Bystander inhibition and facilitation of helping responses: An interactional analysis

Rosalie McMaster

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BYSTANDER INHIBITION AND FACILITATION OF HELPING RESPONSES: AN INTERACTIONAL ANALYSIS

A Thesis
Presented to the
Faculty of
California State University
San Bernardino

by
Rosalie McMaster
July 1985

Approved by:

Chair

july 25, 1985
Bystander Inhibition and Facilitation of Helping Responses: An Interactional Analysis

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Presented to the
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In Partial Fulfillment of
the Requirements for the Degree
Master of Arts
in
Psychology

Rosalie McMaster
July 1985
I gratefully acknowledge the direction and support provided me in this endeavor by my professor, mentor and friend, Dr. Robert E. Cramer. Under his excellent tutelage I learned the value of research and the foundations of well designed studies. In addition, I was able to be a participant in team research which had the advantage of bringing several minds and perspectives to bear on the task. With Bob's direction, this approach provided a stimulating and fruitful atmosphere for science as well as a backdrop for meaningful human relationships.

Those with whom I shared the nuts and bolts of this research, along with a lot of good times, were Patty Bartell, Maggie Dragna, Kim Heltzer, and Kevin Young. This endeavor not only marked the completion of a Master's degree in Psychology, but it also initiated many professional and personal friendships. I am grateful to these who participated with me in the enterprise of science.
In an emergency, the helping responses of registered nurses were not inhibited by the presence of another person, contrary to Darley and Latané's bystander hypothesis. General students did evidence the familiar bystander effect. An interactional research strategy developed by Zajonc's work in social facilitation was used to predict the inhibition and facilitation of helping behavior. It was predicted that the presence of another person would facilitate the performance of registered nurses because the helping response is positioned high in their habit hierarchies. On the other hand, general students would have their helping responses inhibited by the presence of another because the helping response is positioned low in their habit hierarchies (the bystander effect). While the results provide support for the bystander effect in the general students, the nurses' helping responses were not facilitated. Information was obtained on the subjects' perceptions and attitudes about the role of deception in altruism research. Generally, the subjects' positive attitudes toward the
research were related to their perceptions that they had learned something about themselves and the social sciences. Although the present research employed a traditional social learning approach, the heuristic value of utilizing an interactional strategy to extend the boundaries of Adlerian psychology to the study of the bystander effect was discussed.
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3. MEANS AND STANDARD DEVIATIONS OF
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INTRODUCTION

The accuracy of the adage "there is safety in numbers" came dramatically into question for the public and the psychological community in 1964 when Kitty Genovese was stabbed to death in a residential section of New York City. For more than 30 min she struggled against her attacker, but her cries for help were futile. She was murdered as her neighbors watched from the safety of their own apartments.

Since this event, research spanning 20 years has investigated influences on the helping response and has revealed a salient phenomenon, the bystander effect: people are less likely to give aid when in the presence of others than when they are alone. The focus of this effect is the decrease in the frequency of helping as the number of bystanders increases. However, research also indicates that the majority of subjects in these studies have responded to help despite the presence of another. While the presence of others may account for the inaction of some people, current explanations of effect cannot account for those who do help. Using an interactional strategy, the present research considers
both situation and person variables to explore the boundary conditions of the bystander effect.
THE SEMINAL RESEARCH

John M. Darley and Bibb Latané (1968) were the first to investigate the situational variables present in the Genovese murder. College students participated in a discussion group via an intercom system and were led to believe their "group" was composed of either 2, 3, or 6 persons. During the discussion, a group member ostensibly experienced a nervous seizure, and the speed with which the subject reported the emergency to the experimenter was recorded. The results revealed a significant group's size effect on both the frequency and the speed of response.

While 85% of the students who thought no other bystander was present reported the seizure, only 62% of the subjects in the 3 person condition and 31% of the subjects in the 6 person condition contacted the experimenter in an attempt to help. The average response time for subjects in the alone and the bystander condition was 52 sec and 166 sec, respectively. Neither measures of apathy and alienation nor sex of subject were related to the likelihood or speed of reporting. The number of perceived others was the best predictor of aiding
responses.

Darley and Latané concluded that the bystander effect would be best understood by considering a person's response to other observers rather than by presuming personality deficiencies of the individual or indifference to the victim. According to these researchers, the witness to an emergency experiences conflict between societal norms to help and personal fears of the consequences of intervening (i.e., physical harm, public embarrassment, involvement with police). If norms supporting intervention are somehow weakened, nonintervention will prevail. The presence of others is proposed as being sufficient to weaken the person's prescription to help through the process of diffusion of responsibility. Inhibition of the helping response in the findings of Darley and Latané (1968), as well as in the behavior of the witnesses to the Genovese murder, may occur as a result of one or more of the following factors:

(1) If help is to come when only one bystander is present, it must come from him or her. When there are several observers, the responsibility for helping is shared, and, therefore, diminished for the individual. Diminished responsibility means a lowered probability of helping.

(2) Under circumstances of group responsibility,
the punishment or blame that could belong to any one individual is slight. Diminished responsibility for nonintervention will also result in a lowered probability of helping.

(3) By assuming another has taken action, a person may rationalize inaction. Additional intervention would be redundant and possibly create confusion. Therefore, help will not be forthcoming.

In addition to diffusion of responsibility, a second process, social influence, was proposed by Darley and Latané to further explain bystander behavior. This process assumes that a bystander must first define the ambiguous situation as an emergency before deciding how to act and will accomplish this by inferring how others are interpreting the event. The inaction of others will result in the interpretation that the incident is not serious. The bystander, judging the event not to be serious, will not respond by helping. The idea of social influence was tested by Latané and Darley (1968). Students who had volunteered to be interviewed about the problems of an urban university were seated in a small waiting room either alone or with 2 passive confederates, or in groups of 3 naive subjects. A stream of smoke entered the room through a wall vent. The length of time the subject
remained in the room before leaving to report the smoke was recorded. The results revealed a dramatic difference between the responses of the groups.

Of the subjects facing the emergency alone, 75% reported the smoke. However, only 10% of the subjects with the passive confederates, and 38% of the naive subject group did so. Subjects seated with passive others in a room filling with smoke also became passive. "They coughed, rubbed their eyes, and opened the window—but they did not report the smoke" (p.218). The effect of the presence of others was to decrease responsiveness to the emergency. The process of social influence thus gained support, and, in addition to diffusion of responsibility, provided an explanation for the decrease in intervention as the number of bystanders present increased.

A third process, audience inhibition, was offered as another explanation for the bystander effect (Latané & Darley, 1968). The person who takes action may face embarrassment if the situation is not actually an emergency. The presence of others may inhibit helping when individuals are fearful their behavior may be judged negatively. Thus, the more people present to witness this mistake, the greater the risk involved.

Latané and Rodin (1969) presented a decision-making
model of the person who is faced with an emergency situation. First, the bystander must notice the event, and, second, must interpret it as an emergency. Third, the bystander must feel personally responsible for dealing with it, and, fourth, the bystander must possess the necessary skills and resources to act. A negative decision at any step in this sequence will result in nonintervention.

Although the processes of Social Inhibition (diffusion of responsibility, social influence, and audience inhibition) and the model of bystander intervention were conceptualized nearly 2 decades ago, much of the research on helping behavior has been and continues to be an attempt to support or to disprove them. The numerous investigations exploring the parameters of the bystander effect are best reviewed in categories of variables including: (1) characteristics of the potential helper, (2) characteristics of other bystanders, (3) characteristics of the victim, and (4) the effect of ambiguity of the event. Because the present research is integrative involving bystander research and social facilitation research and theory, the following review will be illustrative rather than exhaustive. Two excellent reviews have recently been published; see Latané and Nida (1981) for a review of
the bystander Gange (1977) for a review of social facilitation research.

**Characteristics of the Potential Helper**

The personal and behavioral characteristics of the bystander in a helping situation have been explored in a number of studies. Personal factors including locus of control, perceived competence or status, group affiliation, and behavioral factors such as hurrying or psycho-physiological arousal have been found to influence the likelihood of a helping response.

**Locus of control.** The concept of internal and external locus of control was found to be valuable in predicting social action behavior (Gore & Rotter, 1963). Rotter (1966) defined locus of control as the "degree to which the individual perceives that a reward follows from or is contingent upon his attributes or behavior versus the degree to which the individual feels the reward is controlled by forces outside of himself" (p.1). Hence, individuals are said to differ in a stable personality characteristic of whether they expect reward in a large variety of situations to be the function of external forces or their own behavior or attributes.

Gore and Rotter (1963) hypothesized that social action-taking behavior could be predicted from a
generalized attitude about locus of reinforcement. Also, this prediction would be improved by a knowledge of the social desirability motive of the subject. Students at a Southern Negro college were given the Internal-External Control of Reinforcement Scale (I-E Scale) developed by Rotter (1966) and the Marlowe-Crowne Social Desirability Scale (SDS, Marlowe-Crowne, 1960). Four weeks later, a student confederate asked for cooperation in a Students' for Freedom Movement. The sign up sheet listed the following alternatives: (1) attending a rally for civil rights, (2) signing a petition calling for full and immediate integration throughout Florida, (3) joining a silent march to the capital to call for full and immediate integration, (4) joining a Freedom Rider's Group for a trip during semester break, (5) none of the above.

The results revealed a significant relationship between scores on the I-E Scale and social action-taking behavior. It was concluded that those individuals who were more inclined to see themselves as the determiners of their own fate tended to commit to more personal and decisive action. There was a trend, albeit nonsignificant, for persons high in SDS to commit to less social action.
What conditions must exist for one person to voluntarily accept undesirable consequences in order to reduce them for someone else? Midlarsky (1971) investigated the relationship of fatalism, defined as external locus of control, to helping under stress. He predicted less helping would occur among those with an external locus of control due to their tendency to accept the status quo instead of meeting the challenge of social demands. Also, contributing to this prediction is the belief among externals that outcomes are determined by factors beyond their control. Therefore, they would be less likely to extend aid than internals or those less fatalistic. While an individual's external locus of control was expected to lessen the amount of help, high competency of subject, dependency of cohort, and observation by others were all expected to increase helping.

The results supported these predictions. Also, a significant correlation was found between an internal locus of control and perceived competence indicating that low-fatalistic individuals perceive themselves as more competent than do fatalists or those with an external locus of control. It was also found that the internal person was more likely to feel a sense of responsibility to help a partner.
Competence. In order to further investigate the variable of competence on helping, Midlarsky and Midlarsky (1973) posed the following questions: What is the degree of relationship between competence (high status and internal locus of control) and actual self-sacrificing behavior? What is the effect of costs on helping?

In the previously cited study the I-E Scale was administered 3 months after the manipulation. In the 1973 study, it was given just prior to the manipulation. Also, the Social Responsibility Scale (SRS, Berkowitz, 1968) and the SDS were given as measures of responsiveness to the norm of social responsibility. It was predicted that high competence (shock tolerant), high status (received attention from experimenter), and low costs (low intensity shock) would all be associated with aiding behavior. Midlarsky and Midlarsky reasoned that the subject will expect the costs of aiding to be lessened as a direct result of his or her competence. Also, the competent person experiencing higher status in relation to others may feel able to incur the costs of helping. It was also predicted that internal locus of control and a high degree of social responsibility would be positively related to helping although Midlarsky and
Bryan (1972) found that while scores on the SRS were significantly related to scores on the SDS, only SRS scores were predictive of donation behavior.

