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A ROLE-PLAYING SIMULATION OF OBEDIENCE: FOCUS ON INVOLVEMENT

by

DANIEL M. GELLER

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York.

1975

. . . in ordinary life, truth is what really exists, what a person really knows. Whereas on the stage it consists of something that is not actually in existence but which could happen.

--Constantin Stanislavski
An Actor Prepares, p. 121.

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

August 15, 1975
date

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Chairman of Examining Committee

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Introduction

In psychological research with human subjects, it is generally agreed that it is desirable to be as straightforward and honest with subjects as is possible. The importance of openness in the relationship between the investigator and the research participant has been recognized as a principle of ethical research (Cook et al., 1973). But sometimes experiments cannot be easily carried out unless some information is kept from the subject and, in many cases, some misinformation is used in the procedures. For example, a study in social influence may be carried out in the guise of a study of perception; a person may appear to be administering electric shocks which are, in fact, not actually delivered. The term deception is commonly used to describe methods that in some way mislead the subject through the use of technical illusions, masking, or explicit misinformation. It has been well documented that deception methods have become the rule, not the exception, in social psychology (Stricker, 1967; Seeman, 1969).

The appropriateness, and necessity, of the use of deception was seriously questioned over twenty years ago (Vinacke, 1954). More recently it has been criticized for being a game in which too much energy is invested, as not showing enough respect for the subject, and as being a means which may not always be justified by the ends (Kelman, 1967; Ring, 1967; Schultz, 1969; Seeman, 1969). Kelman (1972) has

elaborated some of the ethical and social dilemmas posed in the use of deception.

While the ethical and methodological arguments against deception must be taken seriously, the advantages of deception methods must also be recognized (McGuire, 1967; Cook et al., 1973). Deception in itself is neither bad nor good; but it is in conflict with the principle of informed consent. Informed consent implies that a prospective subject's decision to participate in an experiment should be based on sufficient and accurate information about the research. What is considered sufficient information? The American Psychological Association provides only evasive answers:

> Failure to make full disclosure gives added emphasis to the investigator's responsibility to protect the welfare and dignity of the research participant. . . . When the methodological requirements of a study necessitate concealment or deception, the investigator is required to ensure the participant's understanding of the reasons for this action and to restore the quality of the relationship with the investigator. (Cook et al., 1973, p. 29)

Psychologists are beginning to recognize that the line between obtaining informed consent and failure to obtain it is a thin one. Further, the nature of the informed consent is very much a function of the relationship between the investigator and the research subject, and their respective positions in society. In a pioneering article on the rights of subjects, Kelman (1972) has confronted the value-laden aspects of the investigator-subject relationship. Informed consent, he maintains, is a normative understanding between the investigator and subject, which, when violated, poses a number of ethical problems. The nature of this norm, and thus the problems surrounding its violation, vary according to the status and power differentials between the parties.

Once informed consent has been legitimately obtained, however, the researcher has considerable leeway in exposing the subject to stress.

> Subjecting a subject to an uncomfortable or disturbing experience, even if it entails some risk of longer term consequences, is ethically acceptable if the subject has freely agreed to participate in full knowledge of the risks involved. (Kelman, 1972, p. 1002)

Generally, when deception is used, it is considered appropriate to minimize the effects of the deception, especially when it has led to stress, by debriefing the subject, or giving him true feedback, and giving him time to talk about his feelings (Kelman, 1967). The effectiveness of such debriefing has been empirically tested by Ring et al. (1967) and, in a more complex procedure which begins to answer the question of how much information constitutes informed consent, by Berscheid et al. (1973).

The consequences of deception methods may be considerable for the researcher, the subject, and the field of psychology. The effects of deception may be partially irreversible, regardless of the debriefing undertaken, leading to confusion, distrust, and suspicion on the part of the subject (Seeman, 1969; Argyris, 1968; Fillenbaum and Frey, 1970; Stricker, 1967). While the short term effects of this contamination of naive subjects can be ignored, in the long run psychologists risk both their reputations as researchers and the future possibility of locating enough sufficiently naive subjects to conduct their research. Indeed, Mixon (1974b) has noted that to some, the experimental social psychologist's reputation may be somewhat like that of the con artist, with whom he shares a tendency to employ methods of delusion.

Nevertheless, deception methods are still widely used, for a

number of reasons. First, it is difficult to study some socio-psychological phenomena without the use of some illusion or misinformation. And second, there is a definite lack of alternative methods which are considered acceptable. There is nothing intrinsic in the use and design of deception experiments which makes them popular among social psychologists; the satisfaction of designing a clever deception experiment is no greater than that achieved by designing any other type of well-controlled experiment. Thus, deception methods will continue to be used and taught until acceptable alternative methods are devised.

A number of suggestions for change in laboratory methods have been made with the goal of overcoming the ethical dilemmas discussed above. One of them, more of a stopgap measure than a solution, predated much of the debate over informed consent. Campbell (1969) proposed that ethical problems could be largely avoided by informing all those in subject pools that some of the experiments would involve deception. At this time, most psychologists would agree that more extensive changes in methods would be more useful.

The Requirements of an Alternative Method

Before considering other alternatives available, we should delineate the goals that an alternative method must meet to be considered acceptable.

First, and perhaps most obviously, any method proposed as an alternative to deception must make no use of deception itself. Warnings about imminent deception provide little additional evidence to help the subject decide on his willingness to participate. In addition, proposed government regulations on the use of human subjects may

prohibit all deception (Trotter, 1974). The second requirement of an alternative is that the subject's willingness to participate must be obtained through informed consent. Third, any alternative must maintain the integrity of the researcher by being straightforward and honest. Any misinformation, whether related to procedure or purpose, compromises the reputation of the discipline and undermines the subject's informed consent. The fourth requirement is that no harm, psychological or physical, should be permitted to the subject and that any stress or discomfort should be minimal and temporary, so that the subject will, on leaving the laboratory, be comfortable and feel substantially the same as he did before his participation. This last requirement is, of necessity, somewhat subjective and flexible; if not, much research which ended in the subject's learning something about himself would be prohibited.

Two Alternatives: Participatory Research and Simulation

At this time, only two alternatives have been proposed which appear to meet the above criteria. They are similar, in that they take advantage of the subject's willingness to cooperate with the investigator. One of these alternatives, participatory research, represents a radical departure from traditional methods. According to Kelman (1972) who suggested this as yet untested approach, the subject becomes an active participant in a "joint effort" with the investigator. Thus, the subject ceases to become a subject in the usual sense and actually contributes along with the investigator. The subject, himself interested in the outcome of the research, would aid in its design and implementation. However, no example of such a procedure is as yet

available, and its utility remains to be demonstrated.

The second alternative, simulation, refers to the engagement, by the subject, in some kind of as if behavior in a situation which all pretend is real. Only one type of simulation, role playing, can be viewed as an alternative to the deception methods typically used by the social psychologists in a laboratory setting. The evidence in support of role-playing methods will be reviewed below.

Support for Role-Playing Methods

Vinacke (1954) first suggested using role playing as an alternative to deception, although he did not use the term "role playing" when he decried "subterfuge and dishonesty" and called for studies using the same paradigm with two groups, one deceived and one not deceived. Stimulated by the successful use of role playing, although not as an alternative to deception, in which Rosenberg and Abelson (1960) studied cognitive balancing, Brown (1962, p. 74) wrote: "We believe that a role-playing subject will behave in a way that corresponds more closely to the life situation than a hoodwinked subject will." Later, Brown (1965) suggested that instead of concealing experimental manipulations we reveal them to the subject and ask him to help us.

Citing the effective use of laboratory simulation in international relations (Guetzkow et al., 1963), Kelman (1967) proposed that role playing be considered as a promising alternative experimental method. Through reports of his own preliminary attempts with role playing, and his well taken arguments, Kelman provoked the first empirical and theoretical work using role playing as an alternative to deception.

It should be noted that variants of role playing had already been

used in attitude change studies, in which subjects were typically instructed to role play advocating a given position; in these studies, role playing is not, of course, an alternative to deception and is often used in conjunction with deception (Greenberg, 1967). For a review of studies in attitude change using role playing see Elms (1967).

What is Role Playing?

Before proceeding with a review of recent research using role playing as an alternative to deception, it is important to define role playing. In general, role playing refers to a wide range of *as if* behaviors. The use of the term, and the assumptions on which its use is based, can be loosely traced to two literatures--role theory (cf. Mead, 1934; Biddle and Thomas, 1966; Sarbin and Allen, 1968) and psychodrama (cf. Moreno, 1972).

There is no one accepted definition of role playing, for the definitions differ according to the perspectives of role theory, psychodrama, and experimental social psychology. One general definition, coming from role theorists, states that role playing means "commitment, involvement, and even dead seriousness in carrying out one's role" (Sarbin and Anderson, 1967, p. 327). However, role playing as an experimental method implies much more.

When applied to the psychology experiment, role playing simply means that "the experimenter asks a subject to act as if some condition or conditions obtained which in fact do not" (Hamilton, 1974, pp. 7-8, italics omitted). This is Hamilton's definition of "role play," a term she uses without explanation in lieu of the generally used term role playing. This definition, however, does not attend to the critical

distinction between role playing and role taking, a source of considerable confusion among experimental social psychologists.

Coutu (1951) differentiated role taking, imagining what another would do, and role playing, enacting what one considers to be one's own appropriate role in a particular situation. Thus, role taking and role playing differ on two dimensions, the type of activity called for and the locus of the role concerned. Role taking implies mental activity while role playing implies performance or overt behavior (Mixon, 1974b). In addition, the taken role is that of another person, while the played role is that of oneself in another situation.

A further distinction must be made to fully understand role playing as an experimental method. In role playing, the emphasis is on playing a role in a situation which one knows to be make believe, as opposed to playing one of the many roles of daily social life, such as spouse, employee, parent, child, friend.

The distinction between role playing and role taking closely parallels Mixon's (1971, 1972, 1974b) distinction between two types of simulation, active and nonactive role playing. In nonactive role playing, which by name implies that it lacks realism and spontaneity, the subject is typically given a description of the experiment and asked to predict or imagine the outcome. Active role playing implies that the subject, or actor, as Mixon prefers to call him, is an active participant or performer in the experiment. Mixon's definition of nonactive role playing is rather similar to that of role taking. There is, however, a distinction; in nonactive role playing, like active role playing, Mixon contends that the subject can respond either

as a specifically described character or as himself, as a representative of Everyman (e.g., a typical subject). There is another response possible for the subject, which Mixon failed to consider--he may respond as himself in a particular situation without attempting to represent a typical subject.

In psychodrama and attitude change studies, role taking is implied, although the term role playing is used. In experimental simulations, both role playing and role taking have been used, although both under the term role playing. Clearly, some of the confusion regarding role playing will be reduced when it is realized that only role playing, not role taking, is useful for laboratory simulation.

In role playing as-an-alternative-to-deception studies, the participant is fully informed about the research methods and procedures; he is not deceived, misinformed or deluded. He is simply asked to act as if he were a naive participant in a real situation. Mixon (1974b) suggested that rather than pretending to deceive, we should instead ask the subject to cooperate with us in producing an illusion, as is the case in theatre. In role playing we are identifying the experiment as one which requires certain technical illusions and asking the subject to cooperate.

This proposal does not, unfortunately, resolve all of the confusion surrounding the term role playing. One of the most widely quoted and most critical articles on role playing (Freedman, 1969) adds to the misunderstanding of role playing. Aronson and Carlsmith (1968) have provided a useful measure of "experimental realism" which ranges from role playing at one extreme to a situation in which the subject is

unaware of his participation in an experiment, at the other extreme. Their conceptualization of role playing is, however, limited to what Freedman notes is the low end of the role-playing continuum (actually role taking), in which the senario is explained to a class of students who are asked to guess how subjects will respond. On the other end of the continuum is a role-playing study in which the subject is run through the experiment with all of the props except that he is aware of the presence of confederates and technical illusions. Freedman acknowledges that, at the time of his article, he knew of no role-playing study of the latter type, yet despite a lack of evidence he wrote that "the use of role playing under most circumstances constitutes a return to the prescientific days when intuition and consensus took the place of data" (Freedman, 1969, p. 108). This low-realism, psychology-by-consensus type of role playing is hardly what psychologists who have advocated role playing as a substitute method had in mind. This is not to say that psychology-by-consensus role playing (or nonactive role playing) cannot be of interest and value, as Milgram (1963, 1974) has shown by the failure of both Yale students and psychiatrists to predict the results of his obedience studies.

There still remain, however, other typologies of role playing. Kelman (1972) categorizes role playing into three broad types: (1) the subject plays the role of a subject in a deception study; (2) a laboratory simulation in which the subject is asked to play a real life role (e.g., inter-nation simulations); and (3) a structured game which, like Monopoly, can be highly involving.

There is an important distinction between <u>prebriefed</u> and <u>forewarned</u>

variants of role playing (Willis and Willis, 1970) in Kelman's first type of role playing. Prebriefed subjects are told about confederates in the study and are informed that it is their own behavior which is being investigated. Forewarned subjects are simply told that they will be misinformed, although specific details are not provided. Subjects in either variant are asked to act as if the situation were real. Clearly, however, forewarned role playing fails to fully meet the first three requirements of an alternative method as stated above and prebriefed role playing, according to Hamilton, "produces results generalizable only to situations where it is explained to people beforehand how they would have been fooled" (Hamilton, 1974, p. 20).

At this point the need for an overall schema of role-playing methods is evident. Hamilton (1974) has provided such a schema, which she divided into the Form Dimension and the Content Dimension. The Form Dimension includes three factors (which go significantly beyond those proposed by Mixon), each of which varies on the continuum of active to passive as follows. (1) The subject is asked to either imagine or perform his role, as in Mixon (1971). (2) The Scripted-Improvised distinction refers to the extent to which the acting is structured or unstructured, and applies only to performed role playing. (3) The verbal-behavioral dichotomy refers to the nature of the dependent measures (although behavioral measures may include verbal statements as well).

The Content Dimension, which relates to the level of involvement in the role playing, also includes three components: (1) The person the subject is asked to portray (himself or another); (2) The role in

which the subject is placed (laboratory or other); (3) The context of the acted or imaginary performance.

Studies Using Role-Playing Methods

The uses of role playing in attitude change studies and inter-nation simulations have been briefly mentioned. There are two additional role-playing methods to be considered before discussing role playing as an alternate to deception. Studies of hypnosis have compared the responses of hypnotized subjects to those simulating the behavior of hypnotized subjects (Rosenberg, 1960; Orne et al., 1968; Sheehan, 1970). In another type of role-playing study the subject, as an observer, is asked how he would have responded (Deutsch, 1960). Many studies of this type are associated with self-perception theory (Bem, 1967). Recently, role playing was used in the midst of a deception study in an extension of Bem's approach (Kopel and Arkowitz, 1974).

In the first important study to use role playing as a substitute for deception, Greenberg (1967) attempted to replicate Schachter's (1959) well known findings on affiliation. Role-playing subjects failed to respond to his manipulation of anxiety level; only by using actually reported, post hoc anxiety were the predicted results obtained. Miller (1972) suggests that this anxiety may ultimately have been of a real, not role-played, nature, thus raising some questions about the ethical advantages of role playing. This interpretation seems unlikely, however, given the type of role playing used: subjects were seated in their desks in a classroom and asked to pretend they were subjects about to take part in an experiment. The requisite shock generator was displayed before the class for experimental realism, but otherwise

there was little to help the subjects play their role, the rest being largely done on paper. Though only a qualified success, and rather low on the role-playing realism continuum, Greenberg's study has served as an important stimulus for role-playing studies.

Willis and Willis (1970) compared deceived and role-playing subjects in a conformity study. Role-playing subjects duplicated what they refer to as an obvious main effect, in which there was more conformity to those seen as more competent on a task. A subtler interaction effect, which predicted an accentuation of differences in conformity when subjects were given an informational, as opposed to social influence, set was not obtained.

Willis and Willis used only the prebriefed variant of role playing in their research. However, Horowitz and Rothschild (1970) compared prebriefed and forewarned variants of role playing to deception using a standard conformity paradigm. Only forewarned subjects produced results similar to those of deceived subjects.

Darroch and Steiner (1970) used role playing in a forced-compliance attitude change study. There were some similarities in the behaviors of role playing and deceived subjects; however, role-playing subjects were only asked to imagine what their performance would be.

In a review of these early role-playing studies, Arthur G. Miller concluded that "the prospects for role playing as an alternative to deception are very poor. There are serious shortcomings at both the empirical and epistemological levels. People may or may not be able to role play in a form similar to their actual behavior" (Miller, 1972, p. 634). Recent research has, however, added to our knowledge of the

utility of role playing as an alternative to deception. Although this research is also inconclusive, it points out some very promising areas of study.

In a replication of an earlier role-playing conformity study, Wahl (1972) succeeded where Willis and Willis (1970) had not, in finding that both forewarned and prebriefed role-playing subjects, like deceived subjects, conformed more in an information processing set. In addition, Wahl investigated two possible indicators of experimental realism in role playing, subjects' involvement and suspicion. Forwarned subjects rated themselves as most involved and prebriefed subjects were most suspicious. The implications of these findings will be discussed more fully below.

Holmes and Bennett (1974) found that role-playing subjects could simulate self-reports of anxiety though not concomitant physiological responses. Simons and Piliavin (1972) failed to replicate the "just-world" studies using a role-playing simulation, but attribute this failure to problems in the original studies, rather than to role playing.

A complex and ambitious study by Silverstein (1969) attempted to determine those types of experiments amenable to investigation by role playing instead of deception. Neither of the hypothesized variables, type of feedback the subject received or the extent to which the behavior called for was congruent with the subjects' attitudes, were predictive of differences between role-playing and deception methods. The failure to obtain the predicted results may be due to complexity of the design which had several levels of bogus information in the deception condition and necessitated comprehension of these levels in

the role-playing condition. In addition, the type of role playing used may not have been high in experimental realism--role-playing subjects were to imagine the attitude of a subject after listening to him advocate a position on tape. Speculating on her findings, the author suggests that a critical factor in determining the similarity of deception and role-playing methods may be involvement in the experiment. The author also feels that this unassessed variable may have been responsible for the results.

Looking at the doubtful success of many of the above role-playing studies, there appears to be one common problem: the difficulty in creating a sufficiently powerful, emotionally involving role-playing experience. The reasons for the failures are not, however, uniform; they include theoretical, conceptual, and methodological weaknesses. Other limited successes with role playing besides those mentioned above have been demonstrated. The most promising, but far from conclusive studies concern role playing as an alternative to deception in the study of obedience (Mixon, 1971, 1972; Albrecht, 1973; O'Leary, Tomich and Willis, 1970).

Role-Playing Obedience

Obedience, as conceptualized and investigated by Milgram (1963, 1965, 1974), is ideally suited to role-playing methods for the following reasons.

1. Further investigation of obedience using the Milgram paradigm is sometimes objected to because it involves deception of subjects and elicits strong emotional reactions and stress in subjects. Baumrind (1964) has been among the most quoted critics of obedience research

on ethical grounds; however, Milgram (1964) has given a strong, convincing reply.

2. The results of the obedience studies are not easily predictable (Milgram, 1972), providing the greatest challenge to a role-playing replication.

3. It is relatively easy to compare the success of a role-playing method to the original method through the use of level of obedience and presence (or absence) of strong emotional responses in the subjects.

