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DEINDIVIDUATION AND THE DEVELOPMENT OF EXPECTATIONS

by
Russell Robert Hamby Jr.

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Social Psychology)
in The University of Michigan
1972

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CHAPTER I

INTRODUCTION

Previous Research

Festinger, Pepitone, and Newcomb (1952) defined deindividuation as that state of affairs in a group in which "...individuals are not seen or paid attention to as individuals." Singer, Brush, and Lublin (1965) considered the major attribute of deindividuation to be "...a loss of self-consciousness or a feeling of non-identifiability" in a group. The latter set of authors explicitly denoted deindividuation as a "subjective feeling," which has the status of a hypothetical construct. In this chapter we first will review the research of Festinger et. al. and Singer et. al. in order to introduce the concept of deindividuation. Second, we will propose our own definition of deindividuation which is based upon the clarity of expectations that members of a group have regarding the behavior of other members. Third, we will discuss the relationship between the clarity of interpersonal expectations and the types of behaviors that actors exhibit. Fourth, we will identify three goal structures that differentially affect the clarity of interpersonal expectations. Finally, we will conclude the chapter with a statement of hypotheses derived from the prior discussion.

Festinger et. al. stated that deindividuation is characterized by a "lessening of inner restraints." To produce a situation in which inner restraints were lessened, Festinger et. al. asked

23 groups, which ranged in size from four to seven members, to discuss their attitudes toward their parents. A research report that individuals similar to the subjects had hostile and aggressive feelings toward their parents was used to stimulate the subjects' discussions. The presence of deindividuation in these subjects was inferred when (1) attraction to the group increased; (2) the number of negative statements made about one's parents minus the number of positive statements increased; and, (3) the number of errors in identifying what was said in the group and (4) who said it increased. Indices one, two, and four were intercorrelated but the index three did not correlate with one, two, or four. From these results Festinger et. al. concluded that an increased attraction to the group, an increased proportion of negative statements toward one's parents, and an increased number of errors in identifying who said what were consequences of deindividuation in a group.[1]

Singer et. al. assumed that, if subjects could not identify who other group members were, inner restraints would be lessened. Thirteen groups, each composed of three coeds, were required to attend the experiment in high heels and hose, and thirteen similarly constituted groups were asked to dress as usual (that is, in sneakers or loafers). Singer et. al. believed that subjects in the latter set of groups could not identify who other group members were as easily as subjects in the former set of groups. In the second set of groups the experimenters found

[1]A recent study by Cannavele, Scarr, and Pepitone (1970) has replicated Festinger's et. al. results but added little to a conceptual understanding of deindividuation.

(1) a larger number of errors in identifying who said what; (2) a larger number of statements containing obscene language; (3) fewer seconds of silence; (4) a larger number of interruptions; and, (5) an increased attraction to the discussion group. They concluded that deindividuation occured as a result of non-identifiability in the casually attired groups. In a second experiment nine groups in each of the two identification conditions were given pornographic literature to discuss, and the remaining four in each condition were given nonpornographic literature to discuss. Although the effects of the identification manipulation were not replicated in the second experiment, those subjects given pornographic literature to discuss experienced deindividuation while those subjects given nonpornographic literature to discuss did not.

The research by Festinger et. al. and Singer et. al. is important to us for two reasons. First, our research will be based upon Festinger's et. al. procedure. Second, we will try to replicate the indices used by both sets of authors in order to identify when deindividuation occurs. However, unlike Festinger et. al., we will focus our research on the effects of a group's goal structure on deindividuation. In addition, we will try to extend the list of indices which measure the consequences of deindividuation. In order to accomplish these research goals, we first must define deindividuation.

Deindividuation and the Development of Expectations

We define deindividuation as a state in group members

that exists when they lack expectations regarding the behavior of one another.[1] The presence of deindividuation implies that interpersonal expectations are unavailable from the usual sources of them, such as social roles or norms. These expectations are unavailable because prevalent roles and norms are inappropriate to the group's current situation, and interfere with the members' attempts to attain their goals. For example, when a fire breaks out in a crowded theatre, the audience may panic and storm the exits. Usually prevailing norms place negative sanctions on panics in a crowded theatre. However, as Brown (1965) points out, members of the audience in a theatre on fire may feel that conforming to norms (that is, exiting in an orderly manner) may result in death by fire. Although more of the audience may escape unharmed by an orderly exit, no individual wants to be one of those trapped in the fire. Thus, each individual has a highly valued goal (to escape) which may not be achieved if he conforms to prevalent norms. Therefore, individuals in the audience reject prevalent norms and storm the theatre exits in panic. Since most individuals are seldom in a burning theatre, when such an event occurs they are unfamiliar with how other members of the audience will behave; they panic. That is, they lack expectations regarding how others in the audience will act,

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[1] As mentioned earlier, we will replicate indices from Festinger's et. al. study and from Singer's et. al. study. Some of these indices measure cognitive variables (such as number of errors in identifying who said what) and some measure behavioral variables (such as number of interruptions). Since we define deindividuation as a cognitive variable, we will refer to the replicated indices of deindividuation that measure cognitions as indices of deindividuation. The replicated indices that measure behavioral variables will be referred to as deindividuated behavior.

and therefore they experience deindividuation.

Situations in which individuals experience deindividuation are unstructured and ambiguous. Behaviors that frequently occur in unstructured situations, therefore, should be behavioral correlates of deindividuation.

Expectations and Behavior

Lewin (1959) remarked that "Being in unstructured surroundings leads to uncertainty of behavior because it is not clear whether a certain action will lead to or away from a goal." Torrance characterized the survival attempts of Air Force personnel downed in enemy territory as random, trial and error behaviors. From our previous example we can see that a member of the panicky audience may try several behaviors that he ordinarily would avoid in an effort to determine how to escape from the burning theatre. His behavior may be unorganized. Moreover, since each member of the the audience cares more about his own goal-attainment than the goal-attainment of others, his behavior is self-oriented. As Cohen (1959) observed, subjects have more difficulty adjusting to the situation as the clarity of the path for goal-attainment decreases. They become self-centered and, to paraphrase Festinger et. al., individuals do not see or pay attention to one another as individuals. Self-questioning, agression, tension, antagonism, and ego defensiveness are categories of behaviors that indicate a self-orientation, and we will refer to these categories as

egocentric behavior.[1] These egocentric behaviors should occur more frequently in individuals who experience deindividuation than in individuals who do not.

Nonegocentric behaviors are those, in contrast, that are oriented toward other group members. They indicate that individuals see and pay attention to one another as individuals. Nonegocentric behaviors may be either instrumental[2] actions intended as interpersonal communication, such as giving a procedural suggestion, suggesting a solution, giving an opinion, giving information, and repeating or clarifying another's statement; or they may be responses to remarks made by others in the group, such as showing solidarity, acknowledging, agreeing and complying, asking for opinion, and disagreeing. Nonegocentric behaviors should occur less frequently in individuals who experience deindividuation than in other individuals. These behaviors imply decreased ambiguity in the group, which Raven and Rietsma (1957) found to be associated with high cohesion, ability to perceive differentiation, and willingness to accept influence.

We have stated that egocentric behaviors should occur more

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[1]These categories are taken from Borgatta's (1965) Interaction Process Scores (IPS), which is a scoring system for group behavior. The categories are exhaustive and mutually exclusive, and we will discuss each individual category in Chapter II.

[2]Black (1951) found increased goal structure to result in behaviors that were more task-oriented.

frequently and nonegocentric behaviors less frequently in individuals who experience deindividuation than in individuals who do not. Obviously not all behavior that occurs when deindividuation occurs is egocentric behavior. Some of the behavior exhibited by an individual experiencing deindividuation is nonegocentric. As instrumental nonegocentric behavior occurs in a group, paths to goals become less ambiguous and more clearly structured. This decrease in ambiguity develops during interaction when group members are able to observe the effects of their own and others' actions. As a result, expectations regarding the behavior of others increase in clarity, and deindividuation decreases.

Our discussion of the behavioral correlates of deindividuation was developed from Lewin's notions that individuals have difficulty in reaching goals when the paths to goals are unstructured. It is reasonable to expect, next, that different goal structures will differentially affect the degree to which paths to goals are structured, which, in turn, will affect the clarity of interpersonal expectations.