Results showed that competence, status, and internal locus of control were all significantly related to helping. In both high competence and high status groups, 100% helped as compared to 65.6% in the low competence and low status groups. The data also revealed a competency by cost interaction. That is, under conditions of high competence, high costs did decrease the probability of helping, but those in the high competence condition did help significantly more than those in the low competence condition. Status was found to be second only to the competence variable and explained 25% of the variance. Of the personality variables, only internal locus of control was significantly associated with helping. The relationship between locus of control and helping was suggested to be a reflection of the belief by the internals that they are capable of influencing outcomes. Results indicated that all three experimental variables were significantly related to altruistic behavior in addition to the locus of control of the helper.

Given that an individual has the minimal skills to
render service, how does perceived competence affect that probability of a helping response, and must the competence be specifically related to the skills needed in helping another? A group of individuals claiming compensation under the "Good Samaritan" statute which provides compensation to bystanders injured or otherwise suffering loss as a result of intervening in a crime, aiding an accident victim or helping a police officer was compared to a matched group who had not so intervened (Huston, Ruggiero, Conner, & Geis, 1981).

The measures that yielded the most significant results were those reflecting the training the respondents had that might assist them in their intervention efforts. Significant differences were found between the two groups for first-aid, life-saving, medical and police training. While the life-saving skills were never called into play in the intervention episodes, Huston et al. suggest that this training served to reinforce the individual's self-image of being a person with the ability to help others. Those with medical and first-aid training were interpreted as also being indoctrinated into an ethic of social norms that impels rendering assistance to others. Thus, competence, whether task related or not, was an important predictor of helping behavior. Pantin
and Carver (1962) induced competence by showing a group of female college students a series of public service films on medical emergencies. Three weeks later individuals from this group and a control group participated in an experiment in which a confederate appeared to experience a choking fit and then fall silent. While subjects who had not viewed the films evidenced the bystander effect, subjects who had viewed the films responded quickly regardless of perceived group size. The post-experimental questionnaire data suggested that subjects overall felt quite concerned about the emergency and moderately unsure of what to do, and that these characteristics did not differ among groups. Pantin and Carver interpreted this as an indication that the highly competent subjects did not feel especially capable of treating the victim, but rather that their competence was limited to being able to recognize the immediacy of the need for help.

**Group Affiliation.** To what degree does group affiliation and the norms associated with that group affect the behavior of the individual member? Horowitz (1971) sought to answer this question by comparing the behavior of service group members with the behavior of social groups members. He hypothesized that the presence of others would serve to focus rather than
diffuse responsibility on the representative of the group which has specific norms regarding helping people in need. Thus, for the service group members, intervention will be made more probable by the presence of others. The results indicated that service group members were more likely to intervene when there were others present. In this study, the situation variable, number of people present, was not an accurate predictor of the likelihood of intervention, while social group members showed an inverse relation between the number of bystanders and the likelihood of giving aid.

Darley and Batson (1973) tested both personality and situational variables relevant to helping as suggested by the Biblical parable of the Good Samaritan. The content of one's thoughts and the amount of hurry in one's journey were considered. Opposite to the findings of Horowitz (1971), they predicted that a person thinking religious or ethical thoughts would be no more likely to give aid than a person thinking about something else. Also, it was predicted that a person in a hurry would be less likely to offer aid than a person not in a hurry.

Seminary students served as subjects. It was demonstrated that a person going to speak on the parable of the Good Samaritan is not significantly more
likely to stop to help a person lying by the side of the road than is a person going to talk about possible occupations for seminary graduates. It was concluded that the variable most related to the likelihood of intervention was whether or not the person was in a hurry.

**Psycho-physiological Arousal.** The model of bystander intervention proposed by Piliavin, Rodin, and Piliavin (1969) assumes a causal relationship between psycho-physiological arousal and helping. The physiological components (i.e., rapid heart beat, shortness of breath, startle reactions) interact with cognitive and emotional components (i.e., empathy, disgust, sense of obligation, perception of danger) to produce the level of experienced arousal. The individual becomes motivated to reduce this increasingly unpleasant experience, and, unless net costs are high, reduction will be accomplished by intervention.

Batson, Darley, and Coke (1978) add the factor of empathetic arousal to the Latané and Darley model of bystander intervention. They propose that the degree of one's emotional arousal is a valuable internal factor in determining helping. Arousal, while a new component for the Latané and Darley model, is not a new
consideration for it was the basic assumption of the Piliavin model. The Piliavin (1969, 1975) model assumes that arousal which occurs as a result of seeing an emergency is aversive, and that the observer will act to reduce it in the manner which incurs the lowest net costs. In other words, they propose an instrumental response to reduce one's own arousal, gaining the reward of the termination of noxious stimulus.

Berger (1962) found that observers became aroused (as evidenced by GSR responses) upon seeing a target person jerk his arm in response to a supposed electric shock. Less arousal occurred when either the arm movement or the supposed electric shock was absent. Subjects apparently reacted to the inference that the target person was experiencing pain and not to the direct stimuli or arm movement or electric shock. Berger concluded that empathetic arousal does occur.

Weiss, Buchanan, Alstatt, and Lombaro (1971) sought to determine whether the cessation of another person's suffering would have the same functional characteristics as the conventional rewards of escape conditioning. Whereas the usual noxious stimulus is an electric shock or a continuously loud noise, their noxious stimulus was the simulated suffering of
another. The research showed that instrumental behavior can be learned and maintained solely through the rewarding function of the cessation of another's suffering. The data showed the same pattern as conventional escape conditioning.

Krebs (1975) attempted to measure both physiological and helping responses. He found that a high empathy condition created the greatest physiological arousal and the most self-sacrificing help. Subjects in this condition reported identifying the strongest with the victim.

Allowing for individual differences in type of origin of drive but assuming that people are rewarded by the cessation of drive, Weiss et al., (1971) explain the effect of reward on altruistic (helping) behavior as follows:

"If innate altruistic drives motivate people, then drive reduction should reinforce them. If during the course of childhood socialization, secondary reinforcement is conditioned to the cues of another person's relief from distress, then these cues should be reinforcing to normal adults. If anticipatory guilt motivates people, then guilt reduction should reinforce them. If a
person is motivated to adhere to the norm of social responsibility, then knowledge of the results of successful adherence should reinforce him/her as should a reduction of the fear of social sanctions for transgressions of the norm." (p.1263) Geer and Jarmechy (1973) demonstrated that reaction time on a task was shorter for subjects who believed their actions directly influenced the cessation of shock to another. Also, the reaction times were faster when subjects believed the shock levels were higher. Arousal (measured by skin conductance responses) was greater for observers when the victim experienced greater pain, providing support for an existence of vicarious arousal.

Despite the emphasis on external variables in bystander research considerable evidence exists that this effect is also influenced by person variables which are easily measured. Specifically, an individual's locus of control of reinforcement, competence, group affiliation, and psycho-physiological arousal interact with traditionally manipulated social variables to produce individual variation in helping behavior.
Characteristics of the Victim

To what extent does the fact that a person is suffering influence the reactions of the average person? Is there rejection or compassion? What are the factors of the victim's situation that influence reactions? Lerner and Simmons (1966) explored how the factors of a victim's situation influence observers. They hypothesized that, in order to maintain a belief in a just world, the average person will devalue the personal characteristics of an apparently innocent victim. Subjects watched a confederate who received painful electric shocks upon making efforts on a learning task. Halfway through the session, the victim was rated in terms of attractiveness by the subjects who believed that the second half would either be identical to the first, or that they could alter the type of reinforcement used with the victim.

The results showed a clear difference between ratings of attractiveness of victim in the shock versus non-shock conditions. When the subjects believed they had altered the victim's fate, they rated her considerably less negative than when they thought the shock would continue. The greatest amount of rejection was elicited by the martyr condition in which the victim agreed to perform extra shock trials for the
benefit of the observers. In general, any victim whose suffering was believed to continue was described as a less attractive person than one whose suffering had ended.

Prior to the investigations of responses to an emergency, Berkowitz and Daniels (1964) studied the influence of the culturally shared prescription to help by considering three variables: salience of the norm to help, dependence of cohort, and presence of another who had recently helped the subject. It was predicted that aid would be most likely given by one who had recently received help, and that this aid would be most likely directed toward a dependent other. Also, presence of the subject's previous benefactor was expected to increase the helping response.

The results indicated a significant dependency by prior help interaction as predicted. Increased performance was best predicted by the subject's having received help prior to the manipulation, and by having another person dependent on that performance. However, the presence of the benefactor served to decrease the helping response.

Although the victim was known to the subject only as a voice over the intercom in the original investigation by Darley and Latané (1968), they
concluded that victim variables had no influence on the likelihood of receiving help. However, Piliavin, Rodin, and Piliavin (1969) provided information from a field setting that indicated that specific victim variables do have an impact on bystander responsiveness.

Teams of student confederates, each consisting of a victim and three observers, staged standardized collapses on the New York subway in which type of victim (drunk or ill) and race (black or white) were varied. The results revealed that a victim who appears ill is more likely to receive aid than one who appears drunk. Race of victim was not found to be a significant factor. The most interesting finding of this study was that the bystander effect was not duplicated. The authors explained this by discussing the influence of the costs and rewards of the situation.

The model of bystander responsiveness presented by Piliavin et al., (1969) assumes that witnessing an emergency is both physiologically and emotionally arousing, that this is aversive, and that the bystander will attempt to reduce it. The alternative chosen (direct helping, indirect helping, or leaving the scene) will be that which is most effective in reducing
the arousal and which will involve new costs to the witness. Costs include those for helping (e.g., loss of time, danger, exposure to blood) and those for not helping (e.g., blame from others and self, loss of rewards for helping). The model predicts that as arousal increases, the probability of the observer making some response to the emergency also increases. If arousal is held constant, and costs for not helping increase, the probability of helping, as opposed to leaving the scene, increases. As costs for helping increase and/or costs for nonintervention decrease, the probability of direct intervention decreases, and the probability of indirect help or leaving the scene increases.

In the Piliavin et al., study (1969) the costs of helping (incurring harm) were low and the costs of not intervening were high (severity of the problem). Therefore, inaction, as predicted by diffusion of responsibility, was not an alternative. Helping occurred consistently in the presence of others.

Although the data are explained in terms of costs, Piliavin and Piliavin (1972) point out that the collapse of the drunk may not have been viewed as an emergency by observers. A test of the model was designed that varied the degree of emergency and the
costs for helping. The collapse of the invalid was identical to the Piliavin et al., (1969) study, and included a condition where a small amount of blood came from the victim's mouth. The presence of blood was expected to cause feelings of revulsion in the observer and thus increase the costs of helping. Therefore, it was predicted that the invalid's collapse without blood would receive the more frequent and the more rapid help. The model predicts, however, that if the presence of blood indicates the collapse to be more serious, then the costs for nonintervention will increase as would the likelihood of intervention. It was therefore predicted that the "bloody" victim would receive more indirect aid than the other invalid. In addition to the victim variable, a bystander competence manipulation was included to determine if responsibility would diffuse to a priest or an intern, and therefore cause slower responding than in the presence of an "ordinary" bystander.