4. The ethical questions raised by the possible extreme emotional involvement of role-playing subjects, as seen in Zimbardo's study, are substantially mitigated by the fact that participation lasts for approximately 20 minutes, not six days.

"Successful" role-playing simulations of obedience have been reported. O'Leary et al. (1970) replicated Milgram's findings using a fully prebriefed version of role playing. Seventy percent of their role-playing undergraduate subjects obeyed to the 450 volt level, compared to 65% of Milgram's adult, deceived subjects. All subjects read excerpts from Milgram's method section which made it clear that "subject behavior was under investigation and the 'victim' was not being shocked" (O'Leary et al., 1970, p. 88). Subjects further rated the pain of the last few shocks under as if instructions, and reported levels of pain that were virtually identical to those reported by Milgram's subjects. When asked to give the same ratings of pain, but no longer under as if instructions, rated pain was near zero. Signs of nervousness were observed in role-playing subjects, although not to the degree found by Milgram; some role-playing subjects showed no nervous activity.

In a simulation of the proximity condition of obedience, Albrecht (1973) used what he called a forewarned version of role playing, although he did inform subjects that the shocks were not real and that the learner was an actor. (This description seems to be closer to the prebriefed version of role playing, however. The confusion may be because in two additional conditions of obedience, confederates were used but subjects were led to believe they were also naive subjects; this would be forewarned role playing, since subjects were not entirely informed.) While Albrecht did replicate Milgram's results quite closely, there are several indicators which place the validity of these results in doubt. The role-playing instructions used were short and without examples or clarification; it is quite possible that subjects did not fully understand them and felt confused. Albrecht added one element to the shock generator: a "'Jacob's ladder' [which] created the sight, sound, and smell of electricity" (Albrecht, 1973, p. 28). This level of realism could only reduce the credibility of the role-playing instructions which indicated that the shocks were not real. The same experimenter gave the role-playing instructions and then, donning a lab coat, became the authority in the obedience replication; such Jekyll and Hyde tactics seem unlikely to induce one to trust the assertion that the shocks are not real. There was no manipulation check of the role playing; in the post-experimental questioning it was assumed that subjects believed that the shocks were not real.

Mixon (1971, 1972) has conducted a series of obedience experiments patterned after Milgram's which use two types of role playing, active and nonactive.

> In fact the single important difference between [the active role player] and a deceived subject is that the role player is told to imagine particular things and certain consequences and to behave as if they are real, whereas the deceived subject is tricked in an effort to induce him to believe they are real. (Mixon, 1972, p. 147)

In the abstract, Mixon's active role-playing studies would seem to provide strong evidence for the success of role playing because subjects (Mixon calls them actors) showed much of the nervous and emotional behavior exhibited by Milgram's subjects and their levels of obedience were similar to those found by Milgram. Percent of obedient actors ranged from 40% with graduate students who were familiar with Milgram's work, to 100% with female actors and a female experimenter. In the condition most similar to Milgram's baseline condition, with male actors and a male experimenter, 60% of the subjects obeyed. In each condition, $n = 10$ (Mixon, 1972).

However, there is a critical gap between Mixon's conceptualization of role playing and his implementation of it. After noting that the simplest way to implement active role playing was to change the role of the naive subject to that of naive actor or role-playing subject, Mixon reasoned that there was no purpose in having real props and actors on the role-playing stage.

> Since the naive actor is told that the shock generator does not actually deliver shocks a realistic generator did not seem essential. And since he is told that the experimenter and learner are rehearsed actors there seemed no reason why I could not read the parts of both. (Mixon, 1972, p. 148)

These changes seem to irrevocably reduce the realism and spontaneity of active role playing, bringing it closer to nonactive role playing. While this does not in itself minimize the impact of Mixon's findings, it certainly changes the situation so radically that we cannot be

certain that the range of cues that these actors are responding to bears any similarity to those experienced by deceived subjects or has anything to do with obedience. It seems difficult to imagine a subject responding to a paper shock generator and the screams of the learner as read by the experimenter in a real way; to do that would require an unusual and highly developed sense of as if. Mixon's strong results may be attributable to something in the design which enhanced the ability of subjects to predict, rather than perform.

Using a nonactive role-playing method in which subjects were read a partial description of the obedience experiment and asked to describe the rest of the experiment, Mixon (1972) investigated the effect of different descriptions on predicted outcome. This was based on the assumption, derived from Bem's theory of self-perception, that people are quite accurate in predicting behavior when they are given the relevant information (Bem, 1967, 1972). Mixon explains the failure of Milgram and Freedman to obtain accurate predictions of obedience by surmising that their descriptions probably provided different information than the experiment did to the subject (Mixon, 1971). Demonstrating this contention by altering the descriptions given to nonactive role-playing subjects, Mixon obtained levels of obedience ranging from zero to 90% (Mixon, 1972).

The results of these role-playing studies of obedience raise some difficult questions, since all of them have claimed to be "successful" to some degree. If success is an accurate replication of Milgram's findings using an acceptable method, only O'Leary et al. (1970), using a demanding prebriefed role playing, have demonstrated that role playing

may be a successful alternative method. The other purported "successes" (e.g., Albrecht, 1973; Mixon, 1972) are questionable.

Success in Role Playing

What do we mean when we say that role playing is, or is not, a successful method? There are a number of ways of answering this question, depending on what criteria for success are used. If role playing is to be judged as an alternative to deception, perhaps the same standards of success should be used as are applied to deception methods. However, deception methods themselves are rarely subjected to any criteria of success. Stricker, Messick and Jackson (1969) advanced two possible ways of evaluating the effectiveness of deception: *comparison to the situation it is supposed to portray* and comparison to a method in which subjects are informed of that which is usually falsified. The latter suggestion is, of course, role playing!

Traditionally, replications are considered successful when their outcomes are duplicated. In considering the success of role playing as an alternative to deception, we must first decide whether the criteria for success in simulations are the same as for those in replications. This assumption, when applied (as it has been in virtually all of the role-playing studies reviewed above), can lead to a number of false conclusions. There is the strong temptation, Miller (1972) reminds us, to assume--fallaciously--that identical results imply identical causes. Hamilton (1974) comes to a similar conclusion; specifically, she maintains that the criteria for success in a simulation must be reproducing not only the outcomes but the processes. This, of course, requires a theoretical understanding of what the processes are. In

order to reproduce the processes it may be necessary, as Mixon states, to recreate the situation: "The very minimum criterion for a successful simulation would necessarily be to recreate that situation" (Mixon, 1971, p. 23).

On the other hand, the assumption that the results of role-playing methods be compared to those obtained by any other methods can also be questioned. For example, Bem did not maintain that his simulations of cognitive dissonance theory studies were equivalent, but re-interpreted the results in terms of self-perception theory.

> No "as if" methodology, including the technique of interpersonal simulation, is an adequate substitute for the intensive study of the actual situation being modeled. (Bem, 1968, p. 273)

Recently, Mixon (1974b) has also asked whether results obtained using role playing need be at all equivalent to those using technical illusion. The whole issue of equivalency is, perhaps, largely placed to rest by Kelman's (1974) contention that as both deception and role-playing methods are attempts to simulate the real world, their results must be matched against that rather than each other.

Thus, psychologists are quick to label a simulation with a duplicate outcome, but an absence of theoretical understanding, as a success and a simulation with a dissimilar outcome as a failure, regardless of the understanding gained. This is where Freedman (1969) has become trapped. He maintains that even if we use realistic role playing in direct comparison with traditional (deception) methods, it will be of little value until we have a solidly based theory that role-playing methods can produce the same results as traditional methods. Clearly, a theory of equivalency between methods is not

needed; rather, a theory relating role playing to reality is. Freedman, however, in his criticisms of what he defines as role playing dismissed all study of role playing with the short-sighted and unscientific prediction that since a theory of equivalency between methods was improbable in the foreseeable future, we should not bother with role-playing methods at all. Needless to say, Freedman was wrong, as evidenced by the attempts to demonstrate the equivalency of role playing and deception by Willis and Willis (1970) and Horowitz and Rothschild (1970). That the focus of role-playing studies has begun to change from equivalency to one of which considers role-playing methods on their own, is further testimony to the inappropriateness of Freedman's comments. With this new understanding of success and failure we can begin to interpret the research on role playing with a greater focus on the process. And we can see that there is more to be optimistic about in role playing than it seems; that "failure does not necessarily reside in the actors' 'guessing' power but more likely in the investigator's inability to make the two scenes equivalent" (Mixon, 1971, p. 25).

The Functional Equivalency of Processes

From the Perspective of the Researcher and Theoretician. Although it is evident that role playing need not be compared to deception methods for determination of success, it is inevitable that in order to gain acceptance, role playing must be seen as an alternative to deception, and compared to it on a number of levels. Most important is the discussion of how the processes simulated in role playing, like those in deception, are comparable to those in the real world.

Mixon (1972, 1974a) has added to our understanding of the processes

through his work on nonactive role playing, in which he demonstrated that the amount and type of information given to role-playing subjects can seriously affect the outcome. Mixon contended that this success in achieving near total obedience or disobedience with varied instructions demonstrates that subjects in Milgram's work on obedience may have been responding to various sets of cues. While this reinterpretation of obedience does not seem substantiated, due to lack of equivalence in process between Milgram's subjects and Mixon's non-active role players, Mixon has developed from this a theory of role/rule governed behavior.

Role/rule governed behavior and the contrasting concept of performance can be best explained in terms of analogy to a game. Behavior in any game can be understood in terms of the roles of the players and the rules of the game which define their actions. Performance, however, indicates how the players actually carry out the role and rule governed behaviors, and may be influenced by individual factors such as past performance. Social psychology experiments usually investigate performance because they are limited by traditional methods to the study of players in one role, that of the subject, and one rule-context, the experiment. Thus, social psychology experiments typically do not investigate the broader influence of the role/rule context (the norms). Role playing, however, is not so limited since any role or rule context which can be described can be investigated (Mixon, 1972, 1974a).

Thus, role playing, according to Mixon's analysis, is a far more flexible instrument of investigation since it can be adapted to study many aspects of behavior.

From this analysis, however, it would be a mistake to assume that role playing differs epistemologically from deception, as Forward and Canter (1973) contend. Rather, Hamilton notes, role playing and deception, although neither empirically nor epistemologically equivalent, both make use of behavioristic and phenomenological approaches and both are simulations of the real world. The deception study is a simulation because of the role playing by the experimenter who simulates a straightforward study and because it, too, bears only an indirect relationship to the real world. Indeed, Hamilton asserts that role playing can even be viewed as being closer to the real world than deception because real world features can be specified by naming emotions, labeling actions, constructing situations, and planning interactions (Hamilton, 1974).

From the Subject's Perspective. Schultz (1969) notes that the effectiveness of role playing depends on the interest of the task, the face validity of the instructions, and the subjects' perceptions of and attitude toward the experimenter. Thus, it seems clear that the success of role playing should be considered from the subject's perspective as well. That is, to what extent is the subject able to act as if it were real.

One of the more frequent criticisms of role-playing methods is that they lack experimental realism (Aronson and Carlsmith, 1968). This is an oversimplification, but it may be useful in distinguishing successful from unsuccessful role-playing behavior, given a sound method. If a subject is successful in role playing, he or she experiences and responds to exactly the same cues as a deceived subject, making the

situation high in experimental realism. Only for the subject who is unable to adopt the role of a deceived subject does role playing lack experimental realism.

Before proceeding, however, an important distinction between role-playing subjects and "deceived" subjects must be made, and considered from the subject's own perspective. The subject in a role-playing study is aware that he is acting under instructions which ask him to pretend; no matter how intense or real the experience seems, at some level he is cognizant of the played at, make-believe nature of his behavior. On the other hand, the subject in a well-designed and well-implemented deception study, is unaware--until the experiment is over--of any deceipt, technical illusion or misinformation. For the duration of the experiment this so-called deceived subject behaves in response to what he sees as real events and circumstances, although all that he is told and sees is, of course, not real. As far as the subject is concerned--and it is his responses and behavior we are interested in--the crucial distinction is not between role-playing simulators and deceived subjects but between simulators and non-simulators. Thus, the term non-simulating subject is preferable to deceived subject when the subject's behavior is being considered; when methodological distinctions are made it may be appropriate to refer to the deceived subject, providing that it is clear what this term implies.

In order to determine the success of role playing it is necessary, in part, to understand how the subject responds to the experimental situation, and in what ways the responses of role-playing subjects differ from those of non-simulating subjects.

The responses of deceived, non-simulating subjects in the laboratory have received much attention. Fillenbaum (1966) claims that many subjects see their role as docile and "faithful," which means following instructions closely and trying to do a good job despite suspicions. The perfect subject-experimenter relationship has, in fact, been compared to that of a servant and his master (Lyons, 1964). Any disruption of this understanding, Lyons maintains, will threaten the success of the experiment. Others see subjects as active responders and participants. Riecken (1962) was among the first to write that the subject is not the fool that the experimenter hopes him to be; rather, the subject formulates a working definition of the experiment which changes as necessary, and tries to make a good impression in what he sees as an important social situation. Orne (1962), who is best known for advancing the position of the active subject, claims that the results of some experiments may be due to the demand characteristics of the situation, not to the intended variables. Others who see the subject as an active responder include Schultz (1969) and Masling (1966), who describes a subject who refuses to allow the experimenter to control his behavior as applying the "Screw You Effect."

Role-playing methods are presumed to minimize, if not eliminate, whatever negative effects are attributable to the use of deceived subjects. Kelman suggests that non-deception methods "require us to use the subjects' motivation to cooperate rather than to bypass it; they may even call for increasing the sophistication of potential subjects, rather than maintaining their naiveté" (Kelman, 1967, p. 11). Jourard wondered if we might not receive more honest responses from

subjects if we were more honest ourselves. While not focusing on the typical deception paradigm, Jourard and his students have found that disclosure by an experimenter in an interview, for example, led to more disclosure by subjects (Jourard, 1968, 1971).

Some would contend that role-playing subjects may also be responding to cues not in their instructions. Role-playing subjects are also susceptible to the faithful subject role (Weber and Cook, 1972) and can be seen as active subjects, cognitively interpreting their behavior (Forward and Canter, 1973).

The evidence in support of the subject's perceptions of the experimental situation is largely limited to that of Orne and his colleagues. Unfortunately, their work focuses on unsuccessful attempts to deceive subjects and ignores or even dismisses the reality often experienced by the non-simulator. Others have, however, made suggestions. Farber (1963) raised the very nearly revolutionary suggestion of asking subjects in experiments what they are doing and why. Riecken (1962) proposed a kind of investigation which is similar to what Orne (1962, 1969) calls pre-experimental inquiry, pre-inquiry, or a non-experiment.

Pre-inquiry is one of three quasi-controls, which are ways to find out a subject's perceptions of an experiment or identify the demand characteristics (Orne, 1969). The others include the familiar post-experimental inquiry and the use of simulators. The use of pre-inquiry and simulators are of particular interest to us because of their similarity to types of role playing. In pre-inquiry one is asked to imagine himself a subject, is shown the equipment and laboratory, and given as much information about the procedure as a real subject.

However, the pre-inquiry subject is asked to produce data without actually participating in any experiment. Pre-inquiry is analogous to the method used in Bem's self-perception studies and quite similar to Mixon's nonactive role playing. Orne, however, cautions against its use as an alternative to deception and maintains that the results may be attributable to either the independent variables or the demand characteristics of the situation. This type of either-or prediction serves to insulate Orne's theory quite well; if pre-inquiry subjects give the same responses as deceived subjects, they are good guessers, if they do not, they are responding to the demands of the situation.

The work of Orne and his colleagues with simulators leads to similar conclusions. In a typical scenario the experimenter is unable to distinguish between simulators of hypnosis and actual hypnotized subjects. The interpretation invariably given is that simulators are responding to the readily discernible demand characteristics. Applying the dictum of demand characteristics and citing evidence gained by using quasi-controls, Orne and Holland (1972) and Holland (1968) have criticized Milgram's work on obedience focusing on what they believe to be its lack of ecological validity. Critics of role playing of obedience might be quick to apply these same arguments, asking how one can role play a situation which does not seem real to deceived subjects. They would do well to read Milgram's (1972) reply first, in which he eloquently diffuses the criticisms of Orne and Holland and emphasizes the degree to which his studies of obedience do reflect reality. Nevertheless, it might be helpful to assess the desire of role-playing subjects to perform well (Silverstein, 1969).

Involvement as a Measure of Success

The above discussion on what is considered success in role-playing studies has led us to consider the subjects' perceptions of the experimental situation. In role playing the subjects' perceptions take on great importance, for the instructions attempt to direct the subject-actor into a world of "let's pretend." Perhaps then, the ultimate criterion of success must rest with the subject-actor and his ability to act as if or become involved in the role playing.

Most psychology experiments depend on the assumption that the actions of similarly instructed, randomly chosen and assigned subjects can be compared for behavioral similarities and trends. In role-playing studies this assumption takes on even more importance; we depend on the efficacy of our instructions and manipulations in producing as if behavior. The extent to which we are successful in inducing as if behavior or involvement in the role-playing situation affects the outcome of the study. In fact, it is possible that some of the so-called failures in role playing may be due to the implicit but incorrect assumption that all subject-actors experienced equal involvement in their roles.

Greenberg (1967) first suggested that involvement might be a key variable in the success of role playing. Involvement in a role-playing task, Greenberg maintained, could be understood in terms of level of "organismic involvement" (Sarbin and Allen, 1968), with successful role playing being analogous to Level III, engrossed acting. Forward and Canter (1973) maintain that Level IV, Hypnotic Role Playing, may be appropriate as well. (The dimensions of organismic involvement, as

explained by Sarbin and Allen, 1968, refer to the effort, engrossment and differentiation between role and self present in a role. At the low end of the continuum, Level zero, noninvolvement, the self and role are totally differentiated, in terms of energy and time. At the high end, Level VII, bewitchment, there is maximal effort and involvement with the self and role being totally undifferentiated.)

Involvement has only begun to receive attention in role-playing studies. In at least one unsuccessful study involvement may have been a critical factor since subject-actors may have found it difficult to imagine the compliance of subjects and may have found the method confusing and dull (Silverstein, 1969). Another factor in a subject's ability to play a role, Silverstein suggests, may be previous experience or practice in performing a task.

Others have used involvement as an independent variable in role-playing attitude change studies, but have conceptualized it as effort or amount of participation in performance (Zimbardo, 1965; Ingersoll, 1973). Wahl (1972) used involvement as a measure of experimental realism with some interesting results; in general, prebriefed subjects were far less involved than forewarned subjects. However, Wahl's assessment of involvement by self-report, time spent on an initial ranking task, recall of performance, and a crude subjective rating by an experimenter was very limited.

Other role-playing simulations seem to have obtained fairly high levels of involvement, as evidenced by the emotional responses of subjects, although no attempts were made to assess involvement. Mixon reported "signs of spontaneous nervous and emotional behavior" in

active role-playing actors with behavior ranging from "sighs and finger-tapping to anger, trembling, gasps and nervous laughter" (Mixon, 1972, p. 150). O'Leary et al. (1970) reported levels of nervous activity exceeding their expectations, but far below those reported by Milgram, in their role-playing obedience study. They also noted the great relief expressed by defiant subjects at the conclusion of the study. Perhaps the most significant of the findings of O'Leary et al. was the absence of nervousness and tension in some subjects. This lack of nervous activity provides preliminary evidence on the need to distinguish between involved and detached or uninvolved subjects. Unfortunately, O'Leary et al. did not report levels of obedience separately for those exhibiting nervous activity and those lacking it.

