this questionnaire try to answer in the fashion that you would if you had just seen the situation taking place. For all questions, except #4, indicate your response by drawing a line crossing the scale line at the point which corresponds to your judgement of the degree of that item.

Example:
I like apples.
DISAGREE / AGREED
This indicates a strong degree of agreement.

Questions

1. Rate the degree to which you think the person seated on the left may be indicating that he in intending to harm the person seated on the right.

NO INTENTION
AT ALL
FULLY INTENTIONAL

2. Rate the degree of confidence which you have in making the judgement in question #1.

NO CONFIDENCE
AT ALL
TOTALLY CONFIDENT
3. In this situation, rate the likelihood that the person seated on the left would harm the person seated on the right.

NO LIKELIHOOD AT ALL ____________________________ COMPLETELY LIKELY

4. Remembering that sometimes people get hurt accidentally, if the person on the right was harmed by the person on the left do you think that it would be: (a) intentional or (b) accidental?

5. If harm to the person seated on the right did occur at the end of the scene, indicate the degree of responsibility that the person seated on the left would have for the harm that occurred.

NO RESPONSIBILITY AT ALL ____________________________ TOTALLY RESPONSIBLE

6. If harm to the person on the right did occur at the end of that scene, indicate the degree of responsibility that the person on the right would have for the harm that occurred.

NO RESPONSIBILITY AT ALL ____________________________ TOTALLY RESPONSIBLE

7. Indicate the degree to which you feel that the behaviour of the person on the left was justified in this situation.

NO JUSTIFICATION AT ALL ____________________________ TOTALLY JUSTIFIED

8. Indicate your feelings toward the person on the left.

VERY NEGATIVE ___________________________________________ VERY POSITIVE

9. Indicate your feelings toward the person on the right.

VERY NEGATIVE ___________________________________________ VERY POSITIVE
10. How realistic was the scene?

NOT REALISTIC

AT ALL

TOTALLY

REALISTIC
Instructions for Behaviour Checklist (See following page)

In this second part of the questionnaire I would like you to place a checkmark beside the behaviour or behaviours which you think that the person seated on the left displayed in this situation. After you have placed a checkmark in the yes column beside a behaviour, please write in the specific behaviour or behaviours that you saw or the words that you heard. For example, if in the video scene the person on the left accused the person on the right of going through a red light, then you would place a checkmark in the yes column beside #1. To the right of that you would write: "accused him of going through a red light".

It is important to note that either none, some or all of the behaviours listed on the next page may be in this scene. Also you will notice that question #8 concerns the person seated on the right. While we are primarily interested in the person on the left, if you did observe the person on the right using any of the behaviours please jot their number down in the appropriate place. If the person on the right did not use any of the behaviours then just place a checkmark in the No column and leave the second part blank.
### Part B

#### Behaviour Checklist

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
<th>If yes, specific behaviour(s) seen or words heard.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Person seated on the left accuses person on the right of doing something wrong or illegal.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Person on the left raises his voice level above normal, shouts, or speaks in a very forceful tone of voice.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Person on the left uses emphatic vocabulary, strong language or words.</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Person seated on the left verbally threatens the person on the right, uses threatening words or makes threats against the person on the right.</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>5. Person on the left shows facial anger.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Person on the left moves extremely close to the person on the right, very much closer than normal talking distance.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Person on the left physically threatens the person on the right, uses physical movements to indicate threats.</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>8. Did the person seated on the right display any of the above behaviours? If yes, which behaviours?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 8: EXPLANATION OF DIFFERENCES IN TREND ANALYSES

SUM OF SQUARES

In the trend analyses, differences occur between the summation of the sums of squares of the linear, quadratic and cubic components, and the sums of squares obtained for the main effect. For example, with respect to DV1, the attribution of intent to harm, the main effect sum of squares = 44.07, whereas the summation of the linear, quadratic and cubic sum of squares = 55.37. This difference is due to the fact that the main effect was derived through the use of weighted means in the ANOVA, whereas the components approach used a harmonic mean (unweighted means approach) in calculating the sums of squares. The following is a demonstration of the equivalence of the $S.S.$ when using an harmonic mean.$^1$

DV1:

$$\sum_{n_j}(\bar{X}_j - \bar{X}^{...})^2 = 44.07 \neq \Sigma \text{ (linear, quadratic, & cubic S.S.)}$$

Substituting the harmonic mean $\tilde{n}$,

where $\tilde{n} = \frac{a}{\sum(1/S_i)}$

and $a$ = number of groups

and $S_i$ = number of subjects/groups

$$\tilde{n}\Sigma(\bar{X}_j - \bar{X}^{...})^2 = 15 [(4.53 - 5.85) + (5.44 - 5.85) + (6.29 - 5.85) + (7.11 - 5.85)]^2$$

$$= 55.69 = \Sigma(\text{lin., quad., & Cubic S.S. - 55.37})$$

The equations used for the trend analyses with unequal sample sizes were found in Keppel (1973).