It was demonstrated that bystanders responded more slowly to a bloody victim than to a bloodless one. Also, almost all indirect helping as well as lack of response occurred in the blood condition. Although not significant, the data suggest a diffusion of responsibility effect in the blood-intern condition.
It is important to note that, as in Piliavin et al., (1969) an increase in the number of bystanders did not cause a decrease in helping.

Characteristics of Other Bystanders

The processes of Social Inhibition (Latané & Darley, 1969) emphasize the importance of a person's response to other observers in determining the likelihood of intervention. The following four studies present the subject with fellow bystanders who are strangers, friends, children, blind, and members of the helping professions.

Latané and Rodin (1969) tested pairs of strangers and pairs of friends in response to an emergency. Social influence predicts that the inaction of others will be misinterpreted by strangers, and will result in the inference that the emergency is not serious, lessening the probability of helping. However, the response to help should not be so diminished among friends who are used to communicating with each other. Male college students waiting alone, with a friend, or with a stranger, heard a woman fall and cry out in pain. The subject's responses to the victim were recorded. Seventy-five percent of those waiting alone responded. Friends waiting together produced 70% helping in contrast to the 40% who helped when waiting
with a stranger. The least amount of helping occurred in the condition with one passive confederate, and replicated the findings of the "smoke" experiment (Latané & Darley, 1968). The results suggest that the victim would be no better off in the presence of two friends than with one stranger. Also, the more strangers present, the less help is forthcoming. Help was most likely to come from the person who was alone. Latané and Rodin used both social influence and diffusion of responsibility to explain their data, stressing that it is not only the presence of others but also the relationship among the bystanders that is important in understanding the bystander effect. In this study, it was revealed that the bystander effect was modified by the presence of a friend. In the terms of Social Inhibition, both misinterpretation of inaction and the fear of negative evaluation were minimized, and inhibition to help was thereby reduced.

If social influence is modifiable, perhaps it is also reversible. Ross (1971) hypothesized that if diffusion of responsibility decreased the probability of helping, then the focusing of all responsibility on one person despite the presence of others would increase the probability of the helping response in that person. Also, if the presence of others provides
cues leading to inhibition of helping, then intervention should be maximized if the opportunity for comparison is minimized. It was proposed that the presence of children would increase responsibility for the adult present and would not serve as a source of cues to be interpreted by the potential helper. These two factors would result in an increase in the probability of intervention.

College students placed in a room alone, with two children or with two adults faced an internal emergency (i.e., dry ice in heater vent, simulating smoke) or an external emergency (i.e., sound next door of a workman falling and moaning). Ross predicted that the greatest degree of intervention would occur when the subject was with the children who did not react to the emergencies, the least amount when the subject was with the two nonresponding adult confederates, and an intermediate amount when the subject was alone.

The results confirmed only the prediction that subjects paired with the passive adults would show the least amount of intervention. Main effects for presence/type of confederate were found for both the frequency of response and response time. Those who were alone responded significantly faster than those in either of the other two confederate conditions,
although subjects in the adult confederate condition left more slowly than the subjects in the child confederate condition. It was suggested that the results challenge the assumption of the study that the children would not serve as cue sources. The inaction of the children appeared to be interpreted similarly as the inaction of the adults. Thus, the effects of social influence were operative in both conditions, and the result was a decrease in responding.

In a second attempt to focus responsibility, Ross and Braband (1973) conducted an experiment identical to the above study except that the subjects waited alone, with a blind confederate, or with a normally sighted confederate. It was expected that when the threat was external (to a third party in an adjacent room) responsibility would not diffuse to the blind person, and the subject would respond at the same rate as would subjects encountering the emergency alone. When the threat was internal (to the subject and the blind person) responsibility should not diffuse for the subject but increase to include the safety of the blind person. Thus, when the threat was internal, subjects with a blind confederate should respond at a higher rate than subjects who are alone.

The results revealed that the subjects paired with
the blind person responded to the internal emergency as frequently as those who were alone. Those paired with a blind person responded to the external emergency as infrequently and as slowly as those paired with a normally sighted confederate. The data was explained in terms of the cue value of another during the emergencies. In the internal condition, the blind person did not serve as a cue source, and thus the subject responded as if he were alone. However, in the external condition, the blind person was able to react to the noises and did function as a source of cues. In this condition, the subject was affected in a similar way to the inaction of the blind and normally sighted confederates.

The inclusion of a medically competent person among the bystanders to emergencies in the studies of Schwartz and Clausen (1970), and Piliavin and Piliavin (1972), produced less helping. Diffusion of responsibility to the professional helper was used to explain these findings.

Research manipulating the characteristics of other bystanders strongly supports the linear relationship hypothesized to exist between group size and the likelihood of interaction with one exception (Ross & Braband, 1973). Subjects witnessing an emergency in
the presence of bystanders who were strangers, friends, children, blind, or members of the helping professions evidenced the traditional bystander effect.

Ambiguity of the Situation

Latané and Darley's basic assumption was that most emergencies are, or at least begin as, ambiguous events. After noticing an event has occurred, the bystander then decides whether or not it is an emergency. Because of ambiguity, the person looks to others for definition (social influence). The results of the field study conducted by Piliavin et al., (1979) suggested that the absence of ambiguity in the emergency increased the costs of nonintervention and resulted in a greater likelihood of helping in a group situation. The following studies investigated the effect of degree of ambiguity of the emergency on helping.

Clark and Word (1972) predicted that a nonambiguous emergency would eliminate the bystander effect in group situations because it would reduce the need for additional information to define the situation. Delay of action would be minimized and helping would increase. The first test involved subjects waiting alone, with a passive confederate, or a passive stranger when a maintenance man was heard to fall and
cry out in pain. In sharp contrast to the findings of Latané and Rodin (1969), all subjects intervened. This suggests that in a nonambiguous emergency, the presence of others and their inaction will not inhibit helping.

The same procedure was used in a second test with the addition of an ambiguous condition that included the fall but no cries of pain. Also, the subjects waited alone, with another, or with four others, none of whom were confederates. All of the subjects in the nonambiguous condition responded in an average time of 56 sec. The subjects exposed to a nonambiguous emergency involving severe consequences, regardless of the number of others present, were more likely to help and help faster than subjects exposed to an ambiguous situation that allowed for alternative interpretations. The best predictor of helping was degree of ambiguity, not number of bystanders. However, those who were alone responded faster than those who were in groups, regardless of ambiguity.

According to the Latané and Darley model of bystander intervention, noticing and defining an event as an emergency does not necessarily mean that an individual will assume responsibility for intervening. Diffusion of responsibility occurs when others are present, and the likelihood of responding decreases.
Bickman (1972) extended the investigation of the bystander decision-making process to include assuming responsibility for acting as well as defining the event as an emergency. Female undergraduates were lead to believe they would be participating in an ESP experiment with two others. The location of the victim-to-be was in a cubicle nearby, and the other participant was either nearby (able to help) or in an adjacent building (not able to help). When the confederate was nearby, it was assumed that the responsibility would be diffused, and when the confederate was in another building, it was assumed that the responsibility would not diffuse. The three participants communicated over an intercom system. The message the subject received about the accident over the intercom varied in ambiguity: (1) the victim reported that a bookcase was falling on her, followed by her screams; (2) the confederate commented that he felt it was the intercom, not the person, that had been hit by the falling bookcase; (3) the confederate expressed concern for the victim's well-being.

Results showed that the more the confederate's interpretation indicated that an emergency was occurring, the faster the subjects responded. Subjects also responded faster when they thought the confederate
was not able to help. Both interpretation of the emergency and ability of the confederate to help affected the speed with which the subject helped. Bickman concluded strong support for the process of social influence. The subjects' definition of the emergency and their helping behavior was influenced by the interpretation of the situation given by the confederate. Assuming responsibility for helping was determined by the definition another gave to the event.

The more clearly defined the emergency, the more likely is the helping response. Soloman, Soloman and Stone (1978) defined ambiguity in terms of the number of modes of presentation, audio being more ambiguous than audio and visual presentations of the event. The study was a test of the mode of presentation and number of bystanders (1 or 2) using both male and female subjects in laboratory and field situations. Both studies reported significantly more helping in the audio-visual than in the audio only condition. Also, the audio only condition was the only one to be affected by the presence of an additional bystander.

Schwartz and Gottlieb (1980) addressed the issue of the influence of ambiguity on bystander responses while considering an additional variable, anonymity. The role of anonymity was suggested by a belated report
that one of Kitty Genovese's neighbors had been seen to open his door, watch the fatal attack for a few minutes, and then return to his apartment. It was this neighbor who finally did respond by calling the police 15 min later.

They hypothesized that concern with others' evaluations may foster as well as inhibit helping. Thus, they suggested a bidirectional process for the unidirectional audience inhibition process of Latané and Darley (1968). The role of the subject in the experiment was supposedly to intuit the ESP messages sent by one person to another, each of whom was visible on a monitor 50% of the time. The subjects were lead to believe that either they were the only one who viewed a stranger's attack on the confederate or that another subject viewed it also. Anonymity of the subjects was manipulated by disclosing that the other participant would or would not know of their presence or role.

Overall, 89% responded to the emergency, and type of helping varied as a function of anonymity. Among those responding, anonymous bystanders were less likely to help directly than were those whose presence was known. Anonymous bystanders witnessing the emergency alone were more likely to help than those with an
additional bystander present. Of those witnessing the emergency in the presence of another, the anonymous bystanders responded significantly more slowly. Anonymity vis-à-vis another witness appears to have no impact on the helping response.

A second experiment procedurally identical to the above study was conducted with the addition of an event that changed gradually from an ambiguous to definite emergency. The findings from the first experiment were replicated. Also, the inhibiting impact of anonymity was found as in the first experiment as long as the experiment remained ambiguous. Once the emergency became clear, anonymity seems to have fostered helping.

The differing effects of anonymity in the presence of another were discussed in terms of evaluation apprehension and the expectations attributed to others. The timing of effects suggests that when emergencies are ambiguous, anonymity delays decision-making regarding whether help is appropriate. Once emergencies are clear, anonymity influences the decision regarding one's own obligation to intervene.

Degree of ambiguity exerts strong influence on the likelihood of intervention. Nonambiguous emergencies consistently produced more frequent and more rapid responses than ambiguous events despite the presence of
others.

**Exceptions**

Although the bystander effect is durable, several experiments demonstrate it to be weakened and even eliminated by certain variables. The following studies illuminate the boundaries of the inhibiting effect of presence of others on helping responses.

Schwartz and Clausen (1970) both replicated and extended the Darley and Latané (1968) study regarding the effect of diffusion of responsibility as a factor in bystander intervention in emergencies. They examined questions raised by that study and presented a normative explanation of how the diffusion of responsibility phenomenon affects helping behavior. The study was designed to allow subjects to initiate various types of action and to permit the probing of their intentions, thoughts, and feelings before disclosing that the emergency was simulated.

Rate and speed of helping by a bystander to an emergency was predicted to be greater when an explicit statement calling for action and providing information about the help that would be appropriate is perceived than when no such statement is perceived. Also, those responding will be more likely to attempt direct action rather than reporting to others when they have been
given information and told that action is appropriate. Results showed that while the presence of other bystanders reduced helping for the female subjects, there was no effect of other bystander on the response of the males. The percentage of females reporting the emergency dropped from the alone to the audience condition, but the percentage who contacted the victim's door in an attempt to help did not change with the addition of other bystanders. Thus, drop in reporting accounted for almost the entire reduction in helping. The presence of other bystanders influenced females who might have reported but did not affect those who would have acted directly if alone.