The ability of role-playing methods to induce startlingly real and highly involved behavior was clearly shown in Zimbardo's study of a simulated prison (Zimbardo, Haney, Banks, and Jaffe, 1973). The behavior exhibited by "guards," "prisoners," and "administrators" (including Zimbardo himself) was worthy of the most repressive of prisons. In fact, several subject-actors were dismissed from the experiment for emotional reasons and the stressful involvement observed in nearly all participants necessitated ending the study after six days, rather than the planned fourteen days.

Another extremely involving simulation, which produced near emotional strain in some participants, concerned the defense of an island under attack, hopefully by non-violent methods. This study, the Grindstone Experiment, emphasized the breakdown of behavioral norms among those committed to non-violence (Olson and Christiansen, 1966, as reported in Mixon, 1971).

Implications of Involvement

It is clear that role-playing subjects can become highly involved and engrossed in their behavior. Indeed, given the history of role playing in psychodrama and theater, this should not be surprising.

What the involved subject does to become involved is not known. Certainly, involvement is facilitated by the creation of a good set, with all of the other actors in role and with realistic props used at all times. In addition, there may be certain role skills which can be looked for in potential subjects (Forward and Canter, 1973). Most likely, however, the truly involved subject is responding to the situations emotionally and viscerally more than cognitively; that is, his level of organismic involvement is fairly high. The involved role player does not actively interpret the requirements of his role and respond accordingly, like a good, faithful subject as some would contend (Forward and Canter, 1973; Banuazizi and Movahedi, 1975). Rather, the involved subject responds as if he were living the role, not playing it, because his role distance--the inner distance between his consciousness and role--is low (Hamilton, 1975). The detached or less involved subject may, on the other hand, be responding cognitively, interpreting the requirements of his behavior on the basis of an external set of preconceived notions of appropriate behavior for that role, as given by the environmental situation (demand characteristics), or popular stereotypes of the role (e.g., how a prisoner is supposed to act).

A problem arises when the level of involvement in the role is so high, and the resultant stress so real (as it was in Zimbardo's prison

study) that role playing creates new ethical problems without solving those typically associated with deception methods (cf. Kelman, 1974; Hamilton, 1974).

> Thus if a role play study, by use of performance, instructions, behavioral requirements, and elaborate scenario, succeeds in reducing the subject's role distance, then its experiential and emotional effects become "real"; real anxiety, real tension, real fear, real nervous breakdowns may occur. . . . When the subject's self-consciousness is reduced and he loses distance between self and role, that role has as much power to influence --although it is enacted in a laboratory--as any other role calling for comparable involvement. (Hamilton, 1974, pp. 62-63)

A role-playing simulation, then, requires that the investigator carefully assess the potential of involvement in the situation to induce real anxieties and reduce role distance beyond a point considered acceptable. Obviously, such a determination is a subjective one; but if the duration of the study is short (time exacerbates the problem; the Grindstone Experiment was 31 hours, Zimbardo's prison study 6 days) and the stress induced is easily relieved and has a minimal potential to induce harm, the simulation may be considered acceptable. It should be added that the subject may also learn about himself from his participation in the study. Such learning may be viewed in a positive manner and not seen as harmful, as Crawford (1972) has argued concerning Milgram's obedience studies.

II. AN EXPERIMENTAL STUDY OF ROLE PLAYING AND INVOLVEMENT

Design

Overview

In order to clarify the debate surrounding the acceptability of role-playing methods as alternatives to deception, an experimental role-playing simulation of three conditions of Milgram's obedience studies was designed. Since the role-playing subjects' level of involvement or ability to play the assigned role was predicted to affect the success of the simulation, in terms of both process and outcome, a procedure was devised to assess the involvement of subject-actors. To meet the requirements of an alternative method to deception, as stated above, a performed-improvised-behavioral role-playing method was used; thus, with his truly informed consent obtained, the subject-actor was asked to perform, without the aid of a structured script, as if he himself were in the situation described. To aid the subject-actor in his suspension of reality, a full range of props was provided and, once the study began, every other participant performed in role, according to a script. Since no deception was used, all subject-actors were aware that the other participants were acting according to script. Subject-actors were asked to pretend they were in the situation described and to respond accordingly; they were not asked to act as if they were laboratory subjects, but simply asked to be themselves in a "real" situation.

Presumably, there would be little danger of harm to prospective subjects because of the steps taken to assure and convince subject-actors that it was all "pretend" and because there was little possibility of excessive involvement in such a short time.

In the basic obedience paradigm (Milgram, 1974) the prospective subject arrives in the laboratory and meets another subject (who is actually a confederate). The experimenter informs them that they will be participating in a study of the effect of punishment on learning and that one of them will be teacher, the other learner. In a rigged lottery the naive subject is chosen as teacher; his task is to administer punishment to the learner, in the form of electric shock, each time the learner gets a wrong answer on a word pair association lesson. The learner (actually the confederate) is strapped into a chair with electrodes attached. The learner, who responds according to script, begins to protest and scream with each shock administered. (The shocks, of course, are not real.) The teacher has been instructed to administer increasingly painful shocks with each wrong answer, beginning at 15 volts and proceeding with 15 volt increments to 450 volts, on an impressively constructed shock generator. The learner's protests begin after 150 volts; at 300 volts the learner refuses to answer; after 330 volts the learner is silent. If the teacher does not wish to continue and administer the shock he is ordered to do so by the experimenter. If the experimenter's scripted prods do not induce obedience by the teacher, the experiment is terminated. After the experiment a thorough debriefing takes place.

The three conditions of the obedience studies used were: (1) the

new Baseline Condition, in which voice feedback is received from the learner, who has a heart problem; (2) the Experimenter Absent Condition, which is identical to the new Baseline Condition except that, after the initial instructions are given in the laboratory, the experimenter leaves the room and gives subsequent orders to continue only when the subject calls him over a telephone; and (3) the Victim's Limited Contract Condition, which is the same as the Baseline Condition except that the learner, as he is about to be strapped into the chair, is asked to release the university from any legal action and agrees to do so only on the condition that he be let out, if he wishes. Milgram (1974) found that obedience to a maximum shock level of 450 volts dropped significantly from 65% in the Baseline Condition to 22.5% in the Experimenter Absent Condition, with a non-significant drop to 40% in the Victim's Limited Contract Condition.[1] Thus, these three

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[1]The failure to obtain a significant decrease in obedience with the limited contract may have been due not, as Milgram speculates, to the weakness of such a social contract, but to its implementation. Although the learner makes this a precondition for his participation, in Milgram's script the learner does not mention this informal contract per se in his verbal protests. Thus, the subject must himself introduce the exceptions of this limited contract and remind the experimenter of his broken promise. Clearly, subjects are loathe to confront the authority any more than is necessary. It is likely that only those few subjects on the thin line between obedience and defiance brought up the contract. Obedient subjects would not bring up the issue of the contract and strongly defiant subjects did not need to bring it up. This interpretation is consistent with Milgram's finding that only about one-fourth of the defiant subjects mentioned the contract explicitly. This group probably accounts for most of the drop in obedience from the Baseline Condition, since they were most likely on the boundary between obedience and defiance, and needed the contract to push them toward defiance.

In order to assure comparibility to Milgram's conditions, the role-playing variant of the Contract Condition will maintain this lack of explicit reference to the preconditions by the learner during his protests. It would, of course, be interesting to study the effect of a change in the learner's protests, but this will not be done at this time.

conditions were chosen to demonstrate the ability of a role-playing method to simulate various findings. Role playing can be considered truly successful only if it can replicate the relationships between conditions found by Milgram. The Experimenter Absent and Limited Contract Conditions, with their different outcomes, provide the range necessary to test an alternative method. Use of the Baseline Condition alone would not provide sufficient basis for comparison.

Rationale and Hypotheses

In a role-playing study of obedience there are two broad sets of cues or situational determinants. The first, the role-playing set, focuses on the "as if" nature of the situation--the knowledge that everyone is acting and that the shocks are not real. The second set of cues, the obedience set, are those relating to the subject's interaction with an authority, the experimenter.

Milgram's "deceived" subjects experienced only the obedience set. Role-playing subject-actors are exposed to both sets; they are asked to suspend their knowledge that the situation is not real and pretend that it is. Therefore, it was hoped that successful role players would, like non-simulators, be responding only to the authority's demands to obey. The key variable in determining the success of role playing is, thus, the subject-actor's ability to suspend the role-playing set of instructions, or to become involved.

It is predicted that those subject-actors who fail to suspend the role-playing set will be responding according to their cognitive awareness of the situation--that it is not real. In other words, these less involved, or detached, subject-actors will be responding to what

they see as demand characteristics of the role-playing instructions. In contrast, the more involved subject-actors will have successfully suspended these cognitive demand characteristics and will be responding spontaneously and emotionally to what they sense as a real situation, just as successfully deceived subjects did.

In the Baseline Condition, both sets are assumed to influence behavior in the same direction, so both the most and least involved subject-actors will exhibit <u>similar</u> behavior. The less involved subject-actor, who is unable to suspend the role-playing set, has no reason to disobey because he is constantly aware that the shocks are not real, and the passive stance of obedience is far simpler than the action required for defiance. The involved subject-actor, who has suspended the "as if" nature of the experiment, also obeys, but for different reasons: like the deceived subject, he obeys because the situation makes it difficult to defy the authority. It is likely that absolute levels of obedience may differ for more involved than less involved subject-actors, although not substantially; the less involved will probably show the higher level of obedience.

In the Experimenter Absent Condition, it is predicted that the sets will no longer exert the same influence. Less involved subject-actors will continue to respond primarily to the role-playing set, and their obedient behavior will not change. Involved subject-actors will continue to respond to the obedience set, but like Milgram's subjects, the nature of that set will have changed because of the absence of face-to-face contact with the authority and obedience will drop sharply.

In the Victim's Limited Contract Condition, it is expected that the less involved subject-actors will continue to appear to be obedient. The more involved subject-actors may, like successfully deceived subjects, show a slight drop in obedient behavior because of the weakening of the situational cues to obey.

Thus, it is hypothesized that with an increase in involvement there will be a decrease in obedience in the Experimenter Absent Condition. In the Baseline Condition and the Victim's Limited Contract Condition, involvement will not significantly effect obedience. Specifically, only in the Experimenter Absent Condition will the regression of obedience on involvement account for a significant portion of the variance.

Instruments

In order to assess the effects of involvement in the role-playing task on the subject-actors' performance it was necessary to obtain independent measures of "involvement." Since there are several dimensions of involvement, it was measured using three separate instruments. (1) A paper-and-pencil experientially based inventory of role-playing ability was administered when the subject-actor appeared for his appointment. This measure was designed to predict the subject-actor's ability to become involved in the role. (2) Ratings by two judges of the subject-actor's level of involvement in the actual role-playing of obedience were made from videotapes of the experimental sessions. (3) Subject-actor's own self-reports of involvement were measured in the post-experimental inquiry. The judges' ratings and

self-report ratings were based on assessments of the subject-actor's role playing, although from two different perspectives, that of the actor and the observer.

Role-Playing Ability Scale

Problems and Background. Although there are several scales, published and unpublished, which presumably measure skill at role taking or role playing, none of these has been used to assess involvement in a role-playing study. However, some of these scales have been used to assess role-taking ability in attitude change studies. Elms (1966) developed the Empathic Fantasy Scale, a ten item role-taking scale which was found to be highly correlated with attitude change through role playing. Matefy (1972) found that role-taking skill had an effect on attitude change through role playing when assessed by Elms' scale but not when assessed by the As-If Test (Sarbin and Jones, 1956), Role-Playing subtest of the Hypnotic Characteristics Inventory (Lee, 1963; Lee-Teng, 1965) or Cline's Predictive Accuracy Test.

While Elms' scale could have been used in the proposed study, it measures role taking and a scale to assess active role playing was more desirable. Several such scales do exist, all as subtests of larger scales of hypnotic susceptibility, because according to role theory, hypnosis is a form of role taking or role enactment (Sarbin, 1950; Sarbin and Andersen, 1967; Sarbin and Coe, 1972). The presence of subscales to measure role-relevant skills in inventories of hypnotizability is discussed in depth by Sarbin and Andersen (1967). Many of these subscales are highly correlated with hypnotizability (Andersen, 1963; As et al., 1962; As, 1963; Lee, 1963), but none of

these has been validated as an independent measure of ability of persons to become absorbed or involved in a role.

One hypnosis inventory does, however, include subscales which measure role-relevant skills and has been found to be a reliable and, to some extent, a valid measure of role-playing ability. Coe's (1964) Congruence Questionnaire is composed of two subscales, a 29 item Role Absorption Scale to determine a person's ability to concentrate and become involved in roles, and a 21 item Acceptance of Altered Processes Scale. Reliability as computed by Kuder Richardson formula 20, was .76 for the Congruence Questionnaire as a whole and for the Role Absorption and Acceptance and Altered Processes subscales, .71 and .69 respectively. The items were derived, to a large extent, from the earlier Sarbin inventory. (The Sarbin Inventory, itself unpublished, was used by Anderson (1963).)

For the present study, validity of this Questionnaire as a measure of hypnotizability was not sufficient evidence of its general utility in measuring role-playing ability. However, this Questionnaire, as well as others, has been found to be related to dramatic ability. Acting ability may be quite relevant as a means of assessing validity for this study since the skills required for role playing may be similar to those required in theatre. Sarbin and Lim (1963) used dramatic improvisations, as rated by drama professors, as a measure of role-taking ability, which was then found to be highly correlated with hypnotic susceptibility. Using Coe's Congruence Questionnaire, role-taking aptitude was found to be highly correlated with hypnotizability when drama students were used as representatives of a group with high

role-taking aptitude and science students as a group with low role-taking aptitude (Coe and Sarbin, 1966). Although the use of drama and science students was based on untested a priori assumptions, the resulting correlation (r = .41) is consistent with those found using role-playing subscales. In another study (Coe et al., 1972) the number of acting roles, although not the number of acting courses, was significantly related to hypnotic susceptibility. The only such study with negative findings was one using children (Masden and London, 1966), in which no relationship between hypnotic susceptibility and dramatic acting ability was found.

Validation of a Role-Playing Scale. Coe's Congruence Questionnaire was selected for use as a predictive measure of involvement in this study and validated because of its relationship to dramatic ability and because it was derived from the strongest items of earlier scales.

A comparison between actors and non-actors seemed to be appropriate, both intuitively and according to the literature, to validate the Congruence Questionnaire. The Congruence Questionnaire was administered to 81 students in acting, science, and psychology. Reliability, as measured by alpha coefficient was .764; for the Role Absorption and Acceptance of Altered Processes subscales, the alpha coefficients were .738 and .697 respectively. These figures compare very favorably to those obtained by Coe. Validity of the Congruence Questionnaire was assessed by comparing the mean scores of acting and science students. Thirty-seven acting students (23 from a class at an acting studio and 14 from an undergraduate class at Hunter College)

had a mean score of 33.4, with a standard deviation of 5.8; 28 science students (11 from an undergraduate physics course at Richmond College and 17 from an undergraduate course in thermodynamics given at Consolidated Edison Company plant under the auspices of Richmond College) had a mean score of 28.0, with a standard deviation of 6.5. The difference between the means was highly significant in the predicted direction, with the higher score of acting students indicating greater role-playing ability ($t = 3.6$, $df = 63$, $p < .0005$, one tailed test), thus providing strong evidence of construct validity.

Judges' Ratings

Involvement in the role playing of obedience was assessed by the ratings of two judges from videotapes of the sessions. To assess possible contamination of the ratings by knowledge of whether the subject was obedient or disobedient, judges based their ratings on consecutive three minute segments of the experimental sessions. This made it possible to compare initial ratings, before the subject's behavior was known, to total ratings, which might have been influenced by knowledge of obedience or disobedience. The mean rating for all three minute segments was used. (The number of three minute segments for each subject varied according to the length of that subject's participation. In some cases, the final segment was less than three minutes; if it was less than 30 seconds, it was included in the previous segment.) Involvement was based on subjective assessment of emotional responses shown by subject-actors. Since involvement may be indicated by either the expression or suppression of affect, deviations in either direction from a relaxed state, were considered as indicative

of involvement; ratings of involvement used an absolute score and did not reflect direction. Judges rated subject-actors on three 6 point scales which tapped involvement on three dimensions: procedural, postural/gestural, and vocal. Briefly, the procedural dimension referred to the seriousness with which the subject-actor responded to the procedures and props; the postural/gestural dimension concerned the subject-actor's response in terms of gestures and bodily position; the vocal dimension referred to patterns of speech and language. (See Appendix A for a complete definition of dimensions and the training procedures used.) A composite involvement score was derived by finding the mean score across segments for each of the three dimensions. (See Appendix B.) Agreement between judges was computed, with the mean score of the two judges used when there was a discrepancy.

Support for such an assessment of involvement by judges can be found in the role theory literature. Sarbin and Lim (1963) compiled a score of dramatic ability using three judges' ratings. Rotenberg and Sarbin (1971) used a measure of involvement in a role quite similar to that proposed here. Their subjects were prisoners playing various prison-relevant roles before different audiences. Three judges independently rated degree of involvement on a 6-point scale from completely involved to completely uninvolved using videotapes of the sessions. Involvement was operationally defined by overt signs of emotional and visceral participation, gestures, voice, posture, manner, appropriateness, and convincingness. Reliability of judges was computed by Kendall's coefficient of concordance with correction for ties.

Self-Report

Self-report of involvement was assessed by three questions in the post-experimental inquiry. Each question represents a rewording of the same basic point: were you able to suspend your knowledge of the role playing and become involved or act as if the situation were real? The mean of the responses to the three questions (Numbers 4, 5 and 6 in the post-experimental inquiry--see Appendix M) was used.

III. EXPERIMENTAL METHOD

Subjects

One hundred and two adult male subjects were recruited from advertisements in the Village Voice and several weekly neighborhood newspapers in Manhattan, and were randomly assigned to each of the three conditions. Each subject was paid $4 for his participation. Thirty-one subjects were in the Baseline Condition, and thirty were in both the Experimenter Absent and Victim's Limited Contract Conditions. Eleven subjects who indicated prior knowledge of Milgram's studies, after intensive screening,[2] were run in the Baseline Condition. Their results will be treated separately.

Procedure

Each subject-actor participated in a performed-improvised-behavioral role-playing version of one of the three conditions of

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[2]All of those who answered the advertisement were screened over the telephone for knowledge of Milgram's studies of obedience. All were asked a number of questions about their education, participation in other experiments and any reading they do, either regularly or occasionally, in the social sciences. Then, prospective subjects were asked if they read, or saw on television, anything about "a series of experiments done at Yale about 10 years ago by Milgram that concerned punishment and electric shock in a learning situation." If necessary, prospective subjects' knowledge of these studies was probed and all those who admitted familiarity with them were excluded. This procedure was quite effective, especially since the questions about Milgram's studies were given in a positive tone, such that most callers attempted to impress us with their knowledge of psychology. Three of the eleven subjects participated before the screening procedure was begun; the remaining passed through the telephone screening but recalled their knowledge of the studies as the instructions were given.

Milgram's obedience studies, Baseline, Experimenter Absent, and Victim's Limited Contract. The procedure used, tested in a pilot study, was an exact replication of that originally used by Milgram (1963, 1965, 1974), with all of the original equipment and instructions, except for minor changes necessary for use in a role-playing method.