Goal Structures and Expectations

Three goal structures may affect the clarity of interpersonal expectations. These goal structures are as follows: (1) individualistic goals, (2) competitive goals, and (3) cooperative goals. The three affect the clarity of interpersonal expectations by informing an individual whether to expect that others will help or hinder his efforts to achieve his goals.

(1) Individualistic goals. When the goals of the members of a group are individualistic, that is, oriented to self and not at all to others, goal-attainment by any one actor does not affect the probability that other actors will achieve their goals. Thus, an actor does not know whether to expect cooperation or conflict in his interaction with others nearby. He does not know whether to expect the others to help or to block his efforts to achieve his goals. Ambiguity about the behavior of others is maximized and interpersonal expectations are minimized.

(2) Competitive goals. When the goals of the members of a group are competitive, goal-attainment by any one actor decreases the probability of other actors' achieving their goals. The pure case of competition occurs when a group member can achieve his goal only by blocking the efforts of other group members to achieve their goals. In this goal structure an actor is in conflict with others and can expect them to hinder or block his efforts to achieve his goals. Thus, he has less ambiguity about the behavior of others, and interpersonal expectations are clearer than when goals are individualistic. However, others working on the same task may or may not perform an action which helps the actor by decreasing ambiguity regarding paths for goal-attainment. Thus, some ambiguity of interpersonal expectations exists when goals are competitively structured.

(3) Cooperative goals. When the goals of the members of a group are cooperative, goal-attainment by any one actor increases the probability of other actors' achieving their goals. In fact, the pure case of cooperation exists when an actor can achieve his goal if and only if other actors achieve their goals. In this goal structure an actor can expect others not to hinder him and

to try to help him achieve his goals because doing so increases their probability of goal-attainment also. Thus, cooperative goals minimize ambiguity regarding paths for goal-attainment and maximize interpersonal expectations.

We have proposed three goal structures that should determine the clarity of interpersonal expectations. Cooperative, competitive, and individualistic goal structures, in that order, cause the clarity in expectations of others to decrease, which produces deindividuation.

Conclusion and Hypotheses

We defined deindividuation as the lack of interpersonal expectations, and we stated that deindividuation occurred when usually prevailing norms interfered with group members' goal-attainment. We argued that groups that experience deindividuation lack clearly structured paths to goals, which result in self-oriented behavior by group members. This reasoning leads to the first hypothesis.

H_1: Individuals who experience more deindividuation exhibit more egocentric behaviors than individuals who do not.

Next, we stated that, as members of a group interact, the members structure paths to goals by engaging in trial-and-error behavior and by observing others. These paths decrease ambiguity and clarify interpersonal expectations. This reasoning led to the second hypothesis.

H_2: Egocentric behaviors become less frequent over time.

Last, we considered the effects of goal structure on the clarity of interpersonal expectations. This discussion produced the final hypothesis.

H_3: Individuals in groups with individualistic goal structures are more likely to experience deindividuation than individuals in groups with competitive goal structures, and individuals in groups with competitive goal structures are more likely to experience deindividuation than individuals in groups with cooperative goal structures.

These hypotheses represent the major predictions following from our interpretation of deindividuation. Of course, some corollaries are obvious. For example, replicated indices of deindividuation, deindividuated behaviors, and egocentric behaviors should be intercorrelated. These intercorrelations will be examined when appropriate in Chapter III. In Chapter II we will describe an operational procedure for testing the hypotheses in the experimental laboratory.

CHAPTER II

THE EXPERIMENTAL DESIGN

Subjects

Subjects were ninety sophomores and juniors, from introductory classes in Social Psychology classes at Purdue University. The participants were randomly selected[1] with the exception that all persons over thirty years of age were excluded because the discussion topic concerned relations with parents. Subjects were randomly assigned to groups of three members. A total of ten groups were used for each of the experimental conditions. In five triads one member failed to report. Three of these groups were postponed until a later occasion when all subjects assigned to that triad could participate. In the remaining two tries it was necessary to substitute a subject for the missing person.

Experimenters

Since some of the subjects were in classes of the author, a second person, Donald Crawford, was introduced to the subjects as the experimenter. All instructions were given to

[1]Since the experiment was used for instructional purposes also, students were highly encouraged to participate. In fact, almost all did participate. More subjects were available than were needed. Therefore, after random selection for the experiment reported in this thesis was completed, the remaining subjects were assigned to groups of varying size. Data analysis for these groups has not been completed at this time.

the subjects by Mr. Crawford. He was fully versed in the experimental conditions, procedure, and coding categories, having been trained by the author in Borgatta's IPS during the pilot sessions. During the discussion Mr. Crawford and the author observed the groups and transcribed statements for use in the memory and identification indices. Mr. Crawford also coded tapes of the discussions for use in calculating inter-observer reliability.

Procedure[1]

Subjects were seated in a waiting room until all members of the triad arrived. The group was then ushered into the experimental room and the subjects were asked to take one of three chairs, each placed at an apex of a triangle and facing one another. When seated, each subject was given a research report stating that negative feelings, hostility, and even hatred toward one's parents are not uncommon among college students.[2] The report concluded with the request that, in light of the research report's findings, the subjects discuss their own feelings toward their parents. After the subjects had read the report they were told the payoff structure appropriate to their experimental condition and given thirty minutes for discussion. At the end of thirty minutes the

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[1]This experimental procedure is basically the same one used by Festinger et. al. and replicated by Cannavele et. al.

[2]A copy of this report may be found in Appendix A.

interaction was halted and a post-experimental questionnaire was administered. When all subjects had completed the questionnaire, statements that were intended to measure memory and identification (see below) were read to the subjects, and the participants were asked to indicate whether the statement had been made by a member of their discussion group, and if so, by whom. Each subject was assigned a code letter (A, B, or C) for this task. The questionnaires then were collected and the purposes of the experiment revealed. The subjects were dismissed with the request that they not speak to anyone about the experiment.

Manipulation

It was earlier proposed that deindividuated behavior occurred when actors lacked expectations of others, and that goal structures were one source from which actors could infer the appropriate expectations. For our task social interaction is a necessary means to the goals, that is, subjects can win only if they talk with one another. We hypothesized that cooperative, competitive, and individualistic goal structures differentially affected the specificity of actor's expectations and the liklihood of deindividuated behavior. The following three manipulations constitute our attempt to make these goal structures operational in three experimental conditions:[1]

(1) Individualistic condition. Subjects in this condition

[1]See Appendix B for a copy of the manipulations as given to the subjects.

were told that they would receive a bonus of three dollars if their individual contributions were judged by the experimenter to be of a suitable quality. They were told that they would be judged independently of each other and that they all might earn the bonus, or that none of them might earn it.

(2) Competitive condition. Subjects in this condition were told that they would receive a bonus of three dollars if their individual contributions were among the best one-third of all subjects. They were told that although this meant that on the average, one subject per group would earn the bonus, since the winners were to be selected from all subjects in the experiment, it was possible that all of them might earn the bonus or none of them might earn it.

(3) Cooperative condition. Subjects on this condition were told that each of them would receive a bonus of three dollars if their group's discussion was judged by the experimenter to be of a suitable quality. They were told that this meant that either all of them would earn the bonus or none of them would because the judgment was based on the group's discussion as a whole.[1]

---

[1]Following completion of the experiment all subjects were told that no bonuses would be paid. It was explained that the payoff structures constituted the major manipulation and for this reason we had deluded them. At this time apologies were extended to the subjects for our inability to pay.

Two notes on these manipulations are appropriate. First, in each condition the expected value of the payoff to the individual was held constant. The difference between conditions is the payoff structure, and not the payoffs themselves. Second, we predicted that deindividuation was more likely in the earlier moments of the discussion periods. Although we did not manipulate this variable, these data are available to us and will be analyzed by a breakdown of the results in the separate conditions over time. By dividing these data into three ten-minute intervals we will be able to observe the effects of stage of interaction on deindividuation.

Deindividuation Indices

Five indices of deindividuation were used in this experiment.

(1) Negative minus positive score. This index is calculated by subtracting the number of positive statements made about one's parents from the number of negative statements. Festinger et. al. stated that one consequence of releasing inner restraints is an increase in the number of negative comments about one's parents.