Morgan (1978) tested another model of the effect of group size on helping which predicts that an increase in group size will have two effects. First, each individual's felt responsibility decreases with an increase in the number of others present. Second, with the increase in numbers of bystanders, the probability increases that the group will contain someone with a low threshold for costs of not intervening, and, therefore, the likelihood of intervention also increases. In any particular group, the first person to intervene will be the individual with the lowest threshold.
The model as proposed by Morgan (1978) also shows that increasing group size has a decreasing impact on latency because changes in group size have the most effect when changing from 1 to 2 to 3. In light of his models Morgan considers Latané and Darley's (1968) demonstration that groups of 3 were less likely to intervene than lone individuals, and the inability of Piliavin et al., (1969) to show an effect of group size, not surprising.

The model was tested by manipulating the costs to both the individual and the group. Group size was varied by having 1, 3, or 7 bystanders. Results showed that all groups intervened, and the model accounted for 37% of the variance. As group size increased, there was less change in latency. Morgan concluded that the allocation of costs and benefits for intervening influences helping behavior considering differing response thresholds.

In review, Piliavin et al., (1969) found no effect for increase in the number of bystanders on the helping response. Clark and Word's (1972) investigation into the role of ambiguity of emergencies revealed that the best predictor of a helping response was degree of ambiguity of the emergency, not number of bystanders present. The nonambiguous emergency eliminated the
bystander effect in group situations. In another test of ambiguity, Soloman et al., (1978) reported that the presence of another had no effect on helping when the emergency was presented auditorily and visually. Subjects in the audio only condition, however, did show a decrease in helping when another was present. And, finally, Pantin and Carver (1982) demonstrated that persons who had competence induced through the viewing of a series of medical emergency film responded quickly to a staged emergency regardless of perceived group size.

In summary, the bystander effect is robust, but several exceptions exist. The above studies reveal that there are those for whom the presence of others does not have an inhibiting effect. The purpose of the present research is to further explore boundary conditions to the bystander effect.

**Social Facilitation**

Over the past 20 years, the presence of others has been shown to exert considerable influence on helping behavior. The impact of others on performance in general, however, had been investigated decades prior to the Genovese murder and the research prompted thereby. The term "Social Facilitation" was coined by Allport in 1924 to describe the coaction paradigm.
Since Zajonc's social facilitation review (1965), this term has been used quite consistently to describe both audience and coaction paradigms. The present research will be limited to consideration of audience effects only.

Triplett (1895) performed an experiment on pacemaking and competition in bicycle racing which has been considered the first test of the social facilitation effect. The fastest time for the unpaced mile was 2 min 38 sec, but the same man covered the mile distance in 1 min 39.6 sec when following a pacer. To explain this phenomenon, Triplett proposed the theory of dynomogensis as follows:

"The bodily presence of another rider is a stimulus to the racer in arousing the competitive instinct; that another can thus be the means of releasing or freeing nervous energy for him that he cannot himself release; and, further, that the sight of movement in that other is perhaps suggesting a higher rate of speed, is also an inspiration to greater effort." (Triplett, 1897, p.510)

However, this pattern of results was not consistently obtained in investigations of social
facilitation. In an apparent contradiction, the presence of others was often found to be a detriment as well as a boon to performance. For example, Dashiell (1930) tested subjects on the multiplication of 2 place numbers by 2 place numbers either alone or with observers present. Both positive and negative effects of observation were found. Speed in multiplication was found to be facilitated the most in situations of observation, but accuracy was slightly higher in the alone condition. It was concluded that spectators exerted a facilitating effect upon speed at the expense of accuracy.

In a study conducted by Pessin (1933) subjects learned a list of 7 nonsense syllables to a criterion of one perfect trial. The subjects in the alone condition made fewer total errors and learned the list in fewer trials than subjects in the social condition, indicating impaired performance in the presence of others. Subjects in both conditions were then divided into 3 groups and returned for a second session a few days later. When relearning was expressed in savings scores, the subjects in the social condition performed better than those in the alone condition. Thus, in the second task, the presence of others improved performance.
Bergum and Lehr (1963) found that the accuracy of performance of enlisted military personnel on a light detection task increased when either commissioned or noncommissioned officers were present. The magnitude of difference between the observed and alone conditions was 46% in the final period of testing.

Zajonc (1965), in a review of the literature on social facilitation, proposed a reconciliation of the seemingly conflicting results. Because the data from investigation of social facilitation were so similar to that of the effects of nonspecific drive (D), he hypothesized that the presence of others may be a source of nonspecific drive. Drive states are "general" in the sense that they have the capacity to energize a variety of behaviors even when those behaviors do not reduce the specific drive state that energizes them. The Hull-Spence theory (Hull, 1943; Spence, 1956) proposes that while there are a number of alternative competing response tendencies, the effect of increased drive strength will depend upon the initial response hierarchy and the relative habit strength of the correct or goal attaining response in the hierarchy. Thus, general drive or general arousal will enhance dominant responses. If the dominant response is appropriate or correct for the task at
hand, then the presence of others will improve performance. However, if the dominant response is not appropriate, the energization of this response will compete with and impair the acquisition of appropriate ones. Thus, Zajonc illuminated the consistency of the results: performance is facilitated and learning is impaired by the presence of spectators.

Zajonc and Sales (1966) sought to test the proposal that the presence of an audience enhanced the emission of dominant responses at the expense of subordinate responses, but the measurement, a guessing task, received criticism as lacking accuracy criteria. Therefore, Cottrell, Rittle, and Wack, (1967) chose Spence's paired associate tasks to test Zajonc's (1965) proposal because these tasks offered clear-cut accuracy and were independently classifiable as either having the correct response in a position of dominance or as eliciting strong, incorrect response tendencies. Also, they had been independently validated as behavioral indicators of variations in general drive level.

Cottrell et al., hypothesized that the arousal from the presence of an audience would produce the same effects on performance that were found by Spence, Farber, and McFann (1956) who had shown that general drive, measured by the Manifest Anxiety Scale (MAS),
had an interactive effect upon paired associate learning. A high MAS score improved performance on a noncompetitional list and impaired performance on a competitive list. In the later experiment, Cottrell et al., (1967) found a significant interaction between audience and list, indicating that the presence of an audience, like a high MAS score, improved performance on a noncompetitional list and impaired performance on the competitive list.

Matlin and Zajonc (1968) also tested the hypothesis that the presence of an audience serves as a drive energizer leading to an increased probability of a dominant response and to a decreased latency of its emission. A significant difference was found in the latency scores of the isolated and social conditions in the manner as suggested by the drive theory of social facilitation. Changes in responses and latencies were of the type associated with the energizing effect of general drive (D).

The previous studies demonstrated the effects of an audience on performance but did not test the impact of mere physical presence. Cottrell, Wack, Sekerak, and Rittle (1968) sought to determine if the presence of persons who were not spectators would also produce drive effects on individual performance. The task
placed verbal habits of different strength in competition with each other. The conditions were alone, an audience of 2 interested spectators, and the mere presence condition consisting of 2 disinterested, blindfolded confederates. The findings revealed that, of the 3 conditions, only the audience condition was adequate to enhance the emission of dominant responses. Thus, mere physical presence was insufficient to create the kinds of effects proposed by Zajonc (1965).

Cottrell et al., (1968) proposed a modification of the drive theory of social facilitation by replacing Zajonc's concept of dominant responses with the concepts of learned responses and stronger habit strength (H) from the Hull-Spence theory. This implied that audience effects will be obtained only when the spectators are signs of positive or negative outcomes. Blindfolded, disinterested bystanders (mere presence) could not dispense relevant positive or negative evaluation, and therefore did not energize dominant responses. Contrell et al., concluded that the evidence does not indicate that physical presence of others is either a necessary nor a sufficient condition for producing audience effects on performance, rather only when positive or negative anticipations are
produced by the presence of others will it nonselectively energize individual performance.

Hency and Glass (1968) varied the perceived character of the audience to determine the effect of the evaluative element on the emission of dominant responses. They proposed that the presence of another with sufficient knowledge to evaluate one's performance (an expert) would produce greater energization of dominant responses than the presence of another who has seemingly insufficient knowledge to evaluate performance (nonexpert). They hypothesized that if it was the evaluative element that underlies the energization of dominant responses, then the pattern of results observed in an "expert" condition should be duplicated when an individual works alone but believes his or her performance is being recorded for later evaluation. These hypotheses were confirmed. The probability of dominant responses was lower if the audience did not constitute an evaluative element. Dominant responses were emitted more frequently in the expert and alone/recorded condition than in the nonexpert and alone conditions. Again, it was suggested that the mechanism responsible for audience effects is the anticipation of positive or negative outcomes. That is, the presence of others has
energizing effects on performance only when their presence is a sign that the individual will be rewarded or punished.

Further evidence was provided by Paulus and Murdock (1971) that anticipated evaluation is essential for the enhancement of dominant responses in individual performance. Anticipation evaluation was manipulated by either informing or not informing the subject who was alone or with 2 confederates of an impending posttask evaluation of performance. Results revealed that audience appears only to be a source of drive when it is accompanied by anticipated evaluation.

A benefit to utilizing the learned drive theory as proposed by Cottrell et al., (1968) is that it has many testable implications. For example, audience effects would be contingent upon the amount and kind of the individual's social experience. The individual must learn that others are indicators for positive or negative outcomes.

Weiss and Miller (1971) suggested the utilization of 9 methods for varying the strength of audience-induced drive based on the model of learned drive including extinction, summation, generalization, acquisition, and 5 forms of inhibition. "If the drive induced by audience observation is a learned one, then
it should be possible to extend some of the familiar
techniques for the manipulation of drive strength to
the social facilitation situation." For example,
extinction predicts that if "...audience observation
arouses a learned drive, it should be possible to
decrease the drive-arousing power of audience
observation by repeated exposures to that audience
without noxious consequences following from that
observation" (p.46). Weiss and Miller extended the
drive theory of social facilitation to include such
problems as escape and avoidance of audience
observation.

Any application of the theory must include
consideration of the boundary conditions, the selection
of appropriate dependent variables, and the definition
of dominant responses. The boundary conditions of the
theory dictate that an evaluative stance on the part of
the audience is the critical factor in fear arousal.
According to Hullian learning theory, speed (1/latency)
is an appropriate measure to test the hypotheses
proposed by social facilitation. Three ways have been
utilized by research to define a dominant response:
(1) personal preference, (2) population norm, and (3)
special training. After isolating a dominant response
from among a group of mutually competitive responses,
theory can be applied: All responses in the situation will be strengthened by an evaluative audience, but the response originally strongest or dominant will be strengthened more, evidenced by more frequent and vigorous emission.
STATEMENT OF THE PROBLEM

In research related to helping and groups, the variable with the most predictive strength is an external one: the number of others present at the time of the emergency. The salience of this effect could lead to the conclusion that the answer to the question, "Why do people help?" is found in characteristics of the social situation and not in any personal characteristics of the individual. While the model of Social Inhibition developed by Latané and Darley has received much empirical support, it is limited by a lack of flexibility. It is able to account for the decrease in helping given in the presence of others, but it cannot explain why anyone helps at all. The model predicts that even the presence of one other person will be sufficient to significantly suppress the frequency of response. However, it cannot account for the majority of subjects in bystander studies who helped despite the presence of another. Batson, Darley, and Coke (1978) point out that renewed interest in internal determinants of helping has resulted from the inability of the model to account for all the data,
some of which includes suggestions of relationships of internal states to external states. Specifically, arousal and mood have been shown to be related to helping (Piliavin & Piliavin, 1972; Isen & Levin, 1973).