When the subject-actor appeared for his appointment, the Role-Playing Ability Scale (Appendix C) was administered immediately. Then, the "project director" who greeted the subject and administered the scale introduced the subject to the confederate, explained the role-playing study, paid the subject, and obtained his informed consent to participate. (See Appendix E for Consent Form.)

Subject-actors were then brought into the laboratory by the "project director" and introduced to the experimenter who proceeded following Milgram's original instructions. (See Appendix F.) Only two changes were necessary in Milgram's instructions. The heart condition at the West Haven hospital became a heart murmur as a child. And, to further indicate that the shocks were not real, all subject-actors, when given "sample" shocks, actually felt nothing since the samples were not real. Subject-actors who mentioned that they felt nothing were told that the equipment was functioning properly. Word pairs used for the practice and actual lessons can be found in Appendices G and H, respectively. The answers given by the learner and the corresponding shock levels are included in Appendix I. Appendix J gives the learner's schedule of screams; Appendix K gives the experimenter's prods, and Appendix L is the release statement used in the Victim's Limited Contract Condition.

Immediately after the role-playing session, all subjects again met the confederate and participated in an open ended discussion with the "project director" to further reassure the subject-actor that the situation was not real, and to reduce any anxiety he might have. Subject-actors then responded to a post-experimental inquiry (see Appendix M) to access their involvement by self report, their feelings during the experiment, and the extent to which they were convinced that the shocks were not real, along with some additional questions.

The use of both a "project director" and experimenter was designed to reduce suspicion and increase the believability of the role-playing instructions. (The two persons filling these positions rotated their roles.) Subjects could then see one person, the "project director" as a non-role player and the other, the experimenter, as a role player. Thus, they were always able to maintain faith in the role-playing nature of the procedure and were never confused about when role playing began or ended.

IV. RESULTS AND PRELIMINARY DISCUSSION

Manipulation Check

In order to make certain that subject-actors had no doubt that this was indeed a role-playing study, and that the shocks administered were not real, the role of the project director, who explained the study, was created. Since the project director, unlike the experimenter, never played at a role, it was felt that the subject-actor would trust his assertions about the role-playing nature of the study, whatever the subjects' previous experience with psychology experiments. As assessed by a question on the post-experimental inquiry, subjects in all conditions were overwhelmingly certain, before entering the laboratory but after the role playing was explained, that the shocks were not real. As shown in Table 1, 90% of subject-actors in the Baseline and Contract Conditions, and 80% of those in the Experimenter Absent Condition--or a mean total of 86.6% of subject-actors--either thought or were convinced that the shocks were not real. The bulk of these subject-actors (over 70%) were convinced of this. Of the remaining subject-actors, only 5.5% thought or were convinced that the shocks were real, leaving 7.7% unsure.

During the experiment itself, despite its realistic props and screams, there was only a slight drop, to 81.1%, as indicated in Table 1, in the total percentage of subjects who believed that the shocks were not real. This decrease was attributable totally to subjects in the

Table 1

Percentage of Subject-Actors Indicating Shocks Were Real and Not Real

	Baseline Condition (n = 30)			Experimenter Absent Condition (n = 30)			Victim's Limited Contract Condition (n = 30)			All Conditions (n = 90)		
	Before	During	After	Before	During	After	Before	During	After	Before	During	After
Convinced Shocks Not Real	73.3	50.0	93.3	70.0	56.7	83.3	76.7	60.0	86.7	73.3	55.6	87.7
Thought Shocks Not Real	16.7	23.3	6.7	10.0	23.3	3.3	13.3	30.0	6.7	13.3	25.5	5.6
Subtotal Not Real	90.0	73.3	100.0	80.0	80.0	86.6	90.0	90.0	93.4	86.6	81.1	93.3
Unsure Whether Shocks Real or Not Real	3.3	20.0	0	10.0	6.7	10.0	10.0	3.3	6.7	7.7	10.0	5.6
Thought Shocks Real	0	3.3	0	6.7	3.3	0	0	0	0	2.2	2.2	0
Convinced Shocks Real	6.7	3.3	0	3.3	10.0	3.3	0	6.7	0	3.3	6.7	1.1

Notes. Before--Before entering the laboratory but after role playing was explained.
During--During the experiment, in the laboratory.
After --After the experiment, at the time of the post-experimental inquiry.

Baseline Condition; there was no change among those subjects in the Contract or Experimenter Absent Conditions. A brief inspection of the data also reveals that there was a decrease in the percentage of subjects who were convinced that the shocks were not real, from 73.3% to 55.6% and a concomitant increase in the numbers of those who thought the shocks were not real, from 13.3% to 25.5% for all conditions combined. Thus, the effect of the realistic screams was one of degree, rather than of kind, for most subjects.

Most subject-actors were thus able to maintain their knowledge of the fictional nature of the shocks and screams throughout the study, on some level. And even the faith of most of the doubters was restored by the debriefing, since 93.3% of subject-actors then believed that the shocks were not real.

Comparability of Levels of Obedience

One of the criteria for a successful simulation is similarity of outcome. Table 2 indicates the numbers of subject-actors defying the authority at each voltage level, and compares these results to Milgram's original findings for each of the three conditions. Since the pattern of results obtained for each experimenter was the same, the results are combined in this and all other analyses. A number of trends are clear for both the role-playing subject-actors and Milgram's deceived subjects of 14 years ago. Clusters of defiant subjects can be detected at the tenth shock level, 150 volts, when the learner first protested strongly. In the role-playing method, Experimenter Absent Condition, there is an additional cluster at the 8th level, 120 volts, when the learner made his first verbal response (as opposed to a grunt

Table 2

Maximum Shock Administered by Role-Playing Subject-Actors Compared to Milgram's Subjects, by Condition

Shock Level	Verbal Designation and Voltage Level		Condition					
			Baseline		Experimenter Absent		Contract	
			Role Playing (n = 31)	Milgram (n = 40)	Role Playing (n = 30)	Milgram (n = 40)	Role Playing (n = 30)	Milgram (n = 40)
0		0					2	
	Slight Shock							
1		15						
2		30						
3		45					1	
4		60						
	Moderate Shock							
5		75	1	1	1		1	
6		90				1		
7		105			1	1		
8		120			5			
	Strong Shock							
9		135	1			1		1
10		130	3	6	4	7	3	7
11		165			1	3	1	2
12		180		1		1		1
	Very Strong Shock							
13		195				5	2	1
14		210	2				1	
15		225				1		
16		240	1					1
	Intense Shock							
17		255						1
18		270		2		3		2
19		285						
20		300	4	1	1	3		1
	Extreme Intensity Shock							
21		315	1	1			1	3
22		330		1	2	1		
23		345					1	1
24		360	1		3	2	1	1
	Danger: Severe Shock							
25		375	1	1	1		1	1
26		390						1
27		405				1		
28		420			1	1		
	XXX							
29		435						
30		450	16	26	10	9	15	16
Mean maximum shock level			23.16	24.25	19.73	18.15	21.07	21.40

of mild pain previously). Another typical break-off point for both groups of subjects was at or after 300 volts, the twentieth level, when the learner refused to answer any longer.

These comparisons do not take into account the level of involvement of role-playing subjects, an issue which will be discussed later. However, ignoring the question of involvement for the present, the mean maximum shock levels for role playing and deceived subjects are roughly similar. For each of the three conditions, Baseline, Experimenter Absent, and Contract, there are no significant differences between the means (t = .685, p > .05, df = 69; t = .734, df = 68, p > .05; t = .146, df = 68, p > .05 respectively).

Comparability of Percentage of Obedient Subjects

Table 3 shows the percentage of obedient subjects in the studies using various role-playing methods, including the present study and Milgram's study, which employed a deception method. While it is, of course, not completely appropriate to make comparisons between outcomes obtained using diverse methods, the comparisons do provide some limited information on the success of the various simulations if a deception methods is used as a standard.

Only the present study simulated more than one condition of obedience. Disregarding differences in level of involvement among subject-actors, the percentage of obedience does not differ significantly from that obtained by Milgram, using deception, in any of the conditions. In the Baseline Condition, 51.29% of subject-actors were obedient, compared to 65% for deceived subjects (z = 1.162, p > .05); in the Experimenter Absent Condition, 33.3% of subject-actors and

22.50% of deceived subjects were obedient (z = 1.010, p > .05); and in the Victim's Limited Contract Condition, 50% of role players were obedient, compared to 40% of deceived subjects (z = .833, p > .05).

Table 3

Percentage of Obedient Subjects in Role-Playing and Deception Studies

Method	Condition		
	Baseline	Experimenter Absent	Victim's Limited Contract
Deception (Milgram)	65[a]	22.5[a]	40[a]
Role Playing			
Performed/Improvised/ Behavioral (Geller)	51.29[b]	33.3[c]	50[c]
Fully Prebriefed (O'Leary et al.)	70[a]		
Active (Mixon)	60[d]		

[a] n = 40

[b] n = 31

[c] n = 30

[d] n = 30

Similarly, the overall percentage of obedience obtained in the Baseline Condition of the present study does not differ significantly from the 70% level of obedience found by O'Leary et al. in a fully prebriefed role-playing simulation (z = 1.162, p > .05), and the 60% found by Mixon, among male active role players (z = .458, p > .05). Neither the results obtained by Mixon or O'Leary et al. differed significantly from those found by Milgram (z = .295 and z = .477,

respectively, $p > .05$).

Thus, comparing the percentage of obedient subjects, the various methods yield very similar results. However, the similarity of results does not, of course, imply that subjects in the various studies experienced the same processes. For role-playing subject-actors it is unclear whether the behavior is in response to mechanical play acting or engrossed role playing unless involvement in the role playing is taken into account. For the present study, then, these results were re-analyzed according to level of involvement.

Measures of Involvement

Judges' Ratings. After the rating of each judge for each subject-actor[3] was obtained, agreement between the two judges was calculated. The intraclass correlation coefficient between the judges was .93, indicating a very high and reliable level of agreement. The mean of the two judges' mean ratings was the rating of involvement used for all subsequent analyses.

On the whole, the judges' ratings of involvement were high. On a scale from 1 (least involved) to 6 (most involved), the mean rating in the Baseline Condition was 4.402, with a standard deviation of 1.340. In the Experimenter Absent Condition, the mean was 4.802, with

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[3]Of the 91 subject-actors who participated in the three conditions of this study, only 87 are included in this, and all subsequent analyses. Complete data on four subject-actors was not available, due to technical problems with the video tape recorder which precluded judges' ratings of involvement. Thus, complete data were available for 30 subject-actors in the Baseline Condition, 28 in the Experimenter Absent Condition, and 29 in the Victim's Limited Contract Condition.

a standard deviation of 1.070 and in the Victim's Limited Contract Condition, the mean involvement rating was 4.373, with a standard deviation of 1.353.

Despite efforts to the contrary, it is possible that the judges' ratings were markedly influenced by their knowledge of whether the subject was obedient or defiant. An examination of the means for these two groups indicates that, as shown in Table 4, the only significant difference in the mean ratings given by the judges was in the Baseline Condition, where obedient subject-actors were rated lower than defiant subject-actors ($p < .02$). For all conditions combined, the judges' ratings of obedient subject-actors were significantly lower than those of defiant subject-actors ($p < .01$). These few significant differences may not be important for the interpretation of the results. The dichotomization of behavior into obedient and defiant, when defiance is a continuous variable, completely obscures any differences within the defiant group. Thus the results of the regression analysis will be more meaningful than this dichotomized analysis.

However, differences between the means of the obedient and disobedient subjects may be due to real differences in involvement, not spurious ones, since one would expect the most involved subject-actors to be more defiant. One way to measure the extent to which the judges' ratings were contaminated by the subject-actors' break off point would be to look at the mean rating for the first three minute segment on each subject, before the judges had any information on obedience or disobedience. For all conditions combined, first judges' ratings for defiant subject-actors were significantly higher than those for obedient

Table 4

Means and Standard Deviations of Involvement Ratings for Obedient and Defiant Subject-Actors, by Condition

		Obedient		Defiant		
Condition	Rating	mean	sd	mean	sd	t
		(n = 15)		(n = 15)		
Baseline	FJR[a]	3.937	1.221	4.324	.710	1.063
	JR[b]	3.834	1.611	4.960	.658	2.525**
	SR[c]	2.367	.940	2.955	.653	1.652
		(n = 10)		(n = 18)		
Experimenter Absent	FJR	4.185	.805	4.632	.876	1.330
	JR	4.322	1.282	5.068	.860	1.845
	SR	3.333	.444	2.999	.627	1.486
		(n = 15)		(n = 14)		
Victim's Limited Contract	FJR	3.880	1.043	4.322	1.084	1.119
	JR	4.079	1.284	4.689	.891	1.475
	SR	3.134	.734	3.142	.594	.032
		(n = 40)		(n = 47)		
Total	FJR	3.978	1.031	4.441	.881	2.237***
	JR	4.048	1.375	4.924	.801	3.648*
	SR	2.934	.824	3.028	.611	.603

[a] FJR - First Judges' Ratings

[b] JR - Judges' Ratings

[c] SR - Self-report Ratings

* $p < .01$

** $p < .02$

*** $p < .05$

subject-actors ($p < .05$; see Table 4). Thus, the higher scores on involvement for defiant subject-actors were initially evident and not influenced by the judges' knowledge of the break off point. In addition, for all conditions, the first judges' rating and the overall judges' rating were correlated significantly. The Pearson product moment coefficients were: in the Baseline Condition, $r = .825$, $p = .001$; in the Experimenter Absent Condition, $r = .559$, $p = .002$; and in the Victim's Limited Contract Condition, $r = .784$, $p = .001$. These high correlations indicate that the judges' ratings of involvement were initially accurate and relatively unconfounded by whether or not the subject-actors were obedient.

Self-Report Ratings of Involvement. Subject-actors' self-report ratings of involvement were computed from the mean of their responses on items 4, 5, and 6 of the Post Experimental Inquiry (Appendix M). These ratings are on a scale ranging from 1, least involved, to 4, most involved. The mean rating for the Baseline Condition was 2.711, $sd = .833$; for the Experimenter Absent Condition, the mean was 3.118, $sd = .583$; and for the Contract Condition, the mean was 3.138, $sd = .658$. An examination of Table 4 shows that the mean self-report ratings of involvement were similar for obedient and disobedient subject-actors. None of these differences were significant ($p > .05$). Self-report ratings of involvement were significantly correlated with the judges' ratings ($r = .551$, $p = .002$) in the Baseline Condition, but not in the Experimenter Absent or Contract Conditions ($r = .069$, $p = .727$ and $r = .048$, $p = .806$ respectively). The absence of a correlation between these ratings in two conditions is difficult to

interpret, but may be explained by the general difficulties found with self-report assessments.

Role-Playing Ability Scale. Since subject-actors were randomly assigned to conditions, and the scores on this scale were determined before the subject-actor knew the details of the study, it is not essential to analyze the scores on the role-playing scale for each condition separately. However, mean scores are presented for each condition separately, in keeping with the other analyses. In the Baseline Condition, the mean scores on the two subscales, Acceptance of Altered Processes and Role Absorption were 12.87 (sd = 3.20) and 15.53 (sd = 5.56) respectively. In the Experimenter Absent Condition, the respective means were 13.46 (sd = 2.77) and 18.68 (sd = 5.27), while in the Victim's Limited Contract Condition, the mean scores were 13.79 (sd = 2.87) and 17.07 (sd = 4.05). Maximum possible scores were 21 on Acceptance of Altered Processes and 29 on Role Absorption. The similarity of the means for all conditions indicates the absence of differences between the groups in terms of ability to become involved in one's role.

Factors of Involvement

To determine whether the separate independent measures of involvement were assessing the same underlying component, they were analyzed by a principal components factor analysis with a varimax rotation. Two factors of involvement emerged. The first factor, Predicted Involvement, was derived from the two subscales of the Role-Playing Ability Scale, which loaded significantly on it. The second factor, Assessed

Involvement, was derived from the judges' ratings of involvement and the self-report ratings of involvement. The rotated factor matrix is shown in Table 5.

Table 5

Rotated Factor Matrix

Variables	Factors	
	Predicted Involvement	Assessed Involvement
Judges' Ratings	.0325	.4913*
Self-report Ratings	.1292	.5647*
Acceptance of Altered Processes Subscale	.5721*	.0556
Role-Absorption Subscale	.6545*	.1232

*Significant factor loadings, $p < .01$

However, the weakness of the two factors of involvement, which combined account for only 33.8% of the variance (19.3% for Predicted Involvement and 14.5% for Assessed Involvement) raises doubts about the appropriateness of their use in the regression analysis. For the factors to be of any additional value, they would have to account for a much larger proportion of the variance. The results of a regression analysis using the two factors of involvement are, however, presented in Appendix N. The regression analysis proceeds using the four separate measures of involvement because of their greater strength as independent measures.

Regression Analysis Using Four Indicators of Involvement

A stepwise multiple regression analysis was performed with the four separate indicators of involvement: judges' ratings, self-report ratings, and the two subscales of the Role-Playing Ability Scale, Acceptance of Altered Processes and Role Absorption. This was to test the hypothesis that in the Experimenter Absent Condition an increase in involvement will lead to a decrease in obedience, while involvement will not effect obedience in the other two conditions. In the Baseline Condition, the regression of level of disobedience on any of the four indicators of involvement was not significant, as predicted. In the first step, with judges' ratings the selected variable, $F = 3.390$, $df = 1, 28$, $p > .05$. The multiple correlation coefficient, $R = .329$, indicated that this variable accounted for 10.8% of the variance. The second and third steps, with the addition of the Acceptance of Altered Processes Subscale of the Role-Playing Ability Scale and self report, did not significantly change the regression equation. Thus, the three variables used in this equation accounted for only 20.4% of the variance. (See Table 6.)

In the Experimenter Absent Condition, as shown in Table 7, the regression of level of disobedience on judges' ratings of involvement was significant ($F = 6.950$, $df = 1, 26$, $p < .05$), with judges' ratings accounting for 21.1% of the variance ($R = .459$). Thus, as predicted, as judges' ratings of involvement increased, the level of disobedience decreased. Put more simply, the more involved subject-actors were significantly more likely to disobey the authority at a lower level than less involved subjects. The addition of a second and third

Table 6

Multiple Regression Analysis, Baseline Condition

	Variables in Equation					Analysis of Variance						
	Variable	B	Beta	F	p		SS	df	F	p	Multiple R	R Square
Step 1.	JR[a]	-2.046	-.329	3.390	ns*	Regression	217.943	1	3.390	ns	.329	.108
						Residual	1,799.924	28				
Step 2.	JR	-2.117	-.340	3.860	ns	Regression	388.032	2	3.214	ns		
	RPA[c]	.757	.290	2.818	ns	Residual	1,629.835	27			.438	.192
Step 3.	JR	-1.664	-.267	1.624	ns	Regression	412.450	3	2.226	ns	.452	.204
	RPA	.750	.288	2.704	ns	Residual	1,605.417	26				
	SR[b]	-1.320	-.132	.395	ns							

Note. (F-level insufficient for further computation.)