(2) Number of memory errors. This index of deindividuation also was used by Festinger et. al. Ten statements were taken verbatim from the discussion

period. The criteria used in selecting these statements included: (1) brevity, one-sentence in length; (2) coherence; (3) uniqueness, dissimilarity from other statements; (4) representiveness of the entire discussion; and (5) representativeness of all three discussants. Five statements not made by any participants in these discussions were also included. The logic behind the use of memory errors is as follows; "...during such periods of deindividuation individuals in the group would not be paying particular attention to other individuals qua individuals. If this were true, then ... they should be less attentive to and less well able to remember which particular member had done what." The score was the number of statements incorrectly recalled.

(3) Number of identification errors. This index of deindividuation was also used by Festinger et. al. Subjects were asked to identify the source of the statements in the list compiled for the memory index.

(4) Number of interruptions. Singer et. al. defined this index as "...the number of times one S started to talk before the previous speaker had completed her remark." The justification for this index was as follows: "Interruptions were interpreted as representative of the lack of superficial polite restraint characteristic of deindividuated groups."

(5) Number of seconds of silence. Singer et. al. defined this index as the "...periods during which no one was speaking." Its justification as an index was as follows: "the more 'dead' or silent time, the more restrained and inhibited the discussion and the less deindividuated the group."

Egocentric Behavior

Although these behaviors have not previously been considered to be consequences of deindividuated behavior, they represent the "loss of inner restraints" that characterize deindividuated behavior. They were taken from coded categories of Borgatta's Interaction Process Scores (IPS). Observers were trained in the coding techniques by use of Borgatta and Crowther's Workbook for the Study of Social Interaction Processes (1965) and by practice during a pilot study. Seven categories were selected to represent self-centered behavior.

(1) Self-analysis and self-questioning behavior (IPS No. 9). Borgatta defined this category as follows: "In this category goes behavior of a relatively objective self-evaluative sort." An example is "I just wasn't aware of what I was doing." It is self-oriented because it is oriented to internal considerations of the actor and does not show a direction toward or a response to others.

(2) Reference to the external situation as redirected

aggression (IPS No 10). Borgatta defined this category as follows: "In this category go all actions of aggression, hostility, nastiness, etc., that are directed out of field." An example is "She sounds like an old prude to me." It is self-oriented because the behavior attempts to cope with aggression by displacing it to other persons or objects.[1]

(3) Shows tension relief (IPS No.14). Borgatta defined this category as follows: "In this category are scored those attempts by members of a group to relieve tense or threatening moments which can disrupt group interaction." It is self-oriented because it reflects the attempts by members to make interaction easier and less of a problem for them.[2]

(4) Shows tension, asks for help by virtue of personal inadequacy (IPS No. 15). Borgatta defined this category are scored the general characteristics of

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[1]One can argue that displacing aggression aids group interaction. However since the task is discussing one's own attitude toward his or her parents, displaced aggression represents an easy but unsatisfactory response to the instrumental demands of the situation.

[2]Again, one can argue that tension release aids group interaction. This could be true. However, when a behavior coded as tension release occurs, we are relatively certain tension exists but we are not so certain it has been relieved. While we agree that this index bears watching, we have observed that whenever one instance of tension release appears, it most often is followed by two, three, or more instances. The consequence is a disruption of the grous' focus on the task. In fact, most instances of tension release are followed by silence and a change in the topic of discussion.

nervousness, including the tapping of fingers, squirming, toying with pencils, cigarettes, cigarette lighters, etc." Other examples are stammering, flushing, or moving back out of the field. It is self-oriented because it signifies an internally disoriented state.

(5) Shows tension increase (IPS No. 16). Borgatta defined this category as follows: "In this category are scored the periods of tenseness that grow largely out of impasses or bankruptcy of conversation." An example is the period of silence following a member's remark "That's a pile of shit." It is self-oriented because it reflects the inability of members to cope with an escalating tense situation.

(6) Shows antagonism, hostility, is demanding (IPS No. 17). Borgatta defined this category as follows: "In this category are all actions that are directed to be either socially or psychologically destructive of the other or his position." An example is the remark, "That's a pile of shit." It is self-centered because it is an expressive statement the objective of which is self-enhancement.

(7) Ego defensiveness (IPS No 18). Borgatta defined this category as follows: "In this category are placed all actions that are direct expressions of assertive ego defensiveness." An example is "I am too right." It is self-oriented because it serves

to protect one from personal social loss.

Non-egocentric Behavior

These behaviors are the remaining ten[1] categories of Borgatta's Interaction Process Scores, and include as follows: (1) gives a procedural suggestion; (2) suggests a solution; (3) gives opinion, evaluation, analysis, expresses feeling or wish; (4) gives orientation, information, passes communication; (5) draws attention, repeats, clarifies; (6) shows solidarity through raising the status of others; (7) acknowledges, understands, recognizes; (8) shows agreement, concurrence, compliance; (9) asks for opinion, evaluation, analysis, expression of feeling; and (10) disagrees, maintains a contrary opinion.[2]

Post-Experimental Attribution

A post-experimental questionnaire was administered following the group discussion. Although we have distinguished deindividuation as a behavioral phenomenon, earlier authors have proposed that subjects should enjoy the releases of inner restraints. We doubt that enjoyment is a necessary consequence

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[1]One category, common social acknowledgments, is omitted since it is infrequent, consists of behaviors such as saying hi, and is inapplicable to both major categories.

[2]The category of disagrees, maintains a contrary position, codes, in effect, those instances in which "gentlemen disagree." When the disagreement takes other forms, the behavior is coded as shows antagonism or hostility, or ego defensiveness.

of deindividuated behavior, particularly if that behavior interferes with goal attainment. Therefore, we asked subjects to rate how much they enjoyed the experiment, if they would like to participate a second time, and if they would like to meet with the members of their group again.[1] We also asked subjects to rate the difficulty of the task. Since groups exhibiting deindividuated behavior lacked structure, we expected them to rate the task as more difficult, and if they rated the task as more difficult, we expected them to enjoy the experiment less. However, this decrease in enjoyment, if a function of the task, was not expected to be generalized to the other measures of attraction to the group.

Similarly, because of the lack of group structure, we predict that groups exhibiting deindividuated behavior would not be able to make use of social comparison processes as competently as subjects in other conditions. In order to compare oneself to another one must identify similarities and differences with that other. Others are unpredictable when behaving in a deindividuated fashion because the behavior is unusual. Members do not respond to statements made by others in the group. Instead, they are concerned with their own statements and do not pay attention to others. Therefore, they should have less confidence in judgments about the quality of the group's discussion. They should find the statements and opinions of others in their group to be less clear to them, although not necessarily more similar to one another. In addition, although their group

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[1] These and the following questions appear on the post-experimental questionnaire in Appendix C.

structure is less developed, and hence their expectations of one another not clear, groups exhibiting deindividuated behavior were not expected to perceive themselves as more or less anxious than other groups. We expected no more perceived anxiety in groups exhibiting deindividuated behavior because, although their expectations of others were less clear, their own goals were no less clear to them.

The final set of questions centered on self-and other-attribution. If Festinger's et. al. analysis of deindividuated behavior is correct, we would expect groups exhibiting this behavior to assume less personal responsibility for their own actions and for the actions of their group. Festinger et. al. and Singer et. al. would expect members of groups exhibiting deindividuated behavior to diffuse responsibility or to attribute it to others. This diffusion of responsibility would occur because group members violate internalized controls that usually result in self-restraint. Our analysis implies that these restraints are defined by group members as inappropriate to the situation. Therefore, they do not feel guilty because they committed an anti-normative act. We would expect members to forget what others in the group looked like, to forget what they said or did, and to be less willing to make attributions about them. However, we would not expect them to avoid responsibility for things they said or did either as an individual or a collectivity. To measure attributions of responsibility subjects were asked to rate from a low of one to a high of seven how responsible they were for their own behavior, and how responsible others were for their

behavior. Of course, to be certain that expectations were still minimal for these groups, we asked subjects to describe in as much detail as possible what others in their group were like. These descriptions were coded for number of attributions of internal characteristics, and payoff conditions were compared for degree of deindividuation.

Other Indices

Two final indices were included. The first measured the average length of interaction sequences composed entirely of non-egocentric behaviors. In groups not exhibiting deindividuated behavior, members are assumed to act and react toward others more than they do in other groups. As a result, non-egocentric behaviors are linked to one another in sequences. The average length of these sequences should be longer in groups not exhibiting deindividuated behavior than in those that do.