If indeed there are relevant person variables, how do they relate to the external, situational determinants that have been shown to exert a powerful influence on helping? Also, what direction or alteration in method could enhance their discovery? Gergen (1979) argues as follows:

"One significant means of reducing the grip of any theoretical structure is thorough encapsulation by theory of broader scope. Once a given habit of understanding is viewed as an entity within a broader perspective, it becomes objectified, and discussion of its various assets and liabilities is facilitated." (p.210)

The well-known bystander effect is an empirical fact and has spurred much research and theorizing. As yet, however, no model is able to encompass the complexities revealed by the data. Perhaps this is a case of being unable to see the theoretical forest for the empirical trees. It is possible that fact finding
has precluded a search for a broader and more general theoretical scaffold which promises a richer and more encompassing perspective. Understanding the interaction of person and situation may be facilitated by utilizing a theory or theories that are broad enough to provide explanation for and suggest further exploration of seeming contradictions and dead ends.

The interactional strategy suggested above offers the possibility to investigate in a novel manner intriguing but, to date, intractable problems in social psychology. The work of Latané and Darley (1968) and Zajonc (1965) jointly indicates that the presence of others can have both inhibitory and facilitative effects. Zajonc's social facilitation theory, as opposed to Latané and Darley's, is general, and, as a consequence, has more heuristic value. For example, the theory has been extended successfully to such diverse research as sport psychology (Landers & McCullagh, 1976) and the Hawthorne Effect (Bailling, Weiss, & Steigleder, 1985). Certainly the work of Latané and Darley is powerful in its ability to define circumstances (i.e., presence or absence of others) under which people witnessing an emergency would be less likely to help. However, the theory is less successful in predicting when someone will help in the
presence of an audience. Because Zajonc utilized an interactive strategy in the development of his theory, he is able to predict when the presence of others will facilitate or inhibit performance. The purpose of the present research is to utilize Zajonc's social facilitation theory to explain and predict the performance of a witness to an emergency in the presence of another.

The work in social facilitation indicates that the presence of others serves as a source of arousal. According to Zajonc, this arousal would be expected to energize responses in the witnesses' habit hierarchy with the greatest benefit accorded the most dominant response. For example, in emergency situations, witnesses with the correct response (helping) positioned high in their habit hierarchy are expected to have this dominant response facilitated when in the presence of others. Conversely, witnesses with responses other than helping positioned high in their habit hierarchies are expected to have these dominant responses also facilitated by the presence of another. In this case, energization of these competing (incorrect) responses interferes with the performance of the correct response.

In the present research it was assumed that
registered nurses would have the helping response positioned high in their habit hierarchies (the helping response is dominant in emergency situations). Therefore, it was predicted that the presence of another person would facilitate the performance of the registered nurses. It was also assumed that general students would have the helping response positioned low in their habit hierarchies (the helping response is not dominant in emergency situations). Therefore, it was predicted that the presence of another person would impair the performance of the general students; the traditional bystander effect.
METHOD

Subjects

The subjects were 56 female undergraduates (range = 18-53 years of age) who volunteered to participate in an alleged perception experiment. One half of the subjects were registered nurses who were enrolled in a Bachelor of Science program at California State University, San Bernardino. One half were students recruited from courses offered in the University's general education program. In order to ensure the naiveté of the subjects, psychology majors were excluded from the study.

Apparatus and Materials

Each participant completed a short demographic and post-experiment reaction survey which contained an ethics questionnaire (revised from Schwartz & Gottlieb, 1980; Pantin & Carver, 1982). The reaction questionnaire asked the subjects to report what their thoughts and feelings had been when the emergency occurred. The ethics questionnaire asked, for example, questions pertinent to the issue of deception such as "Do you regret having participated in this experiment?"
and "Are you resentful about having been deceived?"
(Appendixes A & B contain the post-experiment
questionnaires).

An orange safety cone, electrical wire, a 1.83 m
ladder, a screwdriver, and a box marked "flourescent
tubes" were used to give credibility to the work area
seen by the subject.

The experiment control area contained a Toshiba
stereo tape recorder (Model Rt-805), a two-way Began
intercom system (Model RIE-1), a LaFayette Instruments
Company clock/timer (Model 54035, 1/100 sec), and a
stopwatch. The control room intercom was connected to
an intercom in the laboratory. The laboratory door and
intercom were connected to a timer functioning on a
microswitch. This switch was tripped by the subject's
pressing the button on the intercom or opening the
laboratory door in response to the emergency, and
provided a measure of response latency.

The subject's chair was placed equidistant between
the door knob and the intercom, measuring 151.13 cm.
An easel was placed in front of the secured chair. In
the audience condition, the evaluator's desk/chair was
located 76.2 cm behind the subject's chair, either to
the right or the left. A felt-tipped pen, a 21.8 X 28
cm pad of paper mounted on the easel, and a master
sheet of 10 geometric figures with dimensions were provided for the subject. A ruler was placed on the confederate's desk.

Procedure

Alone condition. When the subject arrived at the laboratory, she was met by a female experimenter who asked her to read and sign the Consent Form (see Appendix C). A cubicle with a desk and chair was used as a waiting room. The experimenter explained that there were to be two phases to the experiment with Phase 1 involving the completion of a figure drawing task and Phase 2 involving the completion of a set of questionnaires.

The subject was taken to a laboratory down the hall. As the subject and experimenter entered the laboratory, they passed through a short hallway where a workman was standing on a ladder ostensibly repairing the ceiling lights. As they passed the workman, the experimenter said, "Please excuse this mess. There is a man working on the lights." A bright orange safety cone and electrical wiring were placed on the floor requiring the experimenter and subject to walk carefully around the worksite. Once inside the laboratory, the subject was seated in a chair secured directly in front of the easel. Mounted on the easel
was a pad of sketching paper and a master sheet displaying 10 geometric figures. The subject was asked to draw one figure per page according to the shape and dimensions depicted on the master sheet. Each completed drawing was to be placed in a box mounted to the easel. The experimenter explained that she must leave but that the subject could contact her when the task was completed by using the intercom. At this time, the use of the intercom was explained to the subject. Upon leaving the room, the experimenter explained that she would shut the door to that room as well as the door leading to the hall to prevent anyone from disturbing the subject during the task. After answering the participant's questions, the experimenter left and closed both inside and outside doors. After 1 min, the experimenter spoke to the subject over the intercom telling her she was in another laboratory and was testing the intercom. She asked the subject to press the button on the intercom if she was able to hear the experimenter. This was done to ensure that the subject was familiar with using the intercom and would be able to contact the experimenter.

While the subject worked on the task, the confederate workman came in and out of the outside
door, climbed the ladder, and used his tools. Pilot research indicated that, despite being behind a closed door approximately 6 m away, the subject could hear this activity. Three min after the intercom check a taped recording of a workman falling and a 1/100 stopclock timer connected to the laboratory door and intercom switch were begun. At the same time, the experimenter who was in the work area tipped over the ladder, dropped several books, and a metal trash can. The workman's prerecorded moans continued for 15 sec. The subject was given 3 min to respond by either opening the laboratory door to help directly or by using the intercom to notify the experimenter. If the subject did not respond within the allotted time, a 180 sec latency response was recorded. After the subject had either responded to the emergency or 180 sec had elapsed, the experimenter assured the subject that no emergency had taken place and that the workman was unharmed. An extensive debriefing followed where the purpose of the experiment was given, the reasons for the deception discussed, and questions answered (see Appendix D for the Debriefing Statement). The subject then completed a short questionnaire that assessed her attitudes and feelings about the experiment.

Audience condition. The identical procedure was
followed as explained in the alone condition except for the following additions. A female confederate posing as a subject opened the door to the cubicle where the subject was waiting prior to Phase 1. The confederate said, "Oh, excuse me," closed the door and entered another cubicle nearby. The experimenter entered the confederate's cubicle and repeated the instructions that had just been given to the subject. This exchange between the experimenter and the confederate could easily be heard by the subject. After the confederate ostensibly completed the informed consent, the subject and confederate were brought together in a small hallway, directly outside the cubicles. They were told that the experiment required the roles of "drawer" and "evaluator," and that they must decide who would assume which role. They drew from 2 cards presented by the experimenter said to be marked one with the word "drawer" and the other with the word "evaluator." To ensure that the subject played the part of the "drawer," both cards were actually marked "drawer." However, the confederate always reported that her card read "evaluator." The experimenter then lead the subject and confederate to the laboratory where they passed the workman and work area described above. 

In Phase 1, the confederate "evaluator" was seated
behind the subject, either to the right or the left. The evaluator's position was counterbalanced across subjects. The subject was instructed to give each completed drawing to the evaluator who would determine if the drawing was satisfactory by measuring it with a ruler. The evaluator was instructed to request the subject to draw again any figure she felt was not satisfactory. According to a preplanned script, the evaluator always returned figures 1 and 5 for the subject to draw again. When the emergency occurred, the confederate continued her work without a response to the noise. If the subject spoke to her regarding the noise, the confederate replied unemotionally, "I don't know. What do you think?" the debriefing was identical to the alone condition except that the role of the confederate evaluator was explained to the subject.
RESULTS

Because social facilitation theory is developed from general-learning theory, the primary dependent variable for evaluating the specific hypotheses of this research is response latency. Helping response frequency, although not a variable expected to be influenced by arousal, is a traditional measure of Social Inhibition (Darley & Latané, 1968) and is therefore included in the analysis. Consistent with prior work in bystander intervention, subjects who respond within 180 sec were defined as having helped in the emergency, whereas subjects who did not respond within 180 sec were defined as not having helped. The a priori hypotheses were evaluated using a one-tailed 5% Type I error rate.

Helping Response Latency

The subjects' response latencies reported in Table 1 were analysed using a two-way fixed effects analysis of variance (ANOVA). The results yielded a main effect for the dominance of the helping response: the registered nurses responded faster to the emergency than did the general students, $F(1,52) = 3.18, p < .08$. Because latency scores are not normally distributed,
(Table 1. continued)

General Students

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>All (N=28)</th>
<th>Alone (N=14)</th>
<th>Audience (N=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latency</td>
<td>90.631(84.904)</td>
<td>61.919(77.847)</td>
<td>119.344(84.474)</td>
</tr>
<tr>
<td>Years in Occupation</td>
<td>3.769(3.712)</td>
<td>4.850(3.661)</td>
<td>2.687(3.564)</td>
</tr>
<tr>
<td>Felt Tense(^a)</td>
<td>3.857(1.976)</td>
<td>3.429(1.869)</td>
<td>4.286(2.054)</td>
</tr>
<tr>
<td>Felt Should Do Something(^a)</td>
<td>2.857(2.155)</td>
<td>2.429(1.910)</td>
<td>3.286(2.367)</td>
</tr>
<tr>
<td>Unsure of Steps to Take(^a)</td>
<td>4.139(1.800)</td>
<td>3.921(1.859)</td>
<td>4.357(1.781)</td>
</tr>
<tr>
<td>Unsure of Ability to Help(^a)</td>
<td>4.696(2.088)</td>
<td>4.536(2.170)</td>
<td>4.857(2.070)</td>
</tr>
<tr>
<td>Enjoyed Participation(^b)</td>
<td>4.786(1.287)</td>
<td>4.643(1.277)</td>
<td>4.929(1.328)</td>
</tr>
<tr>
<td>Learned About Social Science(^b)</td>
<td>3.214(1.873)</td>
<td>3.571(1.869)</td>
<td>2.857(1.875)</td>
</tr>
<tr>
<td>Learned About Self(^b)</td>
<td>3.464(1.856)</td>
<td>3.714(1.899)</td>
<td>3.214(1.847)</td>
</tr>
<tr>
<td>Participate Again(^b)</td>
<td>5.214(1.067)</td>
<td>5.214(1.002)</td>
<td>5.214(1.311)</td>
</tr>
</tbody>
</table>

\(^a\) Low score equals agree with statement.