*ns - not significant, $p > .05$

[a]JR - Judges' Ratings

[b]SR - Self-report Ratings

[c]RPA - Role Playing Ability Scale, Acceptance of Altered Processes Subscale

Table 7

Multiple Regression Analysis, Experimenter Absent Condition

	Variables in Equation					Analysis of Variance					Multiple R	R Square
	Variable	B	Beta	F	p		SS	df	F	p		
Step 1.	JR[a]	-4.223	-.459	6.950	< .05	Regression	551.514	1	6.950	< .05	.459	.211
						Residual	2,063.165	26				
Step 2.	JR	-3.460	-.376	4.146	ns*	Regression	672.441	2	4.328	< .05		
	RPB[d]	- .431	-.320	1.557	ns	Residual	1,942.237	25			.507	.257
Step 3.	JR	-3.755	-.408	4.559	< .05	Regression	717.084	3	3.023	< .05	.524	.274
	RPB	- .528	-.282	2.018	ns	Residual	1,897.594	24				
	RPA[c]	.527	-.148	.565	ns							
Step 4.	JR	-3.750	-.408	4.370	< .05	Regression	723.000	4	2.198	ns	.526	.276
	RPB	- .535	-.286	1.985	ns	Residual	1,891.679	23				
	RPA	.502	.141	.483	ns							
	SR[b]	.818	.048	.072	ns							

*ns - not significant, p > .05

[a]JR - Judges' Ratings

[b]SR - Self-report Ratings

[c]RPA - Role Playing Ability Scale, Acceptance of Altered Processes Subscale

[d]RPB - Role Playing Ability Scale, Role-Absorption Subscale

variable, the two subscales of the Role Playing Ability Scale, increased the variance accounted for to 25.7% and 27.4%, respectively; neither of these increases was significant, although the combined regression equation remained significant. The fourth variable, self-report, barely accounted for any additional variance and substantially weakened the regression equation (F = 2.198, df = 4.23, $p > .05$).

Table 8 shows the regression analysis for the Victims' Limited Contract Condition. For the first variable, judges' ratings, the analysis is not significant (F = 2.619, df = 1,27, $p > .05$), with a multiple R = .297, accounting for 8.8% of the variance. The subsequent addition of the Role Absorption Subscale and self report neither significantly increased the variance accounted for, nor significantly changed the regression equation.

Thus, as predicted, increased involvement in the role playing was accompanied by greater defiance of the authority only in the Experimenter Absent Condition. In the Baseline and Contract Conditions involvement did not significantly effect levels of obedience. The regression analysis further indicates that, of the four measures of involvement, only judges' ratings emerged as a significant measure of level of involvement. A complete discussion of these results is included in the next chapter.

Involvement and Obedience

The comparisons between these role-playing results and those obtained in Milgram's original study, can be refined by distinguishing between the most and least involved subject-actors. On the basis of

Table 8

Multiple Regression Analysis, Victim's Limited Contract Condition

	Variables in Equation					Analysis of Variance					Multiple R	R Square
	Variable	B	Beta	F	p		SS	df	F	p		
Step 1.	JR[a]	-2.659	-.297	2.619	ns*	Regression	255.299	1	2.619	ns	.297	.088
						Residual	2,631.459	27				
Step 2.	JR	-2.969	-.332	3.060	ns	Regression	320.314	2	1.622	ns		
	RPB[c]	- .386	-.154	.659	ns	Residual	2,566.444	26			.333	.111
Step 3.	JR	-3.001	-.336	2.995	ns	Regression	325.957	3	1.061	ns	.336	.113
	RPB	- .402	-.161	.676	ns	Residual	2,560.801	25				
	SR[b]	.690	.045	.055	ns							

Note. (F-level insufficient for further computation.)

*ns - not significant, p > .05

[a]JR - Judges' Ratings

[b]SR - Self-report Ratings

[c]RPB - Role Playing Ability Scale, Role-Absorption Subscale

the hypotheses, it would be predicted that if involvement were categorized, rather than viewed as a continuous variable, only the results for the most involved subject-actors--those who were believed to role play successfully--would be comparable to those obtained from Milgram's deceived subjects.

Subject-actors were divided into three groups, most involved, somewhat involved, and least involved by taking the upper, middle, and lower third of judges' ratings of involvement for each condition. The mean judges' ratings for each group are shown in Table 9.

Table 9

Mean Judges' Ratings for Each Level of Involvement by Condition

	Baseline	Experimenter Absent	Victim's Limited Contract
Most Involved	5.498[a]	5.7806[b]	5.545[a]
Somewhat Involved	4.8515[a]	5.073[a]	4.3922[b]
Least Involved	2.8555[a]	3.5228[b]	3.1845[a]

[a] $n = 10$

[b] $n = 9$

The mean shock level administered by most and least involved subject-actors is shown in Table 10. While least involved subject-actors had a higher mean break-off point, as predicted, the differences were not significant ($t = .503$, $df = 18$, $p > .05$ in the Baseline Condition; $t = 1.720$, $df = 16$, $p < .10$ in the Experimenter Absent Condition; and $t = 1.567$, $df = 18$, $p < .10$ in the Contract Condition--all tests are one-tailed), although there was a clear trend in the

predicted direction in the Experimenter Absent and Contract Conditions.

Table 10

Mean Shock Level Administered for Most and Least Involved Subject-Actors, by Condition

	Baseline	Experimenter Absent	Victim's Limited Contract
Most Involved	22.8	16.67	19.8
Least Involved	24.8	24.44	26.4

Of most interest is the percentage of obedient subjects by level of involvement. (See Table 11.) Among the most involved subject-actors, the rates of obedience are remarkably similar and not significantly different from those found by Milgram: in the Baseline Condition, 50% were obedient, compared to 65% of Milgram's subjects ($z = .867$, $p > .05$); in the Experimenter Absent Conditions, nearly identical percentages of obedience were obtained--22.2% of most involved subject-actors versus 22.5% of Milgram's deceived subjects ($z = .019$, $p > .05$); in the Contract Conditions, identical 40% rates of obedience were obtained ($z = 0$, $p > .05$). To test the significance of the difference between proportions arcsine transformations of the proportions were used, as recommended with small numbers (Cohen, 1969). While the decrease in obedience among most involved subject-actors from the Baseline to the Experimenter Absent Conditions was not significant, the difference approached significance ($p < .10$). The lack of a significant difference may be due to the small numbers; with this sample size a difference between proportions of over .45 would be

Table 11

Percentage of Obedient Subject-Actors by Level of Involvement Compared to Milgram's Findings, by Condition

	Baseline	Experimenter Absent	Victim's Limited Contract
Milgram's Subjects	65	22.5	40
Subject-Actors			
Most Involved	50	22.2	40
Somewhat Involved	30	30	44.4
Least Involved	70	55.6	70

needed to reach significance. For Milgram's deceived subjects the decrease in obedience from the Baseline to the Experimenter Absent Condition, as computed by this author, was significant ($z = 3.864$, $p < .01$). In the present study, like Milgram's study, the difference in obedience between subject-actors in the Baseline and Contract Conditions was not significant, using arcsine transformations ($p > .05$). Furthermore, as predicted, the rates of obedience for least involved subject-actors were uniformly higher than those for most involved subject-actors.

While the classification of subject-actors into most involved, somewhat involved, and least involved is not essential, given the clear relationships between involvement (as a continuous variable) and obedience demonstrated in the regression analyses, it does permit simple comparisons to findings obtained for non-simulating subjects. In accordance with the predictions, the rates of obedience for the most involved subject-actors, who presumably were successful in suspending

the role-playing set of instructions, were extraordinarily close to--and not significantly different from--those found by Milgram. For these most involved subject-actors, who were thus responding primarily to an obedience/defiance situation, the impact of each condition was clear. The least involved subject-actors, who were continually aware of the role-playing set of instruction, did not demonstrate the differences between the conditions and were thus evidently not responding to the situation as one of obedience/defiance to authority. This too is consistent with predictions. The responses of the somewhat involved subjects, given their probable confusion about what the situation was, can not be easily explained.

Reactions to the Experiment

Following the completion of the role-playing study, subject-actors responded to a series of questions in the post-experimental inquiry (Appendix M) which were designed to provide additional information concerning their reactions to the experiment. While no specific hypotheses were formulated, the results were analyzed for obedient and defiant subject-actors by level of involvement.

Assigning Responsibility. Following the experimental debriefing, Milgram asked his subjects to assign responsibility for the administration of the shocks--assuming that they were real--to the experimenter, the teacher (themselves), and the learner. The same question was asked of role-playing subject-actors (Item #10, Appendix M), with the results shown in Table 12. Without looking at differences between most and least involved subject-actors, differences between conditions were

Table 12

Percentage of Responsibility for Administering the Shocks Assigned to the Experimenter, Teacher, and Learner

Condition	n	Experimenter	Teacher	Learner
Baseline				
Obedient				
Most Involved	5	29	37	34
Least Involved	7	54.76	28.33	16.90
All	15	43.49	33.89	22.62
Defiant				
Most Involved	5	45.67	38.67	15.67
Least Involved	3	46.67	33.33	20
All	15	49.29	34.82	15.89
Experimenter Absent				
Obedient				
Most Involved	2	35	62.50	2.50
Least Involved	5	54	32	14
All	10	49	36	15
Defiant				
Most Involved	7	55	39.86	5.14
Least Involved	4	58.33	20.82	20.82
All	18	50.09	33.37	16.53
Victim's Limited Contract				
Obedient				
Most Involved	4	60.75	26	13.25
Least Involved	7	49.76	37.61	12.61
All	15	47.64	32.70	19.64
Defiant				
Most Involved	6	43.60	38.60	17.77
Least Involved	3	50	48.33	1.67
All	14	43.69	46.19	10.12

slight, with the exception of the Contract Condition, in which defiant subject-actors assigned a larger proportion of the responsibility to themselves (46.19%) and less to the learner (10.12%) than did obedient subject-actors (32.70% and 19.64% respectively) or subject-actors in either of the other conditions.

In the Baseline Condition, least involved obedient subject-actors assigned more responsibility to the experimenter (54.76%) than did the most involved obedient subject-actors (29%), who redistributed the responsibility more heavily to themselves (37%) and to the learner (34%). Differences between most and least involved obedient subject-actors were minor.

In the Experimenter Absent Condition, least involved obedient subject-actors also assigned more responsibility to the experimenter (54%) than did the most involved (35%), although with only 2 subject-actors in the latter category, the results may not be reliable.

In the Contract Condition, it is the most involved obedient subject-actors who assign more responsibility to the experimenter (60.75%) and less to themselves (26%), compared to the least involved who assign 49.76% to the experimenter and 37.61% to themselves. Differences between the disobedient are less clear.

It would be relatively meaningless to compare any of these findings to those reported by Milgram, since his results included subjects from four conditions in which the feedback received from the learner and the learner's proximity to the teacher were varied.

Nervousness. The most involved, obedient subject-actors rated themselves between "slightly" and "somewhat" tense and nervous in all

conditions. The least involved, obedient subject-actors reported that they were neither tense and nervous nor calm and relaxed, except in the Contract Condition, where they rated themselves as slightly calm. Among defiant subject-actors, there were only minor differences, according to degree of involvement. The most involved defiant subject-actors were slightly, but uniformly, less tense than the most involved obedient subject-actors. (See Table 13.)

Table 13

Mean Reports of Tenseness/Nervousness During the Experimemt

	Baseline Condition	Experimenter Absent Condition	Victim's Limited Contract Condition	All Conditions
	n	n	n	n
Obedient				
Most Involved	2.6 (5)	2.5 (2)	2.5 (4)	2.5 (11)
Least Involved	4.0 (7)	4.2 (5)	5.3 (7)	4.5 (19)
All	3.3 (15)	4.1 (10)	4.4 (15)	3.9 (40)
Defiant				
Most Involved	3.0 (5)	3.9 (7)	3.8 (6)	3.5 (18)
Least Involved	3.0 (3)	3.0 (4)	4.0 (3)	3.4 (10)
All	2.8 (15)	3.6 (18)	3.4 (14)	3.3 (47)

Note. Reports on scale from 1 (Extremely tense and nervous) to 7 (Extremely calm and relaxed)

Willingness to Participate. Among the most involved subject-actors, obedient subject-actors indicated fewer regrets about their participation in the study (with mean ratings between somewhat glad and glad) than did defiant subject-actors, whose mean ratings were just less than somewhat glad. There were little differences in these ratings among the least involved. (See Table 14.)

Table 14

Mean Reports of How Glad Subject-Actors Felt about their Participation

	Baseline Condition	Experimenter Absent Condition	Victim's Limited Contract Condition	All Conditions
	n	n	n	n
Obedient				
Most Involved	4.0 (5)	5.0 (2)	4.2 (4)	4.5 (11)
Least Involved	4.1 (7)	3.8 (5)	4.0 (7)	4.0 (19)
All	4.0 (15)	4.2 (10)	4.2 (15)	4.1 (40)
Defiant				
Most Involved	3.6 (5)	4.1 (7)	4.0 (6)	3.8 (18)
Least Involved	3.7 (3)	3.5 (4)	4.0 (3)	3.8 (10)
All	3.9 (15)	3.9 (18)	3.5 (14)	3.8 (47)

Note. Reports on scale from 1 (Regretful) to 5 (Glad)

What if it Were Real? As shown in Table 15, least involved obedient subject-actors are more likely to say that they would not respond the same way if they were led to believe the shocks were real than the most involved obedient. There are no such differences among the defiant. Overall, obedient subject-actors are more likely to say they would not respond the same than defiant subject-actors.

Expectations about Performance. Obedient and defiant subject-actors showed little difference in how they thought they were expected to act in administering the shocks. (See Table 16.) Least involved subject-actors were, however, more likely to think they were expected to continue giving the shocks than were the most involved.

Knowledgeable Subject-Actors

Of the eleven subject-actors who were familiar with Milgram's research and participated in the Baseline Condition, 36.36% were

Table 15

How Subject-Actors Thought They Would Respond If They Were Led to Believe Shocks Were Real, by Percent

	Most Involved		Least Involved		All	
	Obedient (n = 11)	Defiant (n = 18)	Obedient (n = 19)	Defiant (n = 10)	Obedient (n = 40)	Defiant (n = 47)
Not at all the same	27.3	33.3	63.1	30	47.5	23.3
Little bit the same	27.3	22.2	15.8	10	20	21.3
Pretty much the same	45.4	27.8	21	40	27.5	38.3
Exactly the same	0	16.7	0	20	5	17

Table 16

Subject-Actors' Expectations of Action in Administering Shocks, by Percent

	Most Involved		Least Involved		All	
	Obedient (n = 11)	Defiant (n = 18)	Obedient (n = 19)	Defiant (n = 10)	Obedient (n = 40)	Defiant (n = 47)
Thought they Were Expected To:						
Continue	27.3	33.3	42.1	50	37.5	38.3
Stop	9.1	11.1	21.1	10	15	10.6
Had No Expectations	63.6	55.5	36.8	40	47.5	51.1

obedient to the 450 volt level. The mean shock level administered was 19.54 (293 volts). Two of these subject-actors refused to administer any shocks whatsoever, with one breaking off when the learner was first strapped in the chair and the other during the practice lesson. Judges' ratings of involvement (which ranged from 1.45 to 5.045) were available for only seven of these subject-actors, so no meaningful analysis could be made.

These results are comparable to Mixon's finding that 40% of graduate students familiar with Milgram's work obeyed in active role playing.

V. DISCUSSION

In this role-playing study of obedience, simulation of the outcome and processes associated with Milgram's original work on obedience was "successful" only among those subject-actors who were most involved in the role-playing task. As hypothesized, the differential responses among subject-actors according to level of involvement was a function of experimental condition. Thus, as hypothesized, this difference was observed only in the Experimenter Absent Condition, not in the Baseline and Victim's Limited Contract Conditions. In other words, only in the Experimenter Absent Condition was the regression of obedience on involvement (using the four separate measures of involvement) significant; thus, as subject-actor's involvement in the role-playing task increased, there was a decrease in obedience to the authority. The relationship between level of involvement and obedience was observed only in the Experimenter Absent Condition because, as theorized earlier, only in that condition did the sets of the most involved and the least involved subject-actors lead to different behavioral expectations. In the Baseline and Contract Conditions the relationship between obedience and involvement was not significant, as predicted. This lack of difference was important, since role playing successfully replicated the surprising inability of the contract to significantly reduce obedience, as found by Milgram (1974).

In order to understand the importance of the subject-actor's level of involvement in the role-playing task it is necessary to

consider the elements required for a successful simulation. If a simulation is to be considered a successful replication of a non-simulation study both the findings (outcome) and the subject-actor's experiences in the study (processes) must be substantially similar (cf. Hamilton, 1974). In contrast, replications of studies using the same or very similar methods are generally termed successful if previously obtained findings are replicated, because it is assumed that the processes must be similar. (This assumption of similarity of process in methodologically similar replications needs to be examined as carefully as it is in simulations. Indeed the failure of some studies to replicate findings successfully could be due to differences in process which have been overlooked.)

A primary focus of any experiment must then be its ability to reproduce process. Ultimately, the experiment must be designed to make the subject's experience as close as possible to an analogous situation in the real world, such that the processes observed will be natural ones. The similarity between Milgram's study of obedience and real obedience to authority has been well documented (Milgram, 1964, 1972, 1974; Crawford, 1972) and is most dramatically illustrated by the dilemmas faced by an American soldier at My Lai. Given the nearly exact replication of Milgram's study within a role-playing model, for the most involved role players the dilemmas became essentially the same as those faced by Milgram's subjects: the juxtaposition of social, situational, and personal determinants of behavior. Thus, among involved role-playing subject-actors the strains, conflicting demands, and, ultimately, the choices between obedience or disobedience were often strikingly portrayed.

In most previous role-playing studies, the focus has been on outcome, and processes have never been adequately assessed. For example, in the role-playing simulations of obedience by Mixon (1971) and O'Leary et al. (1970), it has been noted that many subjects responded with some of the same external signs of tension and nervousness that Milgram's subjects typically exhibited: sighing, sweating, tapping of the fingers, nervous laughter, etc. O'Leary et al. even simulated ratings of painfulness of the shocks among their subjects. However, mere observation of these signs of tension and nervousness does not distinguish between those subject-actors who are trying to fake what they think are appropriate responses and those who, because of their intense involvement, are actually experiencing these responses. In order to make this essential distinction in the subject-actor's experience (process), this study introduced the procedure in which trained judges rated involvement. (See Appendix A.)

In assessing involvement, it was assumed that the most involved subject-actors were experiencing the situation in a manner similar to non-simulators since these involved subject-actors successfully suspended the "let's pretend" nature of the study and acted as if it were real. The ratings of involvement, then, were based on the implicit assumption that realistic behavioral and emotional responses--similar, in fact, to those of non-simulators--had to be accompanied by psychologically experienced similarity of process. In other words, the phenomenological reality of the most involved role players was likely to be similar to that of non-simulators. As one subject-actor said in the post-experimental inquiry, "it was a state of being aware but at

the same time being able to transcend the actual awareness." Another stated that he "got involved so much that the situation became real."

Perhaps the experience of the most involved subject-actors as being in a situation of obedience to authority can best be understood with an example. One of the most involved subject-actors demonstrated the conflict between defiance and obedience. Looking very nervous and genuinely disturbed over the increasingly high and painful shocks, he attempted to minimize the pain by pressing the shock lever only slightly, and very quickly. When the learner gave a wrong answer he spontaneously cried "Oh, no, no, no!" while moving his body and hands expressively. Attempting a solution to his conflict, he began verbally emphasizing the right answer and urged the learner to "relax and listen to what I'm saying." When it became clear that the learner was not listening, he raised his voice angrily, saying: "If you just listen to this thing you won't have any trouble with it." When the learner refused to answer at 300 volts, he expressed concern that the learner might be hurt or dead. At this point, he finally defied the authority, asserting: "Yes, I do have a choice."