Second, the number of seconds of eye contact between any two individuals was recorded. Heider (1958) has suggested that this form of non-verbal interaction signifies that each actor is involved in communication with the other, and there is evidence that in fact eye contact declines in intensely competitive or threatening situations (Exline, 1963). Therefore, eye contact should occur less frequently in groups exhibiting deindividuated behavior. To measure eye contact the author observed the subjects during the discussions. Whenever any two subjects' eyes met, a stop-watch was started, and when

the mutual glance was broken by either subject, the stop-watch was stopped. Of course, since the groups were triads, it was impossible for more than two subjects to exchange mutual glances simultaneously.

CHAPTER III

RESULTS

Our results are presented in the following order: first, we will report the reliability of the coding categories used for overt behavior. Second, we will present the intercorrelations of all indices that purportedly measure the same construct. Thus, deindividuation indices replicated from other studies should be intercorrelated; egocentric behaviors should be intercorrelated; non-egocentric behaviors should be intercorrelated; and the subjects' reactions to deindividuated behavior (as taken from the post-experimental questionnaire) should be intercorrelated. Third, we present the effects of payoff structure on the preceeding four sets of variables, and on eye contact and length of interaction sequence. We will conclude the chapter by presenting results on the effects of phase of interaction on the above variables.

Table 1 reports inter-observer and intra-observer reliability of the behaviors coded from the group interactions.[1] These intercorrelations (as all the data reported in this paper) are based upon group scores. All correlations differ significantly from zero in the predicted direction.

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[1]Inter-observer reliability exists to the degree that this author's coding results and Mr. Crawford's coding results intercorrelate positively.

TABLE 1

RELIABILITY OF BEHAVORIAL INDICES

Variable	Inter-Observer	Intra-Observer
Social Acknowledgements	.98[2]	.98[2]
Solidarity	.91[2]	.96[2]
Tension Release	.78[2]	.83[2]
Acknowledges	.80[2]	.84[2]
Shows Agreement	.73[2]	.80[2]
Gives Suggestion	.70[1]	.70[1]
Suggests Solution	.71[1]	.85[2]
Gives Opinion	.68[1]	.69[1]
Self-Analysis	.94[2]	.98[2]
Redirected Agression	.92[2]	.95[2]
Gives Orientation	.74[2]	.74[2]
Draws Attention	.83[2]	.84[2]
Asks for Opinion	.66[1]	.71[1]
Disagrees	.89[2]	.95[2]
Shows Tension	.88[2]	.93[2]
Tension Increase	.87[2]	.95[2]
Shows Antagonism	.90[2]	.95[2]
Ego Defensiveness	.83[2]	.87[2]
N-P	.79[2]	.79[2]
Eye Contact	.71[1]	----

TABLE 1 (Cont.)

Variable	Inter-Observer	Intra-Observer
Interruptions	.84[2]	.91[2]
Silence	.80[2]	.88[2]
Interaction Sequence	.64[1]	.76[2]

1. P less than .05, one-tailed test.
2. P less than .01, one-tailed test.

Table 2 reports the intercorrelations of all the indices of deindividuation replicated from previous research. All but three differ significantly from zero in the predicted direction. Two of the three that fail involve the number of memory errors. Both Festinger et. al. and Cannavele et. al. suggested that number of memory errors was an index of deindividuation but their results did not support that view. Still, no cogent argument has been presented to explain why memory errors fail to occur more often in deindividuated groups. The remaining failure is between interruptions and silence, and this correlation falls short of significance by only .02.

TABLE 2

INTERCORRELATION OF REPLICATED DEINDIVIDUATION INDICES

Variable	N-P Score	M Errors	I Errors	Interruptions	Silence
N-P Score	1.00				
M Errors	.27	1.00			
I Errors	.62[2]	.45[2]	1.00		
Interruptions	.66[2]	.72[2]	.77[2]	1.00	
Silence	.37[1]	-.10	.40[1]	.28	1.00

1. P less than .05, one-tailed test.
2. P less than .01, one-tailed test.

Table 3 reports the intercorrelated indices of egocentric behavior as coded on Borgatta's IPS. All but five differ significantly from zero in the predicted direction. Three of these five involve the self-analysis category and the remaining two involve ego defensiveness. It may be that these two categories coded behavior that reflected too personal a focus, while deindividuated behavior reflects a group focus. We note that while these two categories do not correlate as expected with other categories, they do correlate highly with each other (.92). This observation suggests that self-analysis and ego defensiveness may not obtain in the results as predicted.

TABLE 3

INTERCORRELATIONS OF EGOCENTRIC BEHAVIORS

Variable:

(1) Self-Analysis

(2) Redirected Agression

(3) Tension Release

(4) Shows Tension

(5) Tension Increase

(6) Shows Antagonism

(7) Ego Defensiveness

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	1.00						
(2)	.24	1.00					
(3)	.20	.54[2]	1.00				
(4)	.03	.52[2]	.73[2]	1.00			
(5)	.61[2]	.46[2]	.75[2]	.51[2]	1.00		
(6)	.03	.43[2]	.41[1]	.50[2]	.45[2]	1.00	
(7)	.92[2]	.35[1]	.32[1]	.18	.48[2]	-.03	1.00

1. P less than .05, one-tailed test.

2. P less than .01, one-tailed test.

Table 4 reports the intercorrelation of nonegocentric

behaviors as coded on Borgatta's IPS. These indices constitute all categories of the IPS not coded as egocentric behaviors, and the lack of theoretical clarity among them is reflected in the twenty-two intercorrelations that fail to differ significantly from zero in the predicted direction. However, fifteen of these failures involve the categories of suggests solution, acknowledges, and disagrees. All three of these categories produce significant intercorrelations, and the remaining seven categories, when grouped together, produce fifteen significant correlations out of twenty-one possible. In addition, for this latter group, half of the six intercorrelations that fail are greater than .20 and all exceed .10. Interestingly, the three categories that fail to correlate with other nonegocentric behaviors do not correlate well with the egocentric behaviors either. In our theoretical discussion we stated that deindividuated behavior was a matter of degree. We suspect that 'suggests solution,' 'acknowledges,' and 'disagrees' all three fall somewhere between deindividuated behaviors and other behaviors. If this is true, then we can expect some interesting patterns to emerge in the subsequent analysis.

TABLE 4

INTERCORRELATIONS OF NON-EGOCENTRIC BEHAVIORS

Variables:

(1) Gives Suggestion
(2) Suggests Solution
(3) Gives Opinion
(4) Gives Orientation
(5) Draws Attention
(6) Shows Solidarity
(7) Acknowledges
(8) Shows Agreement
(9) Asks for Opinion
(10) Disagrees

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	1.00									
(2)	-.49	1.00								
(3)	.14	-.63	1.00							
(4)	.51[2]	-.81	.53[2]	1.00						
(5)	.55[2]	-.76	.47[2]	.88[2]	1.00					
(6)	.28	-.60	.40[1]	.57[2]	.51[2]	1.00				
(7)	-.48	.78[2]	-.60	-.80	-.76	-.50	1.00			
(8)	.38[1]	-.51	.64[2]	.52[2]	.44[2]	.30[1]	-.54	1.00		
(9)	.42	-.54	.43[2]	.74[2]	.85[2]	.22	-.60	.35[1]	1.00	
(10)	-.38	.30[1]	-.10	-.45	-.42	-.60	.23	-.14	-.18	1.00

1. P less than .05, one-tailed test.
2. P less than .01, one-tailed test.

Table 5 reports the intercorrelations of subjects' reactions to deindividuated behavior as taken from the post-experimental questionnaire. All but two of the correlations differ

significantly from zero in the predicted direction. Both correlations that fail involve the perception of quality of the discussion, and both failures approach significance (P less than .10).

TABLE 5

INTERCORRELATIONS OF SUBJECTS' REACTIONS TO DEINDIVIDUATED BEHAVIOR

Variables:

(1) Enjoyment of Task

(2) Difficulty of Task

(3) Quality of Discussion

(4) Clarity of the Statements of Others

(5) Recall of the Appearance of Others

(6) Recall of the Actions of Others

(7) Attributions about Others

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	1.00						
(2)	-.57[2]	1.00					
(3)	.57[2]	.24	1.00				
(4)	.59[2]	.52[2]	.51[2]	1.00			
(5)	.43[2]	.37[1]	.28	.56[2]	1.00		
(6)	.55[2]	.32[1]	.52[2]	.62[2]	.56[2]	1.00	
(7)	.54[2]	.38[1]	.44[2]	.64[2]	.70[2]	.83[2]	1.00

1. P less than .05, one-tailed test.

2. P less than .01, one-tailed test.

These data describe the degree of association between certain of our dependent variables that purport to index the same construct. Although our correlations did not fit our predictions perfectly, on the whole a pattern did emerge among the variables. Even our mistakes seemed not only instructive but also intelligible. Thus, we appropriately may proceed with the analysis of the effects of our independent variables.