$^1$ Data available from Figure 5.
APPENDIX 9 : POST-HOC COMPARISONS FOR DEMAND CHARACTERISTICS

Comments made by the subjects during the study led the experimenter to believe that there were demand characteristics operating in the initial control scene. These demand characteristics may have caused subjects to rate the initial control scene as being more aggressive in content than a second naturally occurring control scene. This reasoning led to the hypothesis that if the initial control scene was viewed as being more aggressive than the natural control scene, then there should exist a consistent pattern of differences in the attributions and judgements made between subjects viewing the initial control scene (group 1) and subjects viewing the natural control scene (group 10). Specifically, the group seeing the more aggressive scene (group 1) should make stronger attributions than the second group (group 10) on the following dependent variables: a stronger attribution to the protagonist of intent to harm (DV1); a stronger judgment concerning the likelihood of harm occurring (DV3); an increase in the number of judgements of intentional harm, if harm occurred (DV4); an increase in the attribution of responsibility to the protagonist (DV5); and, an increase in positive affect for the victim (DV9). At the same time, subjects seeing the more aggressive scene (group 1) should make weaker attributions than subjects seeing the less aggressive scene (group 10), on the following dependent variables: less attribution of responsibility to the victim, if harm occurred (DV6); a judgement of the protagonist being less justified in his behaviour (DV7); and, a lower degree of positive affect for the protagonist (DV8).

These predictions were analyzed by conducting a series of t-tests between groups 1 and 10 on the eight relevant dependent variables. The results
are shown in Table A.

The results in Table A confirm the predictions made for dependent variables 1, 5, 7, 8, and 9. Thus, the subjects in group 1 who may have watched a more aggressive scene than the subjects in group 10, attributed more responsibility and more intent to harm to the protagonist and felt the protagonists' behaviour to be less justified. They also liked the victim more and liked the protagonist less than did subjects in group 10. The trends for dependent variables 3 and 6, the likelihood of harm occurring and the attribution of responsibility to the victim, were in the predicted direction but did not reach significance. In contrast, one result was significant and contrary to the prediction. The subjects in group 10, who may have viewed a less aggressive scene than the subjects in group 1, agreed more often with the statement that if harm occurred in the situation it was likely to be intentional. With the exception of this one contrary outcome, the overall pattern of results supports the belief that there were demand characteristics present in the initial control scene which caused it to be viewed as more aggressive in content than a comparable natural control scene.
### Table A

**t-tests for Demand Characteristics**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Group 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Group 10&lt;sup&gt;a&lt;/sup&gt;</th>
<th>t-value&lt;sup&gt;b&lt;/sup&gt;</th>
<th>P&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ΣX</td>
<td>ΣX&lt;sup&gt;2&lt;/sup&gt;</td>
<td>ΣX</td>
<td>ΣX&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>1 attribution of intent</td>
<td>45.3</td>
<td>250.43</td>
<td>14.2</td>
<td>64.28</td>
</tr>
<tr>
<td>3 likelihood of harm occurring</td>
<td>42.1</td>
<td>242.15</td>
<td>22.9</td>
<td>100.69</td>
</tr>
<tr>
<td>4 judged intentional if harm occurs</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>5 responsibility of protagonist</td>
<td>75.8</td>
<td>633.04</td>
<td>20.6</td>
<td>85.16</td>
</tr>
<tr>
<td>6 responsibility of victim</td>
<td>35.5</td>
<td>277.81</td>
<td>57.8</td>
<td>396.24</td>
</tr>
<tr>
<td>7 justification of protagonist</td>
<td>40.2</td>
<td>231.72</td>
<td>70.1</td>
<td>527.89</td>
</tr>
<tr>
<td>8 positive affect for protagonist</td>
<td>33.7</td>
<td>195.91</td>
<td>55.3</td>
<td>314.37</td>
</tr>
<tr>
<td>9 positive affect for victim</td>
<td>67.3</td>
<td>559.25</td>
<td>46.7</td>
<td>222.83</td>
</tr>
</tbody>
</table>

<sup>a</sup> n = 10; X can be reproduced by ΣX (for each D.V.) ÷ n

<sup>b</sup> df = 18

<sup>c</sup> n.s. indicates non-significant