The least involved, however, experienced process very differently from both non-simulators and highly involved simulators. These least involved subject-actors may have been responding to another set of cues, cognitive rather than emotional in their derivation. These subject-actors, at all times fully cognizant that this was a role-playing situation, where the shocks and screams were not real, for the most part responded to the experimenter's commands simply because they <u>knew</u> that there was no harm in so doing. It was as if they were thinking:

"Sure, I'll do what he wants me to do, after all, none of this is real." Some of the least involved subject-actors did disobey (although only 30%, compared to 50% of the most involved); we could speculate that their motivation for disobeying was to act like a concerned person would act, or to look good for the experimenter.

Another example clearly demonstrates the behavior of one of the least involved subject-actors. This subject, for the most part, was fairly deliberate in his behavior and moved little during the experiment. Treating the experiment in a very light manner, he yelled at the learner to "shut up," smiled, and sometimes even laughed after the screams. Later he explained that he did not think the screams were very convincing. His responses to the screams appeared studied and methodical, and he went through the procedure very quickly.

In the Baseline Condition, the outcome, in terms of percent of obedient subject-actors (regardless of level of involvement) and mean level of shock administered, was parallel to that found by Milgram. These findings were also similar to those obtained by O'Leary et al. for role-playing subjects; the slightly higher, but non-significant rates of obedience found by O'Leary et al. may be attributable largely to their use of college students, who may be more obedient than adults of various ages (Milgram, 1972).

The similarity in outcome between the most and least involved subject-actors does not, of course, imply similarity of process. The most involved were responding to the same cues as non-simulators; they acted as if everything were real and, being in a highly compelling situation with the authority (the experimenter) very salient, many of

them obeyed the authority. In contrast, the least involved, as explained above, obeyed because they knew it was not real and there was no harm in doing what the experimenter asked.

Subject-actors in the Contract Condition, like Milgram's deceived subjects, did not experience the situation significantly differently from those in the Baseline Condition, and the behaviors of the most and least involved can be explained in the same way as for those in the Baseline Condition.

In the Experimenter Absent Condition, the least involved subject-actors responded according to the same motivational set as the least involved in the Baseline and Contract Conditions. The fact that the experimenter was out of the room made little difference to them, and most of them (55.6%) continued to obey. The most involved, however, like Milgram's subjects, faced a different set of circumstances; with the experimenter's absence and reduced saliency, the situational cues to obey were no longer compelling, and many more (87.8%) disobeyed.

Measuring Involvement

The distinction between most and least involved subject-actors was made on the basis of judges' ratings of involvement, one of the assessed behavioral measures of involvement. The failure of the self-report measure of involvement to similarly predict behavior in the experimental conditions may be due to the nature of involvement. Involvement, rather than being something of which one is aware, may not be a conscious entity. The other two measures of involvement were the two subscales of the Role-Playing Ability Scale. It was hoped that a trait of role-playing ability could be identified which would be useful

in the selection of prospective subjects who could suspend reality and become involved in role playing. Unfortunately, neither of these instruments met this goal, with the correlations between both of the subscales and the judges' ratings being non-significant in all cases.

The judges' ratings of involvement were, however, found to be a strong and reliable estimate of actual behavioral involvement and was not contaminated by the judges' knowledge of whether or not the subject-actor defied or obeyed the authority. The procedures developed for judging involvement proved to be extremely objective and very high agreement between the two judges was obtained.

Encouraging Involvement

If role playing is to be viewed as a successful alternative method to deception, there must be confidence in the strength and believability of the manipulation. Prospective subjects must be certain, no matter how cynical they may have become about the purported reputation of the experimental social psychologist as a con artist, that they are not being "taken in" in the ultimate deception study, in which the experimenter goes out of his way to convince them that he is honest while all along engaging in some sort of super-trickery. A very suspicious subject might simply think that the experimenter protests too much, or might place as much faith in the experimenter's honesty as he would in a used car dealer called "Honest John."

Considerable effort was made in this study to persuade even the most resolute doubters of the honesty of the design and to avoid the confusion and design problems that beset other role-playing studies of obedience (e.g., Mixon, 1972; Albrecht, 1973). One important procedure

was to separate the roles of experimenter, who was himself playing a role and pretending everything was real, and "project director," who explained the study but did not play a role in the experiment per se. This made it easy for the subject-actor to know, and to understand, who could be believed. Another procedure was for the confederate himself to tell the subject-actor about his fake screams, and to remind him several times of the "play" nature of his role. An additional safeguard was to ask all subject-actors to restate the idea of the study in their own words, in order to make certain that they truly understood the oral instructions.

To prevent the subject-actor from forgetting the "as if" nature of the study, he was subtly reminded when administered a "sample shock," which, of course, he could not feel. A few subject-actors even pretended to feel this sample shock by grunting or recoiling from the shock. Once the actual simulation began, however, real props and complete in-role behavior by the experimenter and confederate were necessary to encourage involvement.

As evidenced by the near universal faith among subject-actors that the shocks were not real (93.3% thought the shocks were not real after the study was completed), these procedures were successful and worthwhile. And, the ability of so many subject-actors (including a few subject-actors who were familiar with Milgram's findings) to act as if the situation were real, testifies that a broad range of subject-actors could experience the whole scenario as if it were real, even while they believed it to be fake. Interestingly, among the 6.7% of subject-actors who were not certain whether the shocks were real or not (only

one subject-actor thought the shocks were real after the study), all but one were judged to be highly involved. Perhaps their own involvement in the reality of the procedure led to this doubt.

Subject-Actors' Response to the Experiment

The videotapes provide a record of the extent and depth of the emotional responses of involved subject-actors. Grimaces, looks of stress, and expressions of empathy or sympathy for the victim's suffering were commonly observed in subject-actors. Some role-playing subjects would smile or laugh nervously when the learner screamed in pain while others would cover their face with their hands or engage in some nervous activity. Nervous activities which were observed throughout the procedure included scratching, tapping, fidgeting, adjusting clothing, rubbing hands on legs, clenching of the hands, folding arms, crossing legs, rocking back and forth, and biting fingernails. There were also changes in voice tone which reflected the repertoire of emotions. Subject-actors pleaded, yelled, shouted, hoped, hinted, emphasized, whispered, mumbled, hesitated, stammered, squealed, and shivered. They sounded frightened, overwhelmed, stern, intimidated, pedantic, exhausted, bored, and even sadistic. This range of responses was observed more frequently among the most involved, although virtually all subject-actors exhibited many of these responses. Some of them, to be sure, were stiff and staged, but many were astonishingly real and vivid.

The findings of the post-experimental inquiry confirm these observations of the extent of their emotional responses. The most involved subject-actors reported that they felt more tense and nervous

than the least involved, and among the most involved, the defiant were most nervous. That the defiant involved felt more tension than the obedient involved shows the real press of forces that they were operating under; they had to cope with the conflict between the experimenter's imperative to obey versus their internal moral imperative to defy. Further evidence of the extent to which the most involved felt their experience to be real was the finding that, among obedient subject-actors, the most involved were less likely to report that they would respond differently if the situation were real.

The responsibility assigned to each of the participants by the subject-actors provided further evidence of the reality of the situation for the most involved. Many of the most involved obedient subject-actors could not escape the fact that they themselves were responsible for administering the shocks, and assigned responsibility accordingly. The least involved, however, were more likely to place the responsibility more heavily on the experimenter, whose orders they were simply following. In the Contract Condition, as would be expected, this finding was weaker: many of the subject-actors directly questioned the experimenter about his agreement with the learner, and some were relatively content to let the experimenter shoulder the responsibility. Like Milgram's subjects, some asked if the experimenter was willing to break his contract with the victim, assume the responsibility, or engage in "illegal" behavior. Other obedient subject-actors in the Contract Condition placed the burden of ending on the victim, ignoring the fact that the victim was "strapped in." For example, one said, almost angrily, "Well, you can get out. You made the contract. If

you want to go out, go out!" Defiant subject-actors tended to use the contract as an issue with the experimenter: "Didn't you agree to let him out when he wanted to come out?"

On the whole, however, statements made by subject-actors were rather similar in all of the conditions, although the defiant and obedient responded very differently.

There were some very interesting trends which differentiated the defiant from the obedient. Those subject-actors who, in responding to the experimenter's prods, referred to the fact that the learner was in pain or had a heart problem tended to continue. These subject-actors were using external arguments rather than focusing on their own position. Those who did break off, on the other hand, spoke mainly about their own position, typically ending by saying, in response to the fourth prod (You have no other choice, you must continue): "Yes, I do have a choice, I can leave." Others among the defiant used some of the same points of reversibility that Milgram's subjects did, such as offering to return the $4 subject fee to the experimenter. Others raised moral points: "What happens if I don't? Is this a concentration camp?" or "It's against my better judgment. I don't think any experiment is worth it." In the Experimenter Absent Condition another option was available and frequently used. A number of defiant subject-actors in this condition administered lower shocks. One said: "I'm going to be giving you 75 volts, which is just about at the threshold at which you feel it."

A review of subject-actors' comments on breaking off revealed that among the approximately three-quarters of the defiant subject-actors

who verbalized their dilemma, eighty percent argued that they themselves made the choice, with the remaining twenty percent using external arguments.

The obedient responded differently. Some were concerned about the learner's pain or his heart condition and some voiced fears, after the learner stopped answering, that he was "fried" or "dead." Many of the most intense responses were long pauses of speechlessness. Others feared for themselves, as the subject-actor who, near the end of the procedure, wondered: "What if he dies afterwards of a heart attack? I'll be responsible." However, other subject-actors eased their own burden by saying things such as: "In accordance with my direction I'm giving you an additional shock." Another approach taken was minimizing the potential effects of the shock, despite the "XXX" label on the shock generator and the learner's intense screams and later silence, or coming up with elaborate explanations. One subject-actor rationalized: "This won't affect your heart; it's psychosomatic."

Many subject-actors, like Milgram's subjects, were not so kind. They admonished the learner to "pay attention," ordered him to "shut up," told him to give "no more excuses," or, in the Experimenter Absent Condition, threatened to "report you to the supervisor." Some tried to be helpful, emphasizing the answer and giving hints, but became frustrated when the learner didn't catch on.

Another trend which was similar to that reported by Milgram was the use of politeness and titles. Some subject-actors were excessive in their use of "please" and "sir" to the learner and addressed the experimenter with many status-laden titles, such as "doctor" and

"professor," despite the fact that he was introduced as Mr. The learner was variously referred to as student, subject, learner, and even patient, or addressed by name.

Explaining the Intensity of Responses. The reality of so many of these responses should not be surprising, given the literature on the effective use of psychodrama and role playing. Another source of information about ability to play a role is, of course, theatre. Method actors, following Stanislavski (1948), have developed this technique most skillfully.

Stanislavski's classic work, An Actor Prepares (1948) discusses in depth some of the procedures for becoming involved in a role, many of which have been followed in this study. He noted that in a role it is always easiest to play oneself, which is exactly what subject-actors were instructed to do. He further noted the importance of the physical set in providing depth.

Method acting has emphasized that emotional involvement or absorption in a role is not achieved through conscious thought, but at the "threshold of subconscious," a point which is often reached rather spontaneously, on one's first attempt at a given role. Stanislavski (1948) pointed out the importance of avoiding the dangers of an intellectualized response, mechanical acting or over-acting. In the present study, the lack of a script and a scenario with some surprises certainly encouraged spontaneity. "The unexpected is often a most effective lever in creative work" (Stanislavski, 1948, p. 156, italics in original).

Responding to the Critics

Many criticisms have been directed at role-playing simulations, on both ethical and methodological grounds. The ethical considerations will be treated later, but those who have dismissed role playing as an acceptable methodological alternative will be answered now.

The early critiques of Freedman (1969) and Aronson and Carlsmith (1968) that role-playing methods lacked realism and could not possibly evoke realistic responses have already been dealt with in depth. Clearly, the role playing they referred to, which is imagined, not performed, is very different from the type of study engaged in here.

Later, Miller (1972) seemed to have given up hope in the potential of role playing as an alternative method after reviewing a varied sample of studies and noting the dismal results, the pervasive but unfounded optimism of the researchers and the tendency of so many to assume that identical outcomes were all that mattered. Miller did, however, end with the cautionary point that deception methods should continually be examined, and implied that reasonable alternatives might yet become available.

More recently, following the view of simulations taken by Orne (1962, 1969), Holland (1968), and Orne and Holland (1972), role playing has been re-interpreted in terms of demand characteristics (Forward and Canter, 1973; Banuazizi and Movahedi, 1975). This may be a reasonable argument against the validity of role playing for the least involved subject-actors. However, to contend that the highly emotional responses observed among the most involved subject-actors in this study --and by so many of the participants in Zimbardo's (1973) prison

study--can be explained in terms of demand characteristics seems to disregard the depths of their experiences. One could only wonder, if it were true that all role players actively decided upon their behavior in an almost script-like fashion, about the widespread ability of so many people to act so convincingly, for such long periods of time. In addition, subject-actors were asked if they felt that they were operating according to expectations from the experimenter. Although approximately half of the subject-actors felt that an expectation to stop or to continue existed, the lack of any relationship between their actual behavior and their estimate of the experimenter's expectations points against a demand characteristic explanation.

VI. IMPLICATIONS

In order to understand the implications of this role-playing simulation of obedience, one must distinguish, first, between the methodological and the ethical implications. While this distinction may seem somewhat artificial at first, it is possible that a very different set of conclusions would be drawn if role playing were considered simply as a methodological alternative than if it were also considered as an ethical alternative. Given the epistemological similarities between role playing and deception methods (Hamilton, 1974), it might be wondered why role playing would be considered as an alternative method in the absence of ethical considerations. Nevertheless, before considering its superiority (or, for that matter, inferiority) on ethical grounds, we must be content that as a scientific method, it meets the needs of the discipline.

Methodological Implications

The major requirement for any experimental method used in the study of human behavior is that it permit the successful, controlled study of behavior, which is believed to be representative of real, spontaneous behavior. Thus, laboratory studies often employ deception methods in which an attempt is made to convince subjects that the relationship between A and B is being studied so that the subject will not be wise to the experimenter's real concerns about X and Y. While deception methods have proven necessary for some experiments and simplified or

clarified the design problems of others, no one would contend that they always meet all of the requirements of an experimental method. As noted previously, deception methods have been criticized because it is not always clear that they truly reflect real behavior and because all subjects may not be responding to the instructions as planned (e.g., subjects have been described as both too quick to aid and too quick to sabotage the desired effects). Not surprisingly, the same types of criticisms have been aimed at role-playing situations. Furthermore, some would say that role-playing methods represent a return to the days of Wundt, when introspection was the major approach. Indeed, the strongest critic of role playing, Freedman (1969), has called role playing an intuitive approach which represents a step back to "pre-scientific" days. Freedman's criticism can be applied only to role playing which is low in experimental realism (more appropriately called role taking) and is totally inappropriate when applied to the type of role playing used in the present study. And Mixon (1972, 1974) has demonstrated the usefulness of another low-in-experimental-realism type of role playing, nonactive role playing. Thus, since the assumption that deception methods, which are themselves simulations (Hamilton, 1974; Kelman, 1974), are superior to any other method has never been tested (indeed, it may not be possible to make such tests), it seems odd to reject one simulation, role playing, in favor of another on the basis of the latter's widespread usage alone.

Role-playing methods cannot be truly evaluated by comparing results obtained using them to results obtained using deception. Both methods could be compared, more appropriately, to some non-simulating,

non-deception method. Therefore, if we can construct rigorous experiments using simulation methods, there is no a priori reason not to accept their findings.

The methods used in the present study were, it has been shown, rigorous and well-controlled. The fact that the results were similar to those obtained using deception methods is no proof of either method, although two demonstrations of the behaviors observed certainly adds to our faith that the behaviors observed were representative of the real world (Webb, Campbell, Schwartz, and Sechrest, 1966).

Ethical considerations aside, this study demonstrates the effectiveness of role-playing methods in highly involving situations, like obedience. Whether role playing can be successful in less involving situations remains to be tested. Thus, at this point, role-playing methods can supplement, but not replace, deception methods.

Ethical Implications

With methodological questions about role playing answered--to the extent that they can be--we can now proceed to consider the ethical arguments raised. One of the major arguments in favor of role playing is that it is ethically superior to deception methods because, as has been stated earlier, it meets the requirements of an acceptable method: (1) it makes no use of deception; (2) the subject's informed consent to participate is obtained, in the fullest sense; (3) the researcher's integrity is maintained through the honesty of the approach and the trust placed in the subject; and (4) the subject's knowledge about the procedure and the temporary nature of the stress minimizes the chance that harm will be done.

However, before the conclusion is reached that role playing is, in fact, ethical, it must be recognized that a given set of ethical standards reflects only the values of those who promulgated them.

In this case, the criteria for an acceptable alternative method represented this author's position as an experimental social psychologist concerned with alternatives to deception methods. Other psychologists would, of course, have a different set of values which would be reflected in their criteria. One set of ethical standards for research with human subjects has been set forth as a minimum standard by the American Psychological Association (cf. Cook et al., 1973).

However, ethical standards for psychological research may also come from outside the field. Additional government standards for funded research are likely to be enacted at some time in the forseeable future, which may differ from those proposed by psychologists. And, finally, each participant or prospective subject in such research may have his or her own beliefs about what would constitute ethical research.

In focusing on this research (or any other research, for that matter), it is thus impossible to state whether or not it was ethical, per se, given the absence of a ruling body for research standards. It can only be said that one study was more or less ethical than another, or more or less ethical than one might have desired.

Certainly, this role-playing study of obedience was more ethical than deception studies of obedience in that (1) each subject's informed consent to participate was based on greater knowledge of the study; and (2) no falsehoods, technical illusions, or deceptions were used. The

ethical advantages of this role-playing simulation of obedience over traditional deception methods as far as stress or potential harm to the subject is concerned is less clear. Both Kelman (1974) and Hamilton (1974) might reiterate that intensely involving role playing, like Zimbardo's prison study and perhaps this study, has much potential to induce great stress in subject-actors. Hamilton states that role playing "becomes more dangerous as it becomes more successful; and it is not simply, as often suggested, the 'artificial but ethical' alternative to deception" (Hamilton, 1974, p. 67). Certainly, the short duration of this role-playing situation minimizes the stress, but it cannot eliminate it.

On the other hand, Crawford would undoubtedly argue that subject-actors, despite undergoing some stress, would through their participation "heighten their awareness that choice was possible in a situation in which they had been willing to relinquish autonomy" (Crawford, 1972, p. 183, italics omitted). Thus, each individual may have learned something of value to him, or, as Milgram stated: "They viewed the experience as an opportunity to learn something of importance about themselves, and more generally, about the conditions of human action" (Milgram, 1974, p. 196). Indeed, in this study, the one subject-actor who cried after the experiment was over voiced a similar positive reaction to an intense emotional situation. Most subject-actors in this study were somewhat glad about their participation in the experiment, with the most involved obedient subject-actors being most glad. Critics might be quick to label this rationalization on their part; I think, however, that most of these subject-actors sincerely felt they

learned something about themselves, and the potential dangers of obedience. However, the argument that subjects learned something of value from their participation is not unique to role-playing methods, since it was originally applied to deception.