The Effects of Payoff Structure

Several steps were followed consistently in examining the data. First, all indices were cast into a one-way analysis of variance, yielding an F ratio which indicates the degree to which the means of the treatment conditions differ.[1] Second, each analysis consists of three treatment conditions, each of which contains ten groups. Third, all data are reported as group scores,[2] yielding an N of ten groups in each of three

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[1] See Hays (1963) for a more complete discussion.

[2] Earlier research has treated deindividuation as a group phenomenon without specifying why. Our data indicate that when individuals are used as the unit of analysis, within variance is so large that experimental effects disappear. When the group is used as the unit of analysis, within variance is decreased considerably and effects can be distinguished between conditions.

conditions. Fourth, we report a coefficient of concordance (W^2) which indicates the proportion of the variance accounted for by the separate experimental conditions.[1] Finally, in some cases a large within-group variance has obliterated differences between means. This occurred because the F ratio is not a distribution-free statistic. In these cases we calculated the Kruskal - Wallis one-way analysis of variance. This is a rank order technique which is distribution-free. It is therefore immune to exaggerated variances caused by one or two extreme cases.[2] If differences between means are obscured by error variance then the Kruskal - Wallis analysis should uncover the relationship. Note that the data presented in this chapter are summarized. Means, standard deviations, and analysis of variance tables for these data may be found in Appendix D.

Table 6 reports the effect of payoff structure on indices of deindividuation replicated from previous studies. The F ratio for the difference between number of negative and positive statements made about one's parents is significant at the .01 level, and the means occur in the predicted direction. The data also confirm our predictions for identification errors and interruptions. The F ratio for number of seconds of silence is significant but the means occur in the reverse of the predicted order. The F ratio for number of memory errors

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[1] See Hays (1963) for a more complete discussion.

[2] See Siegel (1956) for a more complete discussion.

is insignificant. To reduce the effect of large error variance in the cooperative condition, the Kruskal - Wallis statistic was calculated. Its value is 6.57, which is significant at the .05 level.

TABLE 6

THE EFFECT OF PAYOFF STRUCTURE ON REPLICATED DEINDIVIDUATION INDICES

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	W^2
N-P	30.6	17.0	9.6	37.69[1]	.710
M Errors	8.3	6.1	5.9	.47	.036
I Errors	11.8	9.7	4.1	20.51[1]	.565
Interruptions	10.0	5.8	3.3	7.67[1]	.308
Silence	45.4	38.2	18.0	7.60[1]	.305

1. P less than .01.

Table 7 reports the effect of payoff structure on egocentric behaviors. For the variables of tension relief, redirected agression, shows tension, tension increase, and shows antagonism, the F ratios are significant and the means occur in the predicted order. However, as a result of large error variance in the competitive condition, F ratios for self-analysis and ego defensiveness are insignificant. The Kruskal - Wallis one-way analysis of variance yields a value of 11.51 for self-analysis and 10.15 for ego defensiveness. These

values are significant at the .01 level. Nonetheless, for both indices the means do not occur in the predicted order because the means of the competitive condition exceed the means of the individualistic condition.

TABLE 7

THE EFFECT OF PAYOFF STRUCTURE ON EGOCENTRIC BEHAVIORS

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	W^2
Self-Analysis	11.9	14.8	6.2	1.39	.026
Redirected Agression	4.2	1.4	0.8	7.19[1]	.292
Tension Release	31.0	14.9	2.5	75.59[1]	.833
Shows Tension	6.7	4.0	1.1	13.66[1]	.458
Tension Increase	19.8	14.8	4.4	36.90[1]	.705
Shows Antagonism	2.4	1.2	0.4	5.90[1]	.246
Ego Defensiveness	9.9	11.4	2.7	1.87	.055

1. P less than .01.

Table 8 reports the effect of payoff structure on non-egocentric behaviors. For the variables of gives agreement, gives suggestion, gives orientation, draws attention, and asks

for opinion, the F ratios are significant and the means occur in the predicted order. The F ratio for gives opinion is insignificant as a result of large error variance in the cooperative condition. The Kruskal - Wallis analysis of variance yields a value of 6.23, which is significant at the .05 level. Acknowledges and gives solution yield significant F ratios but the means occur in the reverse of the predicted order. The F ratio for increases solidarity is significant but the mean of the individualistic condition exceeds the mean of the competitive condition. The F ratio for disagrees is also significant but the largest mean occurs in the competitive condition and the smallest mean occurs in the cooperative condition.

TABLE 8

THE EFFECT OF PAYOFF STRUCTURE ON NON-EGOCENTRIC BEHAVIORS

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	W^2
Gives Suggestion	3.4	4.4	6.5	5.48[1]	.230
Suggests Solution	7.3	4.3	1.6	24.23[2]	.608
Gives Opinion	60.5	71.3	74.8	2.24	.076
Gives Orientation	32.5	51.1	72.5	34.19[2]	.689
Draws Attention	5.0	25.2	40.6	29.27[2]	.827

TABLE 8 (cont.)

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	W^2
Shows Solidarity	1.4	0.6	4.0	20.91[2]	.570
Acknowledges	28.7	17.2	11.4	44.91[2]	.745
Shows Agreement	2.5	3.6	4.5	3.69[1]	.153
Asks for Opinion	6.4	26.6	27.0	7.58[2]	.305
Disagrees	4.2	7.0	1.2	38.37[2]	.714

1. P less than .05.

2. P less than .01.

Table 9 reports the effects of payoff structure on subjects' reactions to deindividuated behavior. F ratios are significant and treatment means occur in the predicted order for the following variables: enjoyment of the task, perceived difficulty of the task, perceived cooperation, confidence in one's judgment of perceived quality of one's contributions, perceived clarity of the statements of others, number of details used to describe the appearance of others, number of statements and actions from the discussion that one remembers, and number of attributions made about other group members. The following variables yield significant F ratios but no order was predicted for treatment means: desire to repeat the experiment, desire to have lunch with group members, perceived quality of one's contributions, perceived similarity of other

group members, perceived quality of the group's discussion, perceived influence on others, and perceived influence of others on self. The insignificant F ratios for the variables of perceived anxiety and attribution of responsibility to others were predicted. Individualistic groups were more likely to attribute responsibility for their behavior to themselves, which is in accord with our prediction. In fact, the only variable which does not occur as predicted is the judgment of perceived similarity of other group members. Although the F ratio is significant, the mean of the individualistic condition exceeds the mean of the competitive condition. This order violates our prediction.

TABLE 9

THE EFFECT OF PAYOFF STRUCTURE ON SUBJECTS' REACTIONS TO DEINDIVIDUATED BEHAVIOR

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	W^2
Enjoyment of Task	14.3	15.5	17.4	8.35^2	.329
Difficulty of Task	13.0	11.4	9.6	5.63^2	.236
Desire to repeat Experiment	14.9	14.1	16.7	5.85^2	.244
Desire to Lunch with Group	15.8	13.3	16.6	8.33^2	.328
Perceived Cooperation	17.3	15.2	18.8	9.67^2	.366
Perceived Quality of One's Contributions	13.4	14.9	15.1	4.64^1	.195

TABLE 9 (Cont.)