\(^b\) High score equals agree with statement.
### Table 1
Means and Standard Deviations of Dependent Measures Provided by the Registered Nurses and General Students

#### Registered Nurses

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>All (N=28)</th>
<th>Alone (N=14)</th>
<th>Audience (N=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latency</td>
<td>53.185(74.714)</td>
<td>47.488(71.999)</td>
<td>58.883(79.625)</td>
</tr>
<tr>
<td>Years in Occupation</td>
<td>8.205(4.940)</td>
<td>8.232(3.972)</td>
<td>8.179(5.908)</td>
</tr>
<tr>
<td>Felt Tense(^a)</td>
<td>4.500(1.915)</td>
<td>4.857(1.916)</td>
<td>4.143(1.916)</td>
</tr>
<tr>
<td>Felt Should Do Something(^a)</td>
<td>2.250(2.119)</td>
<td>2.214(2.155)</td>
<td>2.286(2.164)</td>
</tr>
<tr>
<td>Unsure of Steps to Take(^a)</td>
<td>5.286(1.584)</td>
<td>5.286(1.490)</td>
<td>5.286(1.729)</td>
</tr>
<tr>
<td>Unsure of Ability to Help(^a)</td>
<td>6.179(1.090)</td>
<td>5.857(1.292)</td>
<td>6.500(.760)</td>
</tr>
<tr>
<td>Enjoyed Participation(^b)</td>
<td>4.464(1.374)</td>
<td>4.500(1.454)</td>
<td>4.429(1.342)</td>
</tr>
<tr>
<td>Learned About Social Science(^b)</td>
<td>3.071(1.720)</td>
<td>3.214(1.477)</td>
<td>2.929(1.979)</td>
</tr>
<tr>
<td>Learned About Self(^b)</td>
<td>3.250(1.936)</td>
<td>3.429(1.910)</td>
<td>3.071(2.018)</td>
</tr>
<tr>
<td>Participate Again(^b)</td>
<td>4.429(1.687)</td>
<td>4.429(1.785)</td>
<td>4.429(1.651)</td>
</tr>
</tbody>
</table>

\(^a\) = Low score equals agree with statement.
\(^b\) = High score equals agree with statement.
the same analysis was conducted using a logarithmic transformation \((X = \log_{10}X)\). Again, nurses were found to respond more quickly than general students, 
\[ F_{(1,52)} = 3.742, p < .06. \]

Correlational analyses indicated that response latency was significantly related to the subjects' estimates of how tense they felt when the emergency occurred. The treatment levels, however, audience vs. alone, did not influence the subjects' estimates of how tense they felt. Therefore, in order to control for the arousal variable, a 2 X 2 analysis of covariance (ANCOVA) was performed on the latency scores using the subjects' estimates of their tension as the covariate (Kirk, 1982). The registered nurses helped significantly faster than the general students, 
\[ F(1,51) = 7.24, p < .01. \]

While not adversely affected by the presence of the audience, the response latency of the registered nurses was not facilitated by the presence of an audience as predicted. The general students, consistent with the a priori bystander effect hypothesis, responded slower in the presence of another than when alone, 
\[ t(51) = 2.19, p < .025. \]

Similar results were found using the logarithmic transformation in an ANCOVA design with tension as the covariate. Nurses responded significantly faster than
the general students to the emergency, $F(1,51) = 7.11, p < .01$. While the nurses responded to the emergency faster than the general students, their response times were not facilitated by the presence of the audience when compared to nurses who were alone. Although the results were not consistent with the facilitation hypothesis, the audience did not impair the nurses' response time as it did in the case of the students.

Frequency of Helping

Sixty-four percent of the sample responded to the emergency within 180 sec. While the pattern of results for the nurses was not consistent with the facilitation hypothesis, the nurses' frequency of response to the emergency was not adversely affected by the presence of another. That is, the nurses did not help significantly less often when another student was present than when they were alone (71% vs. 79%). The frequency of helping for the general students provided further support for the bystander effect hypothesis: fewer general students responded to the emergency when in the presence of another student than when alone (36% vs. 71%). $X^2(1) = 3.58, p < .06$. It is interesting to note that, when alone, nurses and general students helped equally as often.
Post-Experimental Questionnaire: The Emergency

Responses to the post-experiment questionnaire (see Table 1) indicated that the nurses and the general students did not differ in their perceptions of their arousal (M = 4.5 vs. M = 3.91) and in their feelings that they should do something in response to the emergency (M = 2.23 vs. M = 2.86). However, the nurses indicated that they were more sure of what steps to take in responding to the emergency (M = 5.29 vs. M = 4.14), t(54) = -2.488, p < .02, and of their ability to respond to the emergency effectively (M = 6.16 vs. M = 4.67), t(54) = -3.273, p < .01, than were the students. These results serve as a manipulation check for the valid assumption that the nurses represent individuals with the correct response positioned high in the habit hierarchy.

Internal Analysis: Helpers vs. Nonhelpers

In order to test the specific hypotheses, the position of the correct response of helping in one's habit hierarchy was determined by using the subject's occupation. An alternative way of determining the subject's helping response strength, albeit post hoc, is to simply observe the subject's response to the staged emergency. Subjects who helped the workman can thus be defined as "helper" regardless of occupation,
whereas subjects who failed to help can be operationally defined as "nonhelpers". An internal analysis was conducted using these classifications.

The most important finding pertains to the effect of the audience on individuals who helped (see Table 2). Although the result is not significant, the audience did facilitate the helper's response latency. Those responding to the emergency in the presence of another opened the laboratory door 2.59 sec faster than helpers in the alone condition, \( t(34) = 1.23, p < .15 \). This finding is in the direction predicted by the social facilitation hypothesis.

Interestingly, the response of the helpers who were registered nurses were found to be facilitated by the presence of the confederate but less so than was the response of the helpers who were general students (see Table 3). In the audience condition, the nurses responded .91 sec faster than the nurses in the alone condition. However, the general students in the audience condition responded 4.5 sec faster than general students in the alone condition. These facilitation effects are not statistically reliable. In addition, the presence of the audience had the effect of significantly decreasing the response variability of the general students. The variance in
Table 2
Means and Standard Deviations of Dependent Measures Provided by Helpers and Nonhelpers

Helpers

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>All (N=36)</th>
<th>Alone (N=21)</th>
<th>Audience (N=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latency</td>
<td>11.858(6.520)</td>
<td>12.938(7.430)</td>
<td>10.345(4.817)</td>
</tr>
<tr>
<td>Years in Occupation</td>
<td>7.643(4.800)</td>
<td>7.079(3.923)</td>
<td>8.433(5.870)</td>
</tr>
<tr>
<td>Felt Tense&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.528(1.682)</td>
<td>3.619(1.910)</td>
<td>3.400(1.352)</td>
</tr>
<tr>
<td>Felt Should Do Something&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.278(.659)</td>
<td>1.286(.644)</td>
<td>1.267(.704)</td>
</tr>
<tr>
<td>Unsure of Steps to Take&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.692(1.834)</td>
<td>4.614(1.831)</td>
<td>4.800(1.897)</td>
</tr>
<tr>
<td>Unsure of Ability to Help&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.431(1.848)</td>
<td>5.167(2.021)</td>
<td>5.800(1.568)</td>
</tr>
<tr>
<td>Enjoyed Participation&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.611(1.293)</td>
<td>4.571(1.326)</td>
<td>4.667(1.291)</td>
</tr>
<tr>
<td>Learned About Social Science&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.417(1.663)</td>
<td>3.667(1.623)</td>
<td>3.067(1.10)</td>
</tr>
<tr>
<td>Learned About Self&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.833(1.890)</td>
<td>3.905(1.921)</td>
<td>3.733(1.907)</td>
</tr>
<tr>
<td>Participate Again&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.000(1.265)</td>
<td>5.143(1.062)</td>
<td>4.800(1.521)</td>
</tr>
</tbody>
</table>

<sup>a</sup> = Low score equals agree with statement.
<sup>b</sup> = High score equals agree with statement.
(Table 2. continued)

Nonhelpers

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Experimental Condition</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All (N=20)</td>
<td>Alone (N=7)</td>
<td>Audience (N=13)</td>
<td></td>
</tr>
<tr>
<td>Latency</td>
<td>180(0)</td>
<td>180(0)</td>
<td>180(0)</td>
<td></td>
</tr>
<tr>
<td>Years in Occupation</td>
<td>3.006(3.432)</td>
<td>4.929(4.605)</td>
<td>1.971(2.175)</td>
<td></td>
</tr>
<tr>
<td>Felt Tense&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.350(1.899)</td>
<td>5.714(1.380)</td>
<td>5.154(2.154)</td>
<td></td>
</tr>
<tr>
<td>Felt Should Do Something&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.850(1.954)</td>
<td>5.429(1.272)</td>
<td>4.538(2.222)</td>
<td></td>
</tr>
<tr>
<td>Unsure of Steps to Take&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.750(1.713)</td>
<td>4.571(1.813)</td>
<td>4.846(1.725)</td>
<td></td>
</tr>
<tr>
<td>Unsure of Ability to Help&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.450(1.791)</td>
<td>5.286(1.496)</td>
<td>5.538(1.984)</td>
<td></td>
</tr>
<tr>
<td>Enjoyed Participation&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.650(1.424)</td>
<td>4.571(1.512)</td>
<td>4.692(1.437)</td>
<td></td>
</tr>
<tr>
<td>Learned About Social Science&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.650(1.927)</td>
<td>2.571(1.618)</td>
<td>2.692(2.136)</td>
<td></td>
</tr>
<tr>
<td>Learned About Self&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.500(1.573)</td>
<td>2.571(1.397)</td>
<td>2.462(1.713)</td>
<td></td>
</tr>
<tr>
<td>Participate Again&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.500(1.732)</td>
<td>3.857(1.952)</td>
<td>4.846(1.573)</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Low score equals agree with statement.