My own perspective contains elements of all of the above. Yes, subject-actors did learn something about their capacities, and the capacities of others, to obey, despite the stress and anxiety they may have experienced. But, stress and anxiety are not the same as harm, and it seems clear that no harm was done to any of the participants. [Nor did a psychiatrist think any harm was done to those of Milgram's subjects interviewed later (Milgram, 1974).] Nevertheless, while the study was in progress, I was quite uncomfortable about placing any individual in so potentially stressful a situation--not uncomfortable enough to stop, but uncomfortable enough to decide, and continue to believe, that I would never expose research participants to such levels of stress again. Indeed, more than once I wondered whether any psychologist--or anyone else--has the moral right to place a subject under such stress, regardless of its ultimate value to the subject or to science and regardless of the subject's own informed consent. Even though the informed consent may be that of a volunteer, the fact that only one out of over one-hundred subjects refused to give his informed consent to participate causes one to question whether, practically speaking, informed consent is anything more than a salve for the researcher.

Conclusion. This role-playing simulation of obedience provides strong support for the success of such a method among those subject-actors

who were most involved in the role playing. Ethically speaking, such success is cause for thoughtful concern when the manipulation has the potential to be as powerful as this one. However, the decision to be made to pursue such a procedure is, and must remain, a subjective one.

While effective role-playing methods provide a reasonable alternative to deception methods, and are ethically superior in terms of the researcher's and the subject's integrity, role playing cannot be viewed as the ultimate ethical alternative to deception.

APPENDIX A

Dimensions of Involvement and Training of Judges

Defining Involvement

On the basis of videotapes of a pilot study on role playing of obedience, the dimension of involvement was broken down into three components, procedural, postural/gestural and vocal, each rated on a six-point scale from involved to detached. The three components, or channels, were selected in recognition of the fact that any one subject may be rated involved in some areas and detached in others, and that one overall judgement may have placed undo emphasis on one area.

Support for breaking down communication into different channels, both verbal and nonverbal, can be found throughout the literature on nonverbal communication (Birdwhistell, 1968; Ekman, Friesen and Ellsworth, 1972; Mehrabian, 1972). The relative weightings of the different channels continues, however, to be an area of much research activity. Some of this research has focused on the relative weighting of three channels, verbal (content), vocal (tone of voice), and visual (facial expressions and gestures) when contradictory messages are conveyed by different channels (cf. Bugental, Kaswin, Love and Fox, 1970). Bugental, Kaswan and Love (1970) found that the visual channel provided more information than the verbal or vocal channels in the resolution of conflicting messages, a finding similar to that of Mehrabian and Ferris (1967). Other research has found the vocal channel

to be dominant in the decoding of inconsistent messages (Mehrabian and Wiener, 1967).

The three dimensions of involvement used in this study, procedural, postural/gestural and vocal roughly correspond to the verbal, visual and vocal channels.

The procedural dimension was based on the subject-actor's involvement with the procedure and the props, and the extent to which he responded to these seriously. Since it was recognized that any one subject-actor would not exhibit responses to all aspects of the procedure, the judgements were necessarily subjective and did not assume either that all aspects were of equivalent weight or that the number of procedural items responded to was of any necessary significance. Judges were trained to look for signs of involvement in the following procedural items:

Shock generator--looks at or pans switches
administration of shock--carefully checks shock level or loses place
readjustment and aligning switches
style of depressing switches--latency of responding, hesitation, slow, quick, etc.

Learner --looks at loudspeaker or answer box as symbols of learner

Experimenter --looks to experimenter for guidance (includes requests for clarification)
response to experimenter's prods

Lesson --errors in procedure on lesson (including failure to read correct answer or voltage level and pressing shock switch prematurely)

Other --use of ruler (which is to help subject-actor keep track of word pairs) to tap or play with, or to signal or reprimand the experimenter, learner or himself
great precision or carelessness in following the steps, using the ruler, turning pages, etc.

The postural/gestural dimension was based on the subject-actor's bodily positions and actions, particularly in response to the administration of the shock, the learner's screams and the experimenter's prods to continue. The judges were trained to look for changes in 1) the position and tension of the shoulders, back, legs and arms, 2) swivelling, tilting and rolling in the chair, 3) the direction and angle of the body and 4) the position and gestural use of the hands. The latter category included: position of hands in lap, on the table, away from the body, or close to the body, the presence of a clenched or open hand, and tapping, scratching and fidgeting with the hands and fingers, particularly in relation to objects of other parts of the body (e.g., mouth, chin, ears, nose, forehead, top of head, arm, leg, etc.)

The vocal dimension of involvement focused on speech and language --both in form and content--and on other audible vocal responses, such as laughing, snickering, and humming. Speech and language included speed, pattern and vocal quality (e.g., even and smooth, jumpy, stacatto, stuttering and stammering, changes in pitch, changes in tone, whispering and becoming hoarse) in the reading of word pairs, the administration of the punishment or in other communication--prodding, pleading, joking, or engaging in a monologue with the learner or experimenter. Of particular interest in the reading of word pairs was emphasizing the correct answer as a hint for the learner.

Training the Judges

The two judges were first trained in the rating of involvement by using videotapes of pilot subjects. Then, to additionally acquaint

them with the range of behaviors emitted, each judge first saw videotapes of 10 subject-actors without recording a rating of involvement. The judges then rated the sessions of the remaining subject-actors, returning at the end to the tapes of the first 10 subject-actors.

Similar procedures for training judges were used by Bugental, Kaswan, Love and Fox (1970) who acquainted judges with the range of behavior in the vocal channel for one hour before having them rate vocal behaviors.

The ability of judges to distill information from the various channels and to interpret it in terms analogous to involvement has been previously demonstrated also. Ekman and Friesen (1969, 1974) theorized that, for neuroanatomical and sociocultural reasons, people in Western cultures are more aware of facial activity than bodily activity. Thus, when attempting to cover up emotions or to deceive, we do so with our faces. However, bodily channels presumably reveal, through deception cues, that leakage which is facially censored. Their research has supported the notion that the face is thought to be more salient than the body in censoring and simulating emotion and that observers who had some familiarity with the nonverbal behaviors emitted made more accurate judgements of deception from the use of bodily cues (Ekman and Friesen, 1974).

Following this line of reasoning the judges in the present study would be expected to have been quite accurate in detecting deception by those subject-actors who were not involved in the role playing. Even if subject-actors may have been trying to appear involved, their nonverbal cues would have betrayed their lack of involvement. The

judges were exposed to a broad range of behaviors during training, which served to reduce any confusion about the meanings of cues. Thus, the judges were trained to accurately and reliably assess involvement, using the three dimensions discussed above.

APPENDIX B

Judges' Rating Sheet

Subject_____ Rater_____

Ratings of Involvement:
1-very detached, uninvolved
2-somewhat detached, uninvolved
3-slightly detached, uninvolved
4-slightly involved
5-somewhat involved
6-very involved

Procedural:	____	____	____	____	____	____	____	Mean_____
Postural/ Gestural:	____	____	____	____	____	____	____	Mean_____
Vocal:	____	____	____	____	____	____	____	Mean_____

Grand Mean_____

APPENDIX C

Role Playing Ability Scale

Instructions

Please answer the following items either true or false. Answer either from your own experience or how you feel about the statement.

Indicate your answer by placing an X through either the T (true or F (false) after that item.

If the item is true indicate: T F
If the item is false indicate: T F

Please answer all 50 items; do not omit any. Even if the choice seems difficult, please indicate the response which is most accurate.

---

1. I'm probably better than average in going to sleep in noisy surroundings. T F

2. Are you able to change easily from one task to another, excluding ideas, associations, and actions of the former task in order to better concentrate on the task at hand? T F

A 3. I demand touches of realism in order to enjoy stories involving fantasy. T F

4. I can focus my consciousness on a single thought for minutes at a time. T F

A 5. I enjoy taking chances in order to do novel things. T F

A 6. Would you like to get beyond the world of logic and reason and experience something new and different? T F

7. I have slightly more than the average amount of difficulty in shutting out irrelevant thoughts from my mind. T F

8. I am capable of bringing into rather clear awareness several of my bodily functions that ordinarily go unnoticed. T F

9. Have you ever become so absorbed in listening to music that you almost forgot where you were? T F

A 10.	Have you ever been able to make a daydream seem real?	X	F
A 11.	I would find it interesting to see how my "world" would change with altered perceptions of it.	X	F
12.	I am above average in the ability to shift conscious awareness from the surroundings to events taking place within my body and mind.	X	F
A 13.	Have you ever had the impression that the walls or the ceiling were moving or changing size or state, even though you know that this is impossible?	X	F
14.	I find it not too difficult to begin working on something new.	X	F
A 15.	Children's books should not emphasize fairy-tales and make-believe at the expense of reality.	T	X
A 16.	I have an especially rich inner life.	X	F
17.	I occasionally cannot keep my mind on one thing.	T	X
18.	I have difficulty in starting to do things.	T	X
A 19.	Have you ever felt as if you were swinging, floating, falling, or drifting?	X	F
20.	I can narrow my attention to the extent that a good part of the surrounding situation is temporarily excluded from awareness.	X	F
21.	I sometimes become absorbed in a task so that I am forgetful of other less important aspects of the daily routine.	X	F
A 22.	It is probably not normal to be able to think or imagine so hard that the real world is completely excluded from awareness.	T	X
23.	When there are sounds that you do not want to listen to, can you block them from your mind so that they are no longer disturbing to you?	X	F
A 24.	Do you like to take risks and experience things that are different from the usual?	X	F
25.	I usually have to stop and think before I act even in trifling matters.	T	X
26.	It bothers me to have someone watch me at work even though I know I can do it well.	T	X

A 27.	The vividness of my mental imagery is probably greater than average.	X	F
28.	My greatest problem in trying to think deeply is in "shoving aside" distracting sensations.	T	X
29.	I find it not too difficult to sit down and concentrate on things that demand study.	X	F
A 30	I find pure fantasy more enjoyable than fantasy utilizing realism to give it structure.	X	F
31.	I can easily relax whenever I want to.	X	F
32.	Can you block out advertising commercials?	X	F
A 33.	Would you like to indulge in emotions and sensations with the feeling of just "letting go"?	X	F
34.	I can't imagine what it would be like to be able to exclude completely sensations and awareness of the "surrounding world" for a short time.	T	X
A 35.	As you participate in different situations (e.g. being in class, being at a party with close friends, being home with the family), do you feel that you somehow change from the one situation to the other, and that you are not the "same person" in the different situations?	X	F
36.	Do you find it difficult to forget failures, mistakes, humiliation, etc., so that they tend to disturb you when you are faced with new tasks?	T	X
37.	I feel that the ability to concentrate deeply is valuable even if it leads to occasional embarrassing lapses.	X	F
A 38.	Have you ever carried on real conversations with another person while you were asleep?	X	F
A 39.	Do you think one should be on guard against obscuring rational thought by beliefs in mystical experiences?	T	X
40.	It is potentially dangerous to imagine you are another person and really throw yourself into the role.	T	X
41.	I can work at a task without being bothered when someone is looking or staring at me.	X	F
A 42.	It is always important for a person to distinguish carefully between fact and fancy.	T	X

43.	Do you enjoy a movie that makes you cry?	X	F
44.	I can enhance the flow of my thoughts by limiting the distracting awareness of my surroundings.	X	F
A 45.	Have you ever felt time passing unnaturally slowly? Or quickly?	X	F
46.	I can study a subject rather well even when I'm tired.	X	F
47.	I find it difficult to read or study in a noisy or busy place.	T	X
A 48.	I believe that reality for a person is whatever view he has of the world.	X	F
A 49.	Do you ever recall having had an imaginary playmate?	X	F
50.	I sometimes find that when I'm studying hard I don't notice the passage of time.	X	F

Scoring key: Responses indicated by an "X" are scored one point.

Items marked with an "A" are scored on the Acceptance of Altered Processes Subscale. All other items are scored on the Role Absorption Subscale.

APPENDIX D

Role Playing Instructions

This is Mr. Sontag who will be participating in the study with you. He is an actor who is working with us on this experiment.

The purpose of this study is to see how well people can act even when they know something is not for real. That's why we call this a role-playing study and that's why we had you fill out that scale. So, Mr. (subject), we're going to ask you to act. Your job is to act as if you were in a real situation with real people, not actors like Mr. Sontag.

During the experiment you will hear screams at times, as if someone were in pain. They won't be real screams, but will only be part of an act, and in the laboratory there will be a number of props, just like on a stage. Among these props is a fake shock generator which looks extremely real; but it too is only a prop.

Confederate says: And don't worry if I yell or scream because of that shock generator, I won't really be in pain. After all, it's not real and I'm an actor.

The experimenter, Mr._____, who is in the laboratory will also be pretending that the situation is real. So as soon as you enter that room everyone will act as if everything going on around them were real. What we are asking you to do is to play the role of a real person in a real situation.

Once you enter the lab, for instance, if you were to ask Mr. (experimenter) if what was going on wasn't all just an act like you had been told out here, he would say "No, it's all for real." But of course he will be acting, pretending it's real, as you will.

Any questions?
OK, why don't you tell me in your own words what this is all about and what we're asking you to do.

That's right. Now of course, in this study we are interested in your acting. As a matter of fact we want to see how you do compared to people who were not acting. You see, a number of years ago a psychologist at Yale did this same experiment except he didn't tell his subjects that the other guy, like Mr. Sontag was just an actor or that the shock generator was a fake. He let them think it was all real!

Now we know you're not a professional actor, but we want you to try and do this as best as you can and pretend it's all real. When you walk into the lab you'll see a camera. We will be taking pictures of you acting so we can compare your behavior with that of those subjects ten years ago.

Do you understand? (Wait for response and explain if necessary)

(Paying subject.)
Before we continue let me pay you. . . . Please sign this receipt. And if you'll read this statement and sign it, giving your free consent to participate, as required by the university? Let me remind you that the money is yours to keep simply for showing up. From this point on, no matter what happens, the money is yours.

Now remember, when you walk into the lab everything will be treated as if it were real, even though you, and everyone else will be acting.

Confederate: Remember, I'm just an actor too and those screams you hear won't be real.

But treat the situation as if it were a real one.

(Enter lab and introduce subject to experimenter.)

APPENDIX E

SUBJECT'S CONSENT STATEMENT (Short Form)

CITY UNIVERSITY OF NEW YORK
THE GRADUATE SCHOOL AND UNIVERSITY CENTER

Principal Investigator(s): Daniel M. Geller

Project: Role Playing as an Alternative to Deception in Social Psychological Research

I hereby acknowledge that on_____, 197__, I was informed by_____

D. Geller (Principal Investigator) of the Graduate Center (College), of a project having to do with role playing, in which I will be responding to a situation (Insert brief description of nature of project) which I know is not real as if it were real.

I was told of the possible risks involved; the procedures involved; possible alternative procedures and the expected benefits from the program.

I am fully aware of the nature and extent of my participation in said project and possible risks involved or arising therefrom. I hereby agree, with full knowledge and awareness of all of the foregoing, to participate in said project. I further acknowledge that I have received a complete copy of this consent statement. I also understand that I may withdraw my participation in said project at any time and that I may inspect a copy of the Institutional Assurance filed by the Research Foundation, CUNY, with the U.S. Department of Health, Education and Welfare.

Dated: New York_____, 197____

_____
(Signature of Subject or Responsible Agent)

_____
(Printed Name of Subject or Agent)

_____
(Residence of Subject or Agent)

APPENDIX F

Experimental Instructions (Adapted from Milgram)

Psychologists have developed several theories to explain how people learn various types of material.

Some of the better known theories are treated in this book. (SHOW BOOK)

One theory is that people learn things correctly whenever they get punished for making a mistake.

A common application of this theory would be when parents spank a child if he does something wrong.

The expectation is that spanking, a form of punishment, will teach the child to remember better, will teach him to learn more effectively.

But actually, we know very little about the effect of punishment on learning, because almost no truly scientific studies have been made of it in human beings.

For instance, we don't know how much punishment is best for learning--

--and we don't know how much difference it makes as to who is giving the punishment, whether an adult learns best from a younger or an older person than himself--or many things of that sort.

So what we're doing in this study is to bring together a number of adults of different occupations and ages. And we're asking some of them to be teachers and some of them to be learners.

We want to find out just what effect different people have on each other as teacher and learners, and also what effect punishment will have on learning in this situation.

Therefore, I'm going to ask one of you to be the teacher here and the other one to be the learner.

Does either of you have a preference?

(SUBJECTS ARE ALLOWED TO EXPRESS PREFERENCE)

Well, (hesitate) I guess the fairest way of doing this is for me to write the word Teacher on one slip of paper and Learner on the other and let you both draw.

(WRITE: TEACHER-TEACHER)

Well, which of you is which?

(ALLOW SUBJECTS TO ANSWER, CONFEDERATE ANSWERS: LEARNER)

All right. (thinking) Now the first thing we'll have to do is to set the learner up so that he can get some type of punishment. (POINT OUT SHOCK GENERATOR)

This machine generates electric shock.
If you'll both come with me into this next room.

(PICK UP PRACTICE LESSON)

(WALK TO SHOCK ROOM)

Would the learner please sit down in this chair?

(Subject is asked to stand alongside and watch)

Please pull the chair very close to the counter.

Now the first thing we'll have to do is to strap your arms down to the chair, to keep bodily movement to a minimum.

(EXPERIMENTER STRAPS DOWN ARMS THEN PICKS UP ELECTRODES)

These electrodes are wired to the shock generator in the other room.

I'll put some electrode paste on the contacts so that the current will pass through your arm without any burns.

(APPLY ELECTRODE PASTE)

Now let me explain to you exactly what will happen, and what you are supposed to do.

The teacher will read a list of word pairs to you, like these:

(SHOW WORD PAIRS)

Strong Arm, Black Curtain, Pure Milk, and so forth.

You are to try to <u>remember</u> each pair.

For the <u>next</u> time through, the teacher will read <u>only</u> the first word of the pair.

For example, he will say <u>Strong</u>. (SHOW 2ND SAMPLE PAGE)

And then he'll read four other words, such as: <u>Back</u>, <u>Arm</u>, <u>Branch</u>, <u>Push</u>.

Now your job is to remember which one of these four other words was originally paired with Strong.

And you indicate your answer by pressing one of these switches. (SHOW SWITCHES)

Can you reach them all right?

If the first word I just read was paired with Strong, you would push lever 1, and this will indicate to the teacher that you thought it was the first word.

If you think it is the second word, push lever 2. And so forth.

Now remember: Originally he read to you the phrase: Strong Arm.

So when he later reads to you: Strong: back, arm, branch, push---
You would press which lever?

(WAIT FOR ANSWER)

That's correct.

You will follow the same procedure for each of the phrases the teacher reads to you.

You will always be asked to indicate which one word out of a choice of four was originally paired with the first half of the phrase.

Do you understand?

(WAIT FOR ANSWER)

Just to be absolutely certain, let me go through it again, very quickly.

The teacher reads several pairs of words.

You try to remember the pairs.

The teacher then reads the first half of the pair along with four choices.

You indicate, by pressing the appropriate switch, which one of the four choices was originally paired with the first word.

If you get it correct, fine.

If you make an error, however, you'll be punished with an electric shock.

So, of course, it is to your advantage to learn all the word pairs as quickly as possible. Any questions?

Learner asks: Well, when I was a kid I had a heart murmur.
Nothing serious, but are these shocks dangerous?

Although the shocks may be extremely painful, they will cause no permanent tissue damage.