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	W^2
Confidence in Judgment of Perceived Quality	14.4	15.8	17.2	8.88^2	.344
Perceived Anxiety	11.0	12.4	9.9	2.80	.107
Perceived Clarity of Discussion	13.0	15.1	18.5	23.27^2	.597
Perceived Similarity of Others	17.1	13.7	19.3	29.40^2	.654
Confidence in Judgment of Perceived Similarity	16.1	13.4	17.3	13.23^2	.449
Attribution of Responsibility to Others	11.3	12.5	12.8	3.26	.131
Attribution of Responsibility to Self	17.0	14.6	15.4	8.26^2	.326
Number of Details used to Describe Others	17.8	21.9	29.4	14.44^2	.473
Number of Statements and Actions Remembered	9.3	19.0	22.5	23.89^2	.604
Number of Attributions Made about Others	11.3	18.5	25.6	24.78^2	.613
Perceived Quality of Discussion	14.9	13.8	16.7	17.75^2	.528
Perceived Influence on Others	6.7	12.1	8.9	20.34^2	.563
Perceived Influence of Others on Self	13.6	11.6	14.3	7.48^2	.302

1. P less than .05.

2. P less than .01.

Table 10 reports the effect of payoff structure on two additional indices. The F ratio for length of interaction sequence is significant and the means occur in the predicted direction. The F ratio for number of seconds of eye contact is insignificant as a result of large error variance in the competitive condition. The Kruskal - Wallis analysis of variance yields a value of 6.33, which is significant at the .05 level. The predicted order of means does not occur since the mean of the competitive condition exceeds the mean of the cooperative condition. However, a t-test reveals this inversion of means to be insignificant.

TABLE 10

THE EFFECT OF PAYOFF STRUCTURE ON OTHER INDICES

Variable	Individualistic Mean	Competitive Mean	Cooperative Mean	F	w^2
Eye Contact	65.1	173.7	161.2	1.38	.025
Length of Interaction Sequence	3.4	4.9	7.7	18.01[1]	.531

1. P less than .01.

The Effects of Interaction Phase

Table 11 reports the effect of interaction phase on deindividuation indices replicated from previous research. The F ratio for negative statements minus positive statements is significant and the means occur in the predicted order. The F ratio for seconds of silence is significant but the means occur in the reverse of the predicted order. For number of interruptions, both the F ratio and the Kruskal - Wallis analysis of variance yield insignificant values. This may result from a small number of observations per phase for this variable.

TABLE 11

THE EFFECT OF INTERACTION PHASE ON REPLICATED DEINDIVIDUATION INDICES

Variable	Phase 1 Mean	Phase 2 Mean	Phase 3 Mean	F	W^2
N-P	15.01	9.71	5.98	43.21[1]	.738
Interruptions	3.5	3.8	4.3	.13	.062
Silence	61.8	23.8	15.4	25.41[1]	.619

1. P less than .01.

Table 12 reports the effect of interaction phase on egocentric behaviors. F ratios are significant and means occur in the predicted order for the following variables: redirected agression, shows tension, tension increase, and ego defensiveness. The F ratio for tension release is significant

but the means occur in the reverse of the predicted order. F ratios and Kruskal - Wallis one-way analyses of variance produce insignificant values for self-analysis and shows antagonism. Both of these variables have large error variances in the first interaction phase, which decrease the value of the F statistics.

TABLE 12

THE EFFECT OF INTERACTION PHASE ON EGOCENTRIC BEHAVIORS

Variable	Phase 1 Mean	Phase 2 Mean	Phase 3 Mean	F	W^2
Self-Analysis	5.3	5.9	4.3	.61	.026
Redirected Agression	6.0	3.6	1.7	14.17[1]	.467
Tension Release	1.5	3.4	11.0	7.57[1]	.305
Shows Tension	2.8	0.8	0.4	17.44[1]	.523
Tension Increase	44.0	18.0	10.0	13.63[1]	.457
Shows Antagonism	3.5	5.9	3.7	3.20	.128
Ego Defensiveness	1.5	0.4	0.2	6.45[1]	.267

1. P less than .01.

Table 13 reports the effect of interaction phase on non-egocentric behaviors. The F ratios for the following variables are significant and their treatment means occur in the predicted order: gives suggestion, gives solution, gives opinion, and disagrees. The F ratios for shows agreement and asks for

opinion are also significant but the treatment means do not occur in the predicted order. The mean of phase 2 exceeds the mean of phase 3 for the former, and the mean of phase 1 exceeds the mean of phase 2 for the latter. However, t-tests reveal both of these inversions of means to be insignificant. The F ratios for shows solidarity and gives orientation are significant but the means occur in the reverse of the predicted order. F ratios and Kruskal-Wallis one-way analyses of variance produce insignificant values for acknowledges and draws attention. The former variable has considerable error variance in the first two phases of interaction, and the latter is an infrequently used coding category. Thus, the number of observations per phase is small.

TABLE 13

THE EFFECT OF INTERACTION PHASE ON NON-EGOCENTRIC BEHAVIORS

Variable	Phase 1 Mean	Phase 2 Mean	Phase 3 Mean	F	ω^2
Gives Suggestion	0.2	0.4	1.9	21.39^2	.576
Suggests Solution	0.6	1.0	1.8	5.60^2	.235
Gives Opinion	17.2	19.5	41.4	17.33^2	.521
Gives Orientation	35.3	8.0	6.5	8.57^2	.335
Draws Attention	3.4	5.0	4.4	.88	.008
Shows Solidarity	0.7	0.0	0.0	10.76^2	.394

TABLE 13 (Cont.)

Variable	Phase 1 Mean	Phase 2 Mean	Phase 3 Mean	F	W^2
Acknowledges	41.0	48.2	39.1	.29	.049
Shows Agreement	3.5	6.2	5.3	3.59[1]	.147
Asks for Opinion	1.1	0.8	3.4	11.65[2]	.415
Disagrees	1.4	1.8	3.5	10.33[2]	.383

1. P less than .05.

2. P less than .01.

Table 14 reports the effect of interaction phase on eye contact and length of interaction sequence. The F ratio for eye contact is significant but the treatment means occur in the reverse of the predicted order. The F ratio for length of interaction sequence is insignificant but the Kruskal - Wallis one-way analysis of variance produces a value of 6.01, which is significant at the .05 level. The treatment means for length of interaction sequence occur in the predicted order.

TABLE 14

THE EFFECT OF INTERACTION PHASE ON OTHER INDICES

Variable	Phase 1 Mean	Phase 2 Mean	Phase 3 Mean	F	W^2
Eye Contact	67.9	20.2	13.6	57.46[1]	.790

TABLE 14 (Cont.)

Variable	Phase 1 Mean	Phase 2 Mean	Phase 3 Mean	F	W^2
Length of Interaction Sequence	2.7	4.0	4.5	.49 /	.035

1. P less than .01.

CHAPTER IV

DISCUSSION AND CONCLUSION

On the whole, the results support our predictions. The number of significant results far exceeds chance. However, some findings failed to conform to our predictions. In addition, some results were reliable even though we had not made specific predictions about them. These latter significant findings provide new information that instructs us to reconsider, and perhaps revise our interpretation of deindividuated behavior. The following discussion focuses on incorrect predictions, in order to consider where theoretical revisions are appropriate.

The Effects of Payoff Structure

Deindividuation Indices

We used five indices of deindividuation from earlier research. Negative minus positive, memory errors, and identification errors were taken from Festinger's et. al. study. All provided reliable results in the predicted direction. Festinger et. al. did not achieve significant data with memory errors. We found a considerable amount of error variance in this index which obliterated differences between means in an analysis of variance. Thus, rank order techniques of data analysis were used to test for the expected difference

between means. This latter method provided reliable results.

We also used two indices from Singer's et. al. study. The number of interruptions conformed with our prediction; the number of seconds of silence did not. The most probable explanation is that silence had a different role when subjects talked in order to win payoffs. Since discussion is instrumental, silence interferes with goal achievement. In the cooperative condition we suspect that a group pressure developed which encouraged members to speak. We often observed silent periods to be terminated by a remark that "this (the silence) isn't getting the job done." In the competitive condition a similar pressure may have resulted. Competitive groups know that on the average only one member of each group would be rewarded and so each had to discuss in order to increase his own probability of winning. Singer's et. al. finding that number of seconds of silence is inversely related to deindividuated behavior may be specific to the goal-less situation.

Egocentric Behaviors

Of the seven IPS categories taken to be measures of egocentric behavior, five provided results in accord with our predictions. These five were tension release, redirected aggression, shows tension, tension increase, and shows antagonism. The two that failed were self-analysis and self-questioning behavior, and ego defensiveness. Both yielded significant differences but contrary to our expectation the means of the competitive condition were greater than the means of the individualistic condition. We suspect that these

indices failed because they reflect an individual focus that is intensified in a competitive situation. If individuals expect competition some may turn inward, focus on themselves, and increase in number such individualistic behaviors as self-analysis and ego-defensiveness. This would explain why these two categories were correlated with neither egocentric nor non-egocentric indices.