<sup>b</sup> High score equals agree with statement.
Table 3
Means and Standard Deviations of Dependent Measures by Helpers
(Registered Nurses and General Students)

Helpers - Registered Nurses

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>All (N=21)</th>
<th>Alone (N=11)</th>
<th>Audience (N=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latency</td>
<td>10.914 (5.578)</td>
<td>11.348 (5.874)</td>
<td>10.436 (5.506)</td>
</tr>
<tr>
<td>Years in Occupation</td>
<td>9.060 (4.926)</td>
<td>8.114 (3.946)</td>
<td>10.100 (5.859)</td>
</tr>
<tr>
<td>Felt Tense(^a)</td>
<td>3.952 (1.746)</td>
<td>4.545 (1.916)</td>
<td>3.300 (1.337)</td>
</tr>
<tr>
<td>Felt Should Do Something(^a)</td>
<td>1.286 (0.717)</td>
<td>1.182 (0.603)</td>
<td>1.400 (0.843)</td>
</tr>
<tr>
<td>Unsure of Steps to Take(^a)</td>
<td>5.238 (1.546)</td>
<td>5.364 (1.433)</td>
<td>5.100 (1.729)</td>
</tr>
<tr>
<td>Enjoyed Participation(^b)</td>
<td>4.429 (1.326)</td>
<td>4.364 (1.433)</td>
<td>4.500 (1.269)</td>
</tr>
<tr>
<td>Learned About Social Science(^b)</td>
<td>3.095 (1.609)</td>
<td>3.364 (1.502)</td>
<td>2.800 (1.751)</td>
</tr>
<tr>
<td>Learned About Self(^b)</td>
<td>3.524 (1.965)</td>
<td>3.7272 (1.954)</td>
<td>3.300 (2.058)</td>
</tr>
<tr>
<td>Participate Again(^b)</td>
<td>4.571 (1.434)</td>
<td>4.818 (1.250)</td>
<td>4.300 (1.636)</td>
</tr>
</tbody>
</table>

\(^a\) = Low score equals agree with statement.
\(^b\) = High score equals agree with statement.
(Table 3. continued)

Helpers - General Students

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>All (N=15)</th>
<th>Alone (N=10)</th>
<th>Audience (N=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latency</td>
<td>13.179(7.656)</td>
<td>14.686(8.822)</td>
<td>10.163(3.598)</td>
</tr>
<tr>
<td>Years in Occupation</td>
<td>5.660(3.964)</td>
<td>5.940(3.763)</td>
<td>5.100(4.749)</td>
</tr>
<tr>
<td>Felt Tense&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.933(1.438)</td>
<td>2.600(1.350)</td>
<td>3.600(1.517)</td>
</tr>
<tr>
<td>Felt Should Do Something&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.267(.594)</td>
<td>1.400(.699)</td>
<td>1.267(.594)</td>
</tr>
<tr>
<td>Unsure of Steps to Take&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.927(1.981)</td>
<td>3.790(1.931)</td>
<td>4.700(2.280)</td>
</tr>
<tr>
<td>Unsure of Ability to Help&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.367(2.287)</td>
<td>4.150(2.381)</td>
<td>4.800(2.280)</td>
</tr>
<tr>
<td>Enjoyed Participation&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.867(1.246)</td>
<td>4.800(1.229)</td>
<td>5.000(1.414)</td>
</tr>
<tr>
<td>Learned About Social Science&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.867(1.685)</td>
<td>4.000(1.764)</td>
<td>3.600(1.673)</td>
</tr>
<tr>
<td>Learned About Self&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.267(1.751)</td>
<td>4.100(1.969)</td>
<td>4.600(1.342)</td>
</tr>
<tr>
<td>Participate Again&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.600(.632)</td>
<td>5.500(.707)</td>
<td>5.800(.447)</td>
</tr>
</tbody>
</table>

<sup>a</sup> = Low score equals agree with statement.

<sup>b</sup> = High score equals agree with statement.
the audience condition was found to be 6 times smaller than in the alone condition $F_{\text{MAX}}(2.9) = 6.00, p < .05$. The nurses in the audience condition also evidenced a reduction in response variability, albeit nonsignificant.

An analysis of the post-experiment questionnaire provided a number of interesting results (see Table 2). Helpers reported being significantly more tense than nonhelpers when the emergency occurred, $t(54) = -3.50, p < .01$. Responders reported being more tense than nonresponders when the emergency occurred in both the alone condition, $t(26) = -2.96, p < .01$, and the audience condition, $t(26) = -2.39, p < .025$. The source of arousal can thus be attributed to the emergency rather than to the presence of the confederate. The helpers also indicated that it was their responsibility to do something to assist in the emergency, $t(54) = 7.73, p < .001$. The responders and nonresponders did not differ in their confidence about what steps were to be taken to assist the workman or in their ability to successfully help.

Post-Experiment Questionnaire: The Deception

The subjects' responses to the questionnaire administered following the debriefing revealed results pertinent to the issue of deception (see Table 2). A
significant positive correlation was found between the subjects' feeling that they had learned about the social sciences as a result of the experiment and a willingness to volunteer for another experiment, $r(54) = .35$, $p < .004$. Also, the subjects' willingness to volunteer for another experiment was positively related to their belief that they had learned something about themselves as a result of participating in the experiment, $r(54) = .38$, $p < .002$. Not unexpectedly, subjects who said they enjoyed the experiment also said they would be willing to participate again, $r(54) = .42$, $< .001$.

Despite the deception, 93% of the subjects said the research was justified, and 98% said it should be continued. Ninety-six percent of the subjects indicated that they were satisfied with the explanation about the experiment's purpose, that they did not regret participating in the experiment, and 100% stated that they were not resentful about having been deceived.
DISCUSSION

Consistent with Pantin and Carver's (1982) competency hypothesis, the most salient finding of the present research was the failure of the registered nurses to evidence the bystander effect. Also, nurses in the audience condition responded faster than the nurses in the alone condition, albeit nonsignificantly. Thus, the prediction that their responding would be facilitated by the presence of the audience cannot be supported at this time. A plausible explanation of this finding will be discussed below. In contrast, the results indicated that the general students' response to an emergency was adversely affected by the presence of the confederate. Students witnessing the emergency in the presence of another responded significantly slower than the students witnessing the emergency alone.

The categorical data evidenced a similar pattern of results. While the frequency of help provided by the registered nurses was not facilitated by the presence of the audience, it was not significantly diminished. In general students, on the other hand were found to
be adversely affected by the presence of another person. As expected in the audience condition, general students were found to help the workman significantly less often than other general students who were alone.

In summary, results of the present research contribute to an extensive body of literature on the bystander effect. The research also contributes important information about the limitations of the bystander effect. Although the facilitation hypothesis did not receive statistical support, it has been demonstrated that the bystander effect cannot be extended to subjects who are competent to respond effectively to emergencies. Like Pantin and Carver (1982), the present research indicates that competent witnesses are not inhibited from responding to an emergency by the presence of another. The work of Latané and Darley does, however, provide a plausible explanation for this effect. Unlike the general students, the nurses would not be expected to fear negative evaluation from an audience, nor would they be likely to attribute responsibility for helping to others present during the emergency.

Social facilitation theory was used to predict a bidirectional effect. The general students were expected to respond slower to the emergency when in the
presence of the confederate than when alone, and the nurses were expected to respond more quickly. Arousal emanating from the audience was expected to energize responses that would compete with the helping response in the general students while facilitating the helping response in the nurses. Without support for the facilitation hypothesis, it cannot be concluded that the general students' failure to respond in the audience condition was the result of the energization of responses that competed with the correct response. Hence, an explanation of the bystander effect by social facilitation theory is not compelling in light of the failure to find a facilitation effect.

An explanation for the failure to find a facilitation effect lies in the possibility that, given the situational characteristics of the experimental arrangement, the emergency was perceived as a nonambiguous event by the nurses. As noted above, ambiguous emergency situations are responded to less swiftly and less frequently than are nonambiguous emergencies. If the nurses perceived the workman's need as a nonambiguous emergency, it can be argued that the nurses in both the alone and audience conditions were responding at their maximum potential. In other words, the nurses' data may evidence a "ceiling"
effect. If such an effect exists, the possibility for discovering response facilitation in the present design would be greatly reduced. Theoretically, if a more ambiguous emergency were staged, facilitation of the helping response for competent witnesses would emerge in the audience condition. Responding by the general students should not evidence the ceiling effect, and, in fact, some facilitation occurred in the audience condition. When the helping response latencies for the general students in the audience condition are compared to the response latencies of the students in the alone condition, a moderate facilitation effect was observed. In the audience condition, the general students who responded did so 4.53 sec faster than the general students who helped in the alone condition. Traditionally, bystander effect researchers do not examine those subjects who do help in the emergency, but, as noted above, concentrate attention on the people who do not help. The present research indicates dramatically that more attention must be paid to the people who do help in both experimental conditions. The development of an adequate theory of altruism makes such an emphasis paramount.

As would be expected, the registered nurses indicated that they were more sure of what steps to
take in responding to the emergency and of their ability to respond effectively than were the general students. Such attitudes are consistent with the assumption that the nurses are people with the correct helping response positioned high in the habit hierarchy. Using occupational status to determine the position of the helping response in habit hierarchy is admittedly an arbitrary decision. In terms of a more traditional psychological approach, future research may profit from the use of personality measures as indicators of habit strength. A more fully developed discussion of this research strategy is offered below.

Traditional learning theory emphasizes the measurement of response tendencies rather than attitudes or beliefs, but the variables measured and reported here are consistent with an approach to social learning that Neal Miller (1959) termed "extensions of liberalized S-R theory". The nurses and general students did not differ in their perceptions of their arousal and of their feelings that they would do something in response to the emergency. When the responses of those who helped and those who did not, regardless of occupational status, are compared a different pattern of attitudes and beliefs emerges. Helpers, as opposed to nonhelpers, reported being more
aroused when the emergency occurred. Arousal was reported by the helpers in both the alone and audience conditions. As noted above, a slight, albeit, nonsignificant facilitation effect for the student helpers in the audience condition was observed.

Helpers, as opposed to nonhelpers, also indicated that it was their responsibility to do something to assist in the emergency. Interestingly, helpers and nonhelpers did not differ in their confidence about what steps were to be taken to assist the workman or about their ability to successfully help. This finding is not consistent with the Latané and Darley model of bystander intervention. According to the model, a witness to an emergency goes through a series of "cognitive steps" to decide whether or not to provide assistance. The model suggests that the bystander assumes responsibility for intervention prior to deciding what steps to take in order to help. Theoretically, if the individual responds negatively at any step in the decision making process (i.e., deciding not to assume responsibility) the possibility of intervention for the person is thereby eliminated. Therefore, if an individual does not assume responsibility for intervention, determining what steps to take to assist will not occur. However, in the
present research, although the nonhelpers decided helping was not their responsibility, they were confident of what steps were needed to be taken to help and of their ability to successfully help the workman.

Ethical Considerations

The present research involved deception which is, perhaps, the most controversial issue in contemporary social psychology. Over the last 20 years, two extreme positions have developed. On one hand, several researchers have argued that without deception the work of social psychologists could not be completed, and that any experimental treatment that does not physically or psychologically harm the subject is justifiable. Researchers at the other extreme have advocated that no amount of deception is ethically justifiable, and that nondeceptive methods could be developed if social psychologists would be more creative. Arguments have been developed stating that, while subjects may not indicate any physical or psychological injury following participation in an experiment, they may later become skeptical of authority and devalue the role of science in society. Most social psychologists conduct their research within ethical positions that fall between these extremes, avoiding deception when a creative alternative can be
developed, but employing deception where theoretically justified and where the subjects' rights are fully protected.