(In VICTIM'S LIMITED CONTRACT Condition, the Experimenter asks the confederate to sign a Release Statement. As he is about to sign the confederate says: "I'll agree to be in it but only on one condition, that you let me out when I say so; that's the only condition." Experimenter grunts his approval.)

Any other questions?

(Experimenter and subject return to shock generator room.)

Please sit down in front of the shock generator and we'll begin.

.....

Now please listen carefully to the instructions.

This machine generates electric shocks.

When you press one of these switches all the way <u>down</u>, the learner gets a shock. (PRESS FIRST SWITCH)

Then you let go, the shock stops. (RELEASE SWITCH)

(DEMONSTRATE AGAIN--QUICKLY)

The switch will stay in the middle after you've released it, to show you which switches you have used on the board.

Of course, if you pressed it down again, the learner would get another shock.

TURN ON GENERATOR. The machine is now on. To give you an idea of how much shock the learner is getting, we think it is only fair that you get a sample shock yourself.

Are you agreeable to that? (If No say: There is nothing to be concerned about.)

May I have your right hand. (PUT ELECTRODE ON FINGER. ADD PASTE)

The electrode paste will allow the current to pass through your finger without any burns.

The voltage levels and the various degrees of intensity are indicated here: Slight, moderate, strong and so forth.

This, for instance, is what 15 volts would feel like. (PRESS SWITCH) (IF learner comments say: the machine is operating properly.) This is 60 volts. (PRESS SWITCH) As you have seen, a similar electrode has been placed on the learner.

(WIPE OFF ELECTRODE PASTE
TURN OFF GENERATOR)

Now let's go over your instructions.

We will begin with this practice lesson.

(GIVE SUBJECT PRACTICE LESSON)

You will read each pair of words in this list once to the learner until you have gone through the whole list.

After reading through the list once, you will go on to the next page.

There, starting from line A, you will read the word in large letters, along with each of the other words in the line.

For example, in the first line you would read: STRONG: back, arm, branch, push.

After you read the four choices, the learner pushes one of his four switches, and the number he has chosen lights up in this box. (SHOW BOX)

A-B-C-D

If the learner gets the <u>correct</u> word, you say "Correct" and go on to the next line. The correct word is underlined and is also indicated here. (POINT)

If the learner choses the <u>wrong</u> word, you say "Wrong,"

---then read off the amount of voltage you're going to give him

---then administer the punishment

---and finally, repeat for him the correct pair once.

Then move on to the next line.

For example, if he indicated number three for <u>Strong</u>, you would say "Wrong," 15 volts," administer the punishment, and say "Strong Arm."

Every time the learner gives a wrong answer, you move one level higher on the shock generator.

It is very important that you follow this procedure exactly.

To help you, we have printed a set of instructions on this card.

Please consult the card until you can follow the procedure with precision.

Remember: If he is correct, say "Correct" and move on to the next line. If he gives the wrong answer:

---Say "Wrong"

---Tell him the voltage level

---Depress and Release the Switch

---Read the correct answer once

---Move on to the next line

Start with 15 volts, and move up one step on the shock generator each time the learner gives a wrong answer.

Do not begin until I say "Ready Begin."

Are there any questions.

(*** EXPERIMENTER: TURN ON GENERATOR)

(Go over check list.)

Attention, Mr. Sontag. Your teacher is about to begin reading the practice list of word pairs. Try to remember them.

Ready. Begin.

That completes the practice lesson.

Now we will go on to the second lesson. The procedure is exactly the same as before, except that we use a new list.

---and when you get to the bottom of the list, repeat it over again until the learner has learned all the pairs correctly.

Start from 15 volts and increase the shock level one step each time the learner gives a wrong answer.

Use this ruler to help you keep place.

READY, BEGIN.

(In EXPERIMENTER ABSENT CONDITION add:

"I have an appointment and I must leave the room. I'll be in the building, however, and if you have any questions you can call me at this number--place number by phone. OK? Don't hesitate to call if you have any questions. Ready, begin.)

APPENDIX G

Word Pairs (Practice Lesson)

MEMORY AND LEARNING PROJECT

Directions: Read each pair of words once to the learner, until you have gone through the whole list. When you have finished the list, turn to the next page.

1. STRONG arm
2. BLACK curtain
3. PURE milk
4. WARM blanket
5. ROUGH wood
6. THIN paint
7. CLEAN yard
8. RIGHT question
9. FAIR skin
10. WILD country

(Now go on to the next page.)

MEMORY AND LEARNING PROJECT

Directions: Read off the number of each line before you start reading the word in that line. For each line, read the word in LARGE letters along with the words in small letters. (For instance, in Line 1, you would read: "STRONG; back, arm, branch, push.)

		A	B	C	D		
1.	STRONG	back	arm	branch	push	B	STRONG arm
2.	BLACK	hair	sky	curtain	plastic	C	BLACK curtain
3.	PURE	milk	water	food	glass	A	PURE milk
4.	WARM	blanket	morning	quilt	room	A	WARM blanket
5.	ROUGH	cloth	wood	game	water	B	ROUGH wood
6.	THIN	wall	man	coat	paint	D	THIN paint
7.	CLEAN	face	fight	hand	yard	D	CLEAN yard
8.	RIGHT	answer	question	word	hand	B	RIGHT question
9.	FAIR	price	rule	skin	sky	C	FAIR skin
10.	WILD	country	cat	storm	tiger	A	WILD country

Now go back to the words at the very top of the list (STRONG back, arm, etc.) and go through the list again exactly as you did before. Continue to do this until the learner can correctly match each pair without making a single mistake.

APPENDIX H

Word Pairs (Actual Lesson)

INSTRUCTIONS: Read each pair of words once to the learner, until you have gone through the whole list. When you have finished the list, turn to the next page.

1. BLUE girl
2. NICE day
3. FAT neck
4. GREEN ink
5. RICH boy
6. FAST bird
7. BLUNT arrow
8. SOFT hair
9. COOL cave
10. GOLD moon
11. HARD head
12. WET duck
13. BRAVE woman
14. WHITE horse
15. SAD face
16. SHORT time
17. SHARP needle
18. SLOW dance
19. RED sunset
20. LOW noise
21. NEW book
22. QUIET evening
23. TAME bear
24. SWEET taste
25. TRUE story

INSTRUCTIONS: Read off the number of each line before you start reading the words in that line. For each line, read the word in LARGE letters along with the words in small letters. (For instance, in line 1, you would read: "Blue; boy, girl, grass, hat.")

		A	B	C	D		
1.	BLUE	boy	girl	grass	hat	B	BLUE girl
2.	NICE	day	sky	job	chair	A	NICE day
3.	FAT	man	lady	tub	neck	D	FAT neck
4.	GREEN	grass	hat	ink	apple	C	GREEN ink
5.	RICH	boy	cake	man	girl	A	RICH boy
6.	FAST	bird	car	train	plane	A	FAST bird
7.	BLUNT	knife	stick	word	arrow	D	BLUNT arrow
8.	SOFT	rug	pillow	hair	grass	C	SOFT hair
9.	COOL	day	shade	water	cave	D	COOL cave
10.	GOLD	dollar	necklace	moon	paint	C	GOLD moon
11.	HARD	stone	head	bread	work	B	HARD head
12.	WET	night	grass	duck	cloth	C	WET duck
13.	BRAVE	woman	soldier	dog	horse	A	BRAVE woman
14.	WHITE	cloud	horse	rock	house	B	WHITE horse
15.	SAD	face	music	clown	girl	A	SAD face
16.	SHORT	sentence	movie	skirt	time	D	SHORT time
17.	SHARP	ax	needle	stick	blade	B	SHARP needle
18.	SLOW	walk	dance	truck	music	B	SLOW dance
19.	RED	brick	rose	sunset	wagon	C	RED sunset
20.	LOW	noise	cloud	bridge	voice	A	LOW noise
21.	NEW	house	pet	book	name	C	NEW book
22.	QUIET	song	party	child	evening	D	QUIET evening
23.	TAME	wolf	bear	dog	cat	B	TAME bear
24.	SWEET	candy	girl	taste	pickle	C	SWEET taste
25.	TRUE	story	hero	speech	report	A	TRUE story

Now go back to the words at the very top of the list ("1. BLUE boy, girl; etc...") and go through the list again exactly as you did before. Continue to do this until the learner can correctly match each pair without making a single mistake.

APPENDIX I

Learner's Answers to Word Pairs and Shock Levels Administered

	KEY WORD	RESPONSE	SHOCK LEVEL	(VOLTS)		KEY WORD	RESPONSE	SHOCK LEVEL	(VOLTS)
1.	BLUE	B	X		16.	SHORT	B	11	(165)
2.	NICE	A	X		17.	SHARP	A	12	(180)
3.	FAT	A	1	(15)	18.	SLOW	C	13	(195)
4.	GREEN	A	2	(30)	19.	RED	B	14	(210)
5.	RICH	C	3	(45)	20.	LOW	D	15	(225)
6.	FAST	A	X		21.	NEW	C	X	
7.	BLUNT	B	4	(60)	22.	QUIET	D	X	
8.	SOFT	D	5	(75)	23.	TAME	C	16	(240)
9.	COOL	C	6	(90)	24.	SWEET	B	17	(255)
10.	GOLD	C	X		25.	TRUE	A	X	
11.	HARD	D	7	(105)	26.	BLUE	B	X	
12.	WET	A	8	(120)	27.	NICE	A	X	
13.	BRAVE	C	9	(135)	28.	FAT	A	18	(270)
14.	WHITE	A	10	(150)	29.	GREEN	A	19	(285)
15.	SAD	A	X		30.	RICH	C	20	(300)
		Following word pair #30, the learner no longer gives any responses. If the teacher should continue the procedure, however, the shock levels are as follows:							
31.	FAST	X	21	(315)	36.	HARD	X	26	(390)
32.	BLUNT	X	22	(330)	37.	WET	X	27	(405)
33.	SOFT	X	23	(345)	38.	BRAVE	X	28	(420)
34.	COOL	X	24	(360)	39.	WHITE	X	29	(435)
35.	GOLD	X	25	(375)	40.	SAD	X	30	(450)

APPENDIX J

Learner's Schedule of Protests

75 volts	Ugh!
90 volts	Ugh!
105 volts	Ugh! (louder)
120 volts	Ugh! Hey, this really hurts.
135 volts	Ugh!!
150 volts	Ugh!!! Experimenter! That's all. Get me out of here. I told you I had heart trouble. My heart's starting to bother me now. Get me out of here, please. My heart's starting to bother me. I refuse to go on. Let me out.
165 volts	Ugh! Let me out! (shouting)
180 volts	Ugh! I can't stand the pain. Let me out of here! (shouting)
195 volts	Ugh! Let me out of here. Let me out of here. My heart's bothering me. Let me out of here! You have no right to keep me here! Let me out! Let me out of here! Let me out! Let me out of here! My heart's bothering me. Let me out! Let me out!
210 volts	Ugh!! Experimenter! Get me out of here. I've had enough. I won't be in the experiment any more.
225 volts	Ugh!
240 volts	Ugh!
255 volts	Ugh! Get me out of here.
270 volts	(Agonized scream.) Let me out of here. Let me out of here. Let me out of here. Let me out. Do you hear? Let me out of here.
285 volts	(Agonized scream.)
300 volts	(Agonized scream.) I absolutely refuse to answer any more. Get me out of here. You can't hold me here. Get me out. Get me out of here.
315 volts	(Intensely agonized scream.) I told you I refuse to answer. I'm no longer part of this experiment.
330 volts	(Intense and prolonged agonized scream.) Let me out of here. Let me out of here. My heart's bothering me. Let me out, I tell you. (Hysterically) Let me out of here. Let me out of here. You have no right to hold me here. Let me out! Let me out! Let me out! Let me out of here! Let me out! Let me out!

APPENDIX K

Experimenter's Prods

Prod 1: Please continue; or, please go on.

Prod 2: The experiment requires that you continue.

Prod 3: It is absolutely essential that you continue.

Prod 4: You have no other choice, you must go on.

Begin sequence again on each occasion.
If prod 1 unsuccessful continue to prod 2, etc. If subject refuses to obey after Prod 4, experiment discontinued.

If subject asked if learner was liable to suffer permanent physical injury:

> Although the shocks may be painful, there is no permanent tissue damage, so please go on.
>
> (Follow by prods 2, 3, 4, if necessary.)

If subject says learner does not want to go on:

> Whether the learner likes it or not, you must go on until he has learned all the word pairs correctly. So please go on.
>
> (Follow by prods 2, 3, 4 if necessary.)

After trial 30, Learner no longer gives answer. If teacher asks for guidance or waits more than 60 seconds:

> If there appears to be no answer from the learner, then wait for 5 or 10 seconds. If there is still no answer, then treat the absence of a response as a wrong answer and follow the usual punishment procedure, increasing the shock level one step each time the learner fails to respond correctly!
>
> (Follow by prods 2, 2, 4 if necessary.)

If after trial 30 teacher waits for more than 30 seconds:

> That's enough time. Please continue
> or
> He's had enough time. Please go on!
>
> (Follow by prods 2, 3, 4 if necessary.)

APPENDIX L

Release Statement

The Graduate School and University Center
of the City University of New York

In participating in this research of my own free will, I release the City University of New York and its representatives from any legal claims arising from my participation.

_____ Date

_____ Signature

_____ Printed Name

_____ Address

APPENDIX M

Post-Experimental Inquiry

NAME_____ Age_____

Address_____ Occupation_____

_____ Education_____

1. What was the purpose of this experiment?

2. Did you have any doubts that Mr._____ was acting?
   If yes, explain.

3. Using the following scale, did you think the shocks given to the learner were real or not real?

   a. I was convinced the shocks were real.
   b. I thought the shocks were real, but had some doubts.
   c. I was not sure whether the shocks were real or not.
   d. I thought the shocks were NOT real, but had some doubts.
   e. I was convinced the shocks were not real.

   Before entering the laboratory, but after role playing was explained. ____

   During the experiment, in the laboratory. ____

   Now. ____

4. How much trouble did you have getting involved in the role playing and acting as if it were a real situation? (Circle your response)

   a. Much trouble.
   b. Some trouble.
   c. A little trouble.
   d. No trouble at all.

5. There are a number of ways people respond to role-playing situations, which one describes you best? (Circle your response)

   a. I was so absorbed that I virtually forgot that it was role playing and acted completely spontaneously, as if it were real.

b. Even though I was acting spontaneously, in the back of my mind I always knew that it was role playing, and not for real.

c. Sometimes it was difficult to act spontaneously, because every once in a while I thought about the fact that it was all role playing, and not for real.

d. It was very difficult to act spontaneously, because I was always saying to myself that it was all role playing, and not for real.

6. How involved were you in the experiment? (Circle your response)

a. Quite involved.
b. Somewhat involved.
c. Somewhat detached and uninvolved.
d. Quite detached and uninvolved.

7. How did you feel during the experiment? (Check one)

Extremely tense & nervous	Somewhat tense & nervous	Slightly tense & nervous	Neither tense & nervous nor calm & relaxed	Slightly calm & relaxed	Somewhat calm & relaxed	Extremely calm & relaxed

8. When you began the experiment, how did you think you were expected to act? (Circle you response)

a. I thought I was expected to continue administering the shocks.
b. I thought I was expected to stop administering the shocks.
c. I thought I was not expected to act in a particular way.

9. Do you think you acted the same way you would have acted if you were NOT told that the shocks were fake, but were led to believe they were real? (Circle your response)

a. Not at all the same.
b. A little bit the same.
c. Pretty much the same.
d. Exactly the same.

10. Assuming for the moment that the shocks were real and that the learner received painful shocks against his will, how would you assign responsibility for this to the experimenter, teacher and learner so that the total responsibility was 100%?

Experimenter_____%
Teacher _____%
Learner _____%

11. How do you feel about having participated in this experiment? (Check one)

_____	_____	_____	_____	_____
regretful	somewhat regretful	neither glad nor regretful	somewhat glad	glad

APPENDIX N

Regression Analysis Using Factor Scores

The factor scores generated by the factor analysis for each subject-actor were used as variables in the regression equation. A stepwise multiple regression analysis was performed for each of the three conditions.

In the Baseline Condition, as shown in Table 17, the regression of level of disobedience on Predicted Involvement and Assessed Involvement was not significant ($p > .05$) with the multiple correlation coefficient, $R = .440$, accounting for 19.4% of the variance. However, the regression of level of disobedience on Assessed Involvement alone, the first step of the regression analysis, was significant, accounting for 14.3% of the variance.

In the Experimenter Absent Condition, as indicated in Table 18, neither the regression equation on the first step, using Assessed Involvement nor the regression equation with both factors of involvement were significant ($p > .05$). With a multiple correlation coefficient of $R = .286$, 8.2% of the variance is accounted for by the first variable entered in the regression analysis, Assessed Involvement. The addition of Predicted Involvement accounts for an additional 4.8% of the variance, with a combined $R = .360$.

Similarly, in the Victim's Limited Contract Condition, neither of the factors of involvement accounted for a significant portion of the variance ($p > .05$). For the first step, Assessed Involvement, $R = .180$, while the addition of Predicted Involvement increased the multiple correlation coefficient to .211.

Table 17

Multiple Regression Analysis with Factors, Baseline Condition

	Variables in Equation					Analysis of Variance						
	Variable	B	Beta	F	p		SS	df	F	p	Multiple R	R Square
Step 1.	Assessed	-1.623	-.378	4.676	< .05	Regression	288.779	1	4.676	< .05	.378	.143
						Residual	1,729.087	28				
Step 2.	Assessed	-1.348	-.314	3.058	ns*	Regression	391.023	2	3.245	ns		
	Predicted	1.195	.234	1.697	ns	Residual	1,626.844	27			.440	.194

Notes. Assessed Involvement Factor - Judges' Ratings and Self-report Ratings

Predicted Involvement Factor - Role Playing Ability Scale, both Subscales

*ns - not significant, p > .05

Table 18

Multiple Regression Analysis with Factors, Experimenter Absent Condition

	Variables in Equation					Analysis of Variance						
	Variable	B	Beta	F	p		SS	df	F	p	Multiple R	R Square
Step 1.	Assessed	-2.504	-.286	2.319	ns*	Regression	214.120	1	2.319	ns	.286	.082
						Residual	2,400.559	26				
Step 2.	Assessed	-2.263	-.259	1.891	ns	Regression	338.789	2	1.861	ns		
	Predicted	-1.658	-.220	1.369	ns	Residual	2,275.889	25			.360	.130

Notes. Assessed Involvement Factor - Judges' Ratings and Self-Report Ratings

Predicted Involvement Factor - Role Playing Ability Scale, both Subscales

*ns - not significant, $p > .05$

Table 19

Multiple Regression Analysis with Factors, Victim's Limited Contract Condition

	Variables in Equation					Analysis of Variance						
	Variable	B	Beta	F	p		SS	df	F	p	Multiple R	R Square
Step 1.	Assessed	-1.378	-.180	.906	ns*	Regression	93.764	1	.906	ns	.180	.032
						Residual	2,792.995	27				
Step 2.	Assessed	-1.739	-.228	1.190	ns	Regression	128.824	2	.607	ns		
	Predicted	-1.122	-.120	.331	ns	Residual	2,757.934	26			.211	.045

Notes. Assessed Involvement Factor - Judges' Ratings and Self-report Ratings

Predicted Involvement Factor - Role Playing Ability Scale, both Subscales

*ns - not significant, $p > .05$

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