Non-egocentric Behavior

These indices were all IPS categories not classified as egocentric. Their inconsistent results are probably the result of the weak theoretical grounds for their inclusion. We hypothesized that if egocentric behaviors characterized deindividuation, then non-egocentric behaviors should characterize groups that did not exhibit deindividuated behavior. Our logic was not supported by data in every instance. The following six indices conformed to our predictions: agrees, gives suggestions, gives opinion, gives orientation, draws attention, and asks for opinion. The remaining four yielded significant differences but not in the predicted order.

Both acknowledges and gives solutions yielded condition means that occurred in the reverse of the predicted order. Thus, they appear to be associated with deindividuated behavior. We said earlier that it was naive to describe deindividuated behavior as the acting out of inner impulses. Our analysis also was naive because groups exhibiting deindividuated behavior do more than sit around acting in a bizarre manner. Given a goal, they orient themselves to it. If someone makes a comment relevant to that goal, they

acknowledge it. These members are aware that others are interacting with them, and the behavior of others has consequences for their own behavior. Interestingly, they acknowledge rather than agree, or give a suggestion, or draw attention. They acknowledge but do not respond. Instead, they proceed with behavior such as giving their own solution. In other words, they do not avoid the discussion but rather pay little attention to other's contributions. This finding does not conflict with our interpretation of deindividuated behavior.

The other two indices that failed are easier to explain. Disagreements occurred more frequently in competitive groups than in individualistic groups, and more frequently in individualistic groups than in cooperative groups. In chapter I we argued that disagreements were more orderly than deindividuated behaviors. Therefore one should not expect them toobe representative of individualistic groups. We were right in that respect. However, instead of being representative of cooperative groups, they were most frequent in competitive groups. Solidarity, on the other hand, occurred more frequently in individualistic groups than in competitive groups. These behavorial consequences of competition complicate our hypotheses about deindividuated behavior.

Subjects' Reactions to Deindividuated Behavior

These cognitive variables were measured by the administration of the post-experimental questionnaire. As in much research, we found them more agreeable to our hypotheses than behavioral measures. All conformed to our predictions.

However, some indices were included for which we had made no predictions. These shed some light on deindividuated behavior in individualistic groups.

We found that individualistic groups rated the task as being more difficult and less enjoyable. Nonetheless, they were more eager to meet again with their group than members of competitive groups. They rated their discussions as poorer than members of competitive groups rated theirs. In summary, when the variables were task-relevant, members of individualistic groups were less satisfied than those in competitive groups. For less task-relevant variables those in individualistic groups were more satisfied. These findings are not unlike our other findings regarding competition, and fit nicely into our emerging picture of what deindividuated behavior looks like in task-oriented groups.

Other Indices

Both eye contact and length of interaction sequence conformed to our predictions and present no problems for our analysis.

The Effects of Interaction Phase

In the analysis all data from individualistic groups were broken into three time phases. Those phases were as follows: the first ten minutes of discussion, the second ten minutes, and the third (or final) ten minutes. These phases are referred to as the first, second, and third phase respectively. We hypothesized that deindividuated behavior became less frequent as interaction proceeded. Analysis of the effects of interaction

phase pertains to this hypothesis.

Deindividuation Indices

Two of three indices failed to conform to predictions. The number of seconds of silence occurred in the reverse of the expected order. This finding corroborates the effect of payoff structure on number of seconds of silence. We suspect that our previous explanation is still appropriate. Since individualistic groups did not exert pressure on members to keep the discussion going, then as the discussion wore on, members had less to say. In cooperative groups when silence occurred members encouraged each other to talk. When data for these groups are categorized by interaction phase, an F ratio of 1.84 is obtained, which is insignificant. That is, cooperative groups have no more silence in the later phases of interaction than in the early phases. Silence in individualistic groups is highly and positively correlated with the indices of tension. It appears that cooperative groups cope with tension while individualistic groups suffer through it. This argument fits well with the idea that deindividuated groups do not respond to one another's statements, and therefore group discussions do not profit from the development of topics by a group effort. Also, the number of interruptions did not differ significantly between conditions but the extremely small number of interruptions in each condition did not give the data much of a chance.

Egocentric Behaviors

Two of these seven indices produced no significant differ-

ences between conditions. They were shows antagonism, and self-analysis and self-questioning behavior. The small number of behaviors coded in these categories probably interfered with the tests of significance. Tension releases did differ significantly but in the reverse of the predicted order. One reader had suggested that this might occur. In light of the data, our question would be why did tension releases conform to the predictions for the effects of payoff structure but not for the effects of interaction phase? The likely answer is that tension releases presuppose tension. Therefore, they are characteristic of groups exhibiting deindividuated behavior. However, before they occur in these groups, tension must build. For this reason they become more frequent as interaction proceeds. In cooperative groups the number of tension releases was too small to provide a comparison to individualistic groups. In competitive groups, an analysis of the effects of interaction phase on tension releases yields a F ratio of 6.44, which is significant at the .01 level. For this payoff structure the mean of tension releases is greater in phase 3 than in phase 2, and greater in phase 2 than in phase 1. This finding substantiates our position that tension releases presume tension, and therefore are correlated with tension indices but occur later in the discussions.

Non-egocentric Behaviors

Two of these ten indices failed to find significant differences between conditions. Draws attention occurred infrequently and the resulting small number of observations

interfered with the significance test. Acknowledgments occurred more frequently but still did not yield insignificant differences. Earlier we found acknowledgments to be more characteristic of individualistic groups than other groups. At that time we suggested that individualistic groups acknowledged other's remarks instead of responding to them. If so, acknowledgments in individualistic groups may be used by actors in order to gain the speaker's position, and do not necessarily reflect understanding of or reaction to another's remarks. If this interpretation is correct we would not expect their frequency to differ between phases of interaction.

Both solidarity and gives orientation occurred in the reverse of the predicted order. Both are highly and negatively correlated with tension release in individualistic groups and we suspect that these predictions failed for similar reasons. Tension releases occur after tension increases. Solidarity statements and giving orientation occur before tension increases. Thus, their frequency was higher in the initial phases of interaction.

Other Indices

Eye contact is inversely related to tension. Since we have discovered an increase in tension over time in individualistic groups, we are not surprised that eye contact is greater in earlier phases than in later ones. However, our problem now is to explain why the length of interaction sequences conforms to our predictions. We think that in individualistic groups, members talk more and experience less

tension early in the interaction. However, they do not talk to one another or respond to one another. As they begin to observe how each other is acting, tension increases and eye contact decreases. The number of seconds of silence increases and tension releases increase. But these things occur because members are beginning to observe one another and are trying to respond to one another. When they do talk, they increasingly talk to one another and engage less frequently in deindividuated and egocentric behaviors. In other words, the individualistic groups exhibit fewer deindividuated behaviors but the group effort that this requires increases tension and tension-related behaviors. An analysis of the effect of interaction phase on length of interaction sequence for cooperative groups yields an F ratio of 4.24, which is significant at the .05 level. The means of the interaction phases reveal that as the discussion proceeds the lengths of the interaction sequences increase. This finding substantiates our position that actors respond to each other more as interaction continues, and confirms a similar finding for individualistic groups. The F ratio for the effect of interaction phase on eye contact in cooperative groups is also significant (yielding a value of 7.15, P less than .01). However, the means of the phases indicate that eye contact in cooperative groups increases as interaction proceeds. This order of means is the reverse of the order in the individualistic condition and supports the thesis that eye contact decreases in individualistic groups because of increasing tension.

Conclusion and Prospectus

To sum up in one sentence: most of our predictions worked most of the time. Two of our hypotheses were supported with little equivocation. Deindividuation did occur more strongly in individualistic payoff structures than in either competitive or cooperative structures. Egocentric behaviors were more prevalent in individuals exhibiting deindividuated behavior than in other individuals. The third hypothesis must be qualified. Although deindividuated behaviors decreased in frequency over time, this process involved an increase in tension and tension-related behaviors. Thus, some of the egocentric behaviors that occur as deindividuated behavior occurs appear to result from the lack of expectations and from the problems individuals face in trying to develop expectations. Other egocentric behaviors are characteristic of tension and therefore can be typical of deindividuated behavior, and of the process of inferring expectations of others. This finding was not expected but should not surprise us.