The present research required deceiving the participants about the true nature and purpose of the experiment. An extensive debriefing was performed which included gathering information about each subject's attitudes and perceptions of the research. The results of this follow-up indicate that the subjects understood the need for deception and the role it plays in collecting valid behavioral information. An extremely high percentage of the subjects believed that the use of deception in the present research was justifiable and that the research should continue. These findings may have been influenced by the subjects' positive attitudes about the general goals of the research (i.e., investigation of helping). It can be argued that in such an atmosphere subjects would be more inclined to attend to the investigation's positive qualities rather than having been deceived.

Perhaps the most interesting finding is that the more the students felt that they had learned something about the social sciences and something about themselves, the more they were willing to participate in research of a similar nature again. The subjects
also indicated that the more they enjoyed the experiment, the more they were willing to participate in future research. This pattern of results indicates clearly that it is important that experimenters make the subjects' participation a learning experience. The experimental situation can provide a mutual learning environment where participants supply information to the experimenter and, in turn, learn about research and, possibly, themselves. It is in this kind of environment that the role of deception in research can be explained to and understood by the participants, and that no harm of any kind need be incurred.

Theoretical and Methodological Extensions

Two decades of research have asked the question, "Why don't bystanders help?", and the answer has consistently been, "The presence of another is sufficient to significantly inhibit helping." Despite the significant reduction of helping in the presence of another, there are many for whom this situational variable has no negative effect. The use of an interactional strategy in the present research is of heuristic importance. The finding that the presence of an evaluative audience did not only fail to inhibit the behavior of certain subjects but succeeded in decreasing the response latency, albeit nonsignificantly, warrants
further examination of subjects who would not be expected to exhibit the bystander effect. It is disconcerting from the perspective of the concerns of the present study to ponder the many studies conducted on helping which collected data on helpers as well as nonhelpers, but did not thoroughly examine it.

Latency scores of a particular group (i.e., those in an audience condition) are traditionally averaged, and the mean is reported. However, those who do not respond in helping manipulations are typically given a 180 sec or 360 sec latency score. When these scores are combined with the scores of those who do respond to the emergency, the mean obtained is misleading. One characteristic of the mean is its sensitivity to extreme scores. Because the mean has been used in bystander research, the behavior of those who helped in the presence of another has been veiled. The use of an interactional strategy would promote consideration of the helpers as well as the nonhelpers and would preclude such elimination of either personal or situational variables.

According to the guidelines of the interactional approach (Pervin, 1978) explanations of interactions are not to be made post hoc, but rather predictions are to be generated within the context of a theory. The
present research suggests that the salient bystander effect may be more appropriately understood as an entity within a more general and inclusive theoretical structure in which it plays a real but limited role. As noted above, a broader and more general theory may suggest research that subsumes the existing data.

Consistent with the approach of the present research, Adler's (1956) Individual Psychology is both a social and interactional psychology, encompassing both objective and subjective dimensions. Not only does it emphasize the social nature of man, but seeks to be practical in the social application of psychology theory. Also, among its basic concepts is the assumption that all behavior occurs in a social context. While the individual is considered to be self-consistent, behavior will depend on the situations which confront him or her. Thus, multi-causality and multi-directionality of behavior is assumed.

Adler's major concept, social interest, denotes the aptitude through which the individual becomes responsive to reality, the social situation. Transcending interpersonal transactions is the development of the feeling of being a part of a larger social whole, the feeling of being socially embedded, and the willingness to contribute the communal life for
the well-being of the whole. This includes an interest in and concern for others which involves such processes as identification and empathy with others, cooperation and altruism.

Adler's psychology emphasizes the consequences of behavior and values socially useful action as more important than merely professed social interest. Thus, the concept of activity becomes significant as it reflects the energy level of the individual life. Each life has a definite characteristic level of activity and a definite degree of social interest which interact to give direction to the activity. "The degree to which social interest is developed in a person gives the measure... of his actions. Whether social interest will be a potent or an insignificant force depends on whether it has been cultivated or has remained undeveloped." (1956, p.156)

The interactional approach is apparent in the following quote by Adler:

"For me there can be no doubt that everyone conducts himself in life from the very beginning of his actions as if he had a definite opinion of his own strength and his abilities and a clear conception of the difficulty or ease of a problem at hand."
Attitudes regarding one's own efficacy and the receptivity of the surroundings to one's behavior interact to contribute to the individual's demonstrated degree of social interest.

While ideas presented in the theory are not fully systematized, and it is not clear what operations should be used to measure a specific variable, efforts to state Adler's views as objectively testable hypotheses are consistent with the practical emphasis of Individual Psychology. O'Connell (1971) pointed to several important methodological similarities of Individual Psychology and behaviorism:

"Both see the movements of an individual toward his goal as the basic psychological reality; both see these movements taking place in a social environment as transactions influenced by the consequences they generate... Both distrust reified terms and emphasize concrete data." (1971, p.93)

Adlerian theory addresses not only the concerns of social psychology and utilized interactional reasoning, but is amenable to empirical testing. It is therefore suggested that psychological inquiries into the
questions about altruism, specifically why people help and in which situations they will help, would benefit from considering the grand theory of Adler's psychology. It would be consistent with Adler's psychology to develop an understanding of an individual's social interest and integrate it with knowledge about particular situations. This interactional strategy is an alternative means for developing predictions about altruism.

Adler's ideas fit comfortably within the theoretical framework of the present research. For example, an individual with a highly developed degree of social interest (behavior) might be expected to perform differently when faced with an emergency when in the presence of others than would an individual with a less well developed degree of social interest. Also, any individual would be expected to perform differently when alone that when in the presence of others. While Adlerian psychology in its present form could not predict the facilitation or bystander effects examined in the present research, it is sensitive to the possibility that such multi-directional phenomenon could logically exist and be explainable from a single theoretical vantage point.
APPENDIX A

Demographic Questionnaire

1. How old are you? (please check one)
   18-23 ___  24-28 ___  29-33 ___  34-38 ___
   39-43 ___  44-48 ___  49-53 ___

2. Education
   A. Level (please check one)
      Freshman ___
      Sophomore ___
      Junior ___
      Senior ___
      Some graduate training ___
   B. Major (please check one)
      Administration ___
      Education ___
      Humanities ___
      Natural Sciences ___
      Social and Behavioral Sciences ___

3. Are you employed? (please check one) yes__ no __

4. What is your occupation? _________________________

5. How many hours per week do you work? _____

6. Number of years in present occupation? _____
7. Does your work have supervisory responsibilities?  
   yes ___  no ___  
   If you answered yes to question 7 please answer  
   questions 8 and 9. If you answered no to question  
   7 please go on to question 10.  

8. Do you enjoy the supervisory role?  yes ___  no ___  

9. How many people do you supervise?   ___  

10. Where do you work?  ____________________________  

11. What kind of career would you like to have in 5  
    years?  ________________________________  

12. What service or social groups do you belong to?  
    (please list)  
    _________________________________________  
    _________________________________________  
    _________________________________________  
    _________________________________________  
    _________________________________________
APPENDIX B

Post-Experiment Questionnaire

Subject's Reaction Questionnaire

Please place a check in one of the blank spaces which follows each of the statements below.

1. When the emergency first occurred...

   a. I felt very tense or nervous.
      (1) Strongly Agree ____ (5) Disagree ____
      (2) Moderately Agree ____ (6) Moderately Disagree ____
      (3) Agree ____ (7) Strongly Disagree ____
      (4) Neutral ________

   b. I felt I should do something to help.
      (1) Strongly Agree ____ (5) Disagree ____
      (2) Moderately Agree ____ (6) Moderately Disagree ____
      (3) Agree ____ (7) Strongly Disagree ____
      (4) Neutral ________

   c. I was unsure of what steps to take to try to help.
      (1) Strongly Agree ____ (5) Disagree ____
      (2) Moderately Agree ____ (6) Moderately Disagree ____
      (3) Agree ____ (7) Strongly Disagree ____
      (4) Neutral ________

   d. I was unsure that I had the capability to help.
      (1) Strongly Agree ____ (5) Disagree ____
      (2) Moderately Agree ____ (6) Moderately Disagree ____
      (3) Agree ____ (7) Strongly Disagree ____
      (4) Neutral ________
2. I enjoyed participating in this experiment.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Somewhat</th>
<th>Quite</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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3. I found the experiment instructive about social sciences.

<table>
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<th>Not at all</th>
<th>Somewhat</th>
<th>Quite</th>
<th>Very Much</th>
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<tr>
<td>0</td>
<td>1</td>
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4. I found the experiment instructive about myself.

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<tr>
<th>Not at all</th>
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<tbody>
<tr>
<td>0</td>
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5. I am willing to participate in another experiment in the future.

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<th>Not at all</th>
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<th>Quite</th>
<th>Very Much</th>
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<tr>
<td>0</td>
<td>1</td>
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6. As a result of my participating in this experiment, I am:

   a. More/less likely to help in the future

<table>
<thead>
<tr>
<th>Much</th>
<th>Less</th>
<th>Somewhat</th>
<th>Less</th>
<th>Same</th>
<th>Somewhat</th>
<th>More</th>
<th>Much</th>
<th>More</th>
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   b. More/less trusting in authorities

<table>
<thead>
<tr>
<th>Much</th>
<th>Less</th>
<th>Somewhat</th>
<th>Less</th>
<th>Same</th>
<th>Somewhat</th>
<th>More</th>
<th>Much</th>
<th>More</th>
</tr>
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</table>
c. More/less positive about my evaluation of experimental research

<table>
<thead>
<tr>
<th>Much Less</th>
<th>Less Less</th>
<th>Somewhat Less</th>
<th>Same</th>
<th>Somewhat More</th>
<th>More More</th>
<th>Much More</th>
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7. Should this research be permitted to continue?
   _____ yes  _____ no

8. Is the research justified?
   _____ yes  _____

9. Did the explanations about the purpose of the experiment satisfy you?
   _____ yes  _____

10. Do you regret having participated in this experiment?
    _____ yes  _____ no

11. Are you resentful about having been deceived?
    _____ yes  _____ no
APPENDIX C

Consent Form

I understand that I am going to participate in a social psychology experiment. This experiment involves 3 phases and I understand that I can quit the experiment at any time. I also understand that my performance will be kept strictly confidential. I agree to participate.

NAME (print) _________________________________

SIGNATURE _________________________________

DATE __________________________
APPENDIX D

Debriefing Statement

The noise you just heard was part of the experiment. This experiment was designed to investigate a major research area in social psychology. We are interested in finding out what people do in an emergency situation. We have found that no two people react to the emergency in the same way. It seems that everyone is different in this respect. There seems to be no right or wrong way to react to an emergency. This experiment was designed to test this idea. Unfortunately, in order to investigate emergencies, a small deception is necessary. We are sorry that we could not tell you about the emergency before it happened. If you had known about it your reaction to it may have been affected. (In evaluator condition: the evaluator works with us and had full knowledge of the experiment.) It is our sincere hope that you understand the necessity of deceiving you and that you can help us in completing this experiment by not speaking to anyone on campus about your experiences here today. As you can see, the validity or importance of your participation in the experiment can be compromised if others become aware of the experiment's purpose.
This experiment conforms to the ethical principles established by the American Psychological Association. The experiment is over, but we are interested in obtaining your reactions and feelings about our study. This information serves as a basis for checking and evaluating the quality and care with which our research is conducted.

This questionnaire is intended to determine how subjects respond to the experiments conducted in our laboratory and other laboratories conducting similar research. Please be as frank as possible in your answers.
REFERENCES