Festinger *et. al.* believed that deindividuated behavior was analogous to crowd behavior. We have extended that analogy by defining deindividuation as the lack of expectations regarding the behavior of other group members in a normless situation. The argument that crowd behavior attempts to reach consensual definitions about what is appropriate behavior in a group is not new with us; authors as early as Park (1935) have suggested this position. Likewise, our discussion of the in-

fluence of goal structures on crowd behavior is not new; Brown also (1965) has proposed that crowd behavior may be understood by the analysis of the goals of the members of the crowd. We have devised manipulations to represent goal structures and indices to measure interpersonal expectations and attributions, and deindividuated and egocentric behavior. These indices we devised were based upon a field theoretic interpretation of ambiguous situations which lacked clearly structured paths to goals, which implied trial-and-error behaviors. These behaviors increased information about other group members, decreased ambiguity, and increased the structure of paths for goal-attainment. Our data lead us to believe, as does Brown (1965), that one need not invoke a "group mind" in order to explain crowd behavior. Instead, crowd behavior follows the same social and psychological principles as other behavior. Deindividuated behaviors are characteristic of the early phases of interaction, at which time group members lack expectations about what others ought to do or will do. As these expectations develop, interaction becomes more orderly and organized. If deindividuated behavior in the laboratory were compared to a lynch mob in a natural setting, for example, the actual attempt to lynch would occur <u>after</u> expectations had developed among participants. Deindividuated behavior would occur when the crowd members tried to decide what they would do and before the attempt to lynch.

Our data also has interesting implications for research on competition and cooperation. Little work has been done on the behavioral processes involved, and although our data do not

violate common sense, they point to several useful observations. Our task required a high affective involvment, which is unusual for research on competition and cooperation. When combined with the task-orientation, the affective dimension complicated the effects of the payoff structures. As a result, dependent variables which focused on affective dimensions differed from dependent variables which focused on instrumental dimensions. In the past, research on deindividuated behavior focused on affect and not on goals, while cooperation and competition research focused on goals and not on affect. Our data indicate that a situation encompassing both dimensions does not produce results which either previous area of research alone could predict. Of course, our ex post facto analysis does little more than raise questions but the questions raised are worth further investigation.

Some of the questions raised by this investigation are of particular interest. We currently are working on a factor analysis of the dependent variables to try to order the large number of indices we have used. The results of this analysis might give us a better handle on the multiple consequences of payoff structure in individualistic groups. Specifically, we hope to partial out the behavioral indices in three groups, one of which will lie somewhere between egocentric and non-egocentric behavior. This procedure will allow us to clarify the effects of the interaction phase in groups exhibiting deindividuated behavior. We also would like to apply these indices to long-term groups such as sensitivity-

training groups. Not only are the theoretical issues similar but also the bases for attraction to the group (e.g., payoffs) are more complex. This point brings us to our final interest. To apply our research to naturalistic groups an equivalent of payoff structures must be found. Further theoretical and empirical developments hopefully would include work on how one can derive group incentive structures from the motivations of individual group members.

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APPENDIX A

EXPERIMENTAL TASK

The following statement represents a summary of an important research project that has recently come to the attention of psychiatrists and social scientists concerned with problems of personal adjustment among students. Although the results are domonstrably reliable, it is believed that additional implications can be brought to light by having small groups of students discuss their personal views relating to these results.

A highly representative sample of 2365 students (1133 female and 1232 male) on 14 campuses, from all social-economic classes and several nationality backgrounds, was subjected to an intensive three-week psychiatric analysis consisting of repeated depth interviews and a battery of sensitive diagnostic tests. The results show unequivocally that 87 percent of the sample possessed a strong, deep-seated hatred of one or both parents, ranging from generalized feelings of hostility to consistent fantasies of violence and murder. A finding of further significance was that those individuals who at first vehemently denied having such hostile impulses or who were unwilling to discuss their personal feelings in the matter were subsequently diagnosed as possessing the most violent forms of hostility. In other words, consicious denial, silence, or embarrassment were found to be almost sure signs of the strongest kind of hatred. Of the 13 per cent in whom no trace of hostility was found, the great majority thought they

probably hated their parents and were willing to discuss every aspect of their feelings with the investigator.

In summary, 87 per cent were found by modern psychiatric techniques to possess deep-seated resentments and hostilities toward one or both parents. Individuals in this category who most vigorously denied that they had such feelings revealed, at the conclusion of the analysis, the strongest degree of hatred. Thirteen per cent were found to be free of such aggressive impulses. Most of these individuals at first thought they were basically hostile and were interested in discussing their feelings toward their parents freely.

Discuss in detail your own personal feelings toward your parents in the light of these results. Try to analyze yourself in such a way as to get at the basic factors involved.

APPENDIX B

GOAL MANIPULATIONS

Individualistic Condition: Before you begin your discussion I am going to give you a chance to win some money. I will give three dollars to each individual who, in our opinion, produces a good discussion of the topic. You will be judged independently of one another and I will be the judge of whether or not your contributions are good enough. You will have thirty minutes to discuss the topic and earn the bonus.

Competitive Condition: Before you begin your discussion I am going to give you a chance to win some money. I will give three dollars to the best one-third of all the individuals who discuss this topic. This means that, on the average, one person in each group will win the bonus, although in some groups none may win, and in others, two or more may win. Remember, the bonuses will go to the best one-third of all the participants. You will have thirty minutes to discuss the topic.

Cooperative Condition: Before you begin your discussion we are going to give you a chance to win some money. We will give nine dollars to each group that in my judgment, produces a good discussion. This means that if you want to divide the money evenly, you each would receive three dollars. However, you each can earn the bonus only if the whole group earns the bonus, because my judgment will be based on the whole group's discussion. You will have thirty minutes to earn the bonus.

APPENDIX C

POST-EXPERIMENTAL QUESTIONNAIRE

Please read all responses before selecting one.

1. To what extent did you enjoy the experiment?

1 2 3 4 5 6 7

1. I did not enjoy the experiment; I hated it.
2. I did not enjoy the experiment; I disliked it.
3. I did not enjoy the experiment; I was bored with it.
4. I didn't care much one way or the other; it was as good a way as any to pass time.
5. I found the experiment slightly enjoyable.
6. I enjoyed the experiment; it was fun.
7. I enjoyed the experiment; I had a great time.

2. Would you like to participate in the experiment with members of your group again?

1 2 3 4 5 6 7

1. I would not participate again; it would be ghastly.
2. I would not participate again; it would be unpleasant.
3. I would rather not participate again; it wouldn't be much fun.
4. I don't care much one way or the other; I could be drafted.
5. I think I'd lean toward participating again if I could.
6. I would like to participate again; it would be pleasant.
7. I would like very much to participate again if at all possible.

3. Would you like to meet with the members of your group again some time in the future, say over lunch, and continue the discussion?

1 2 3 4 5 6 7

1. I would not like to meet with them; it would be quite distasteful.
2. I would not like to meet with them; it would be a waste of time.
3. I would prefer not to meet with them; I've little more to say
4. I don't really care; I guess I might be willing.
5. I might like to meet with them again; it would be interesting
6. I'd like to meet with them again; it would be fun.
7. I would definitely like to meet again; it would be great.

4. How cooperative were the members of your group?

1 2 3 4 5 6 7

1. They were most uncooperative.
2. They were uncooperative.
3. They tended to be uncooperative.
4. It's hard to say; they were as cooperative as uncooperative.
5. On the whole they tended to cooperate.
6. They were cooperative.
7. They were quite cooperative; we worked well together.

5. a. How well did you yourself discuss the material?

1 2 3 4 5 6 7

1. I was a poor discussant.
2. I was an inadequate discussant.
3. On the whole I tended to be a weak discussant.
4. I guess I was about average.
5. I think I was a little better than average.
6. I was a good discussant.
7. I did an excellent job in discussing the material.

b. How confident are you that your evaluation of your own ability as a discussant is accurate?

1 2 3 4 5 6 7

1. I am not at all confident; I really don't know for sure how I did.
2. I am not confident: others might disagree with my evaluation.
3. I'm a little unconfident; others might disagree but not by much.
4. I'm ambivalent; I change from being unconfident to being confident.
5. On the whole, I feel confident in my evaluation.
6. I'm pretty sure my evaluation is close to the truth.
7. I'm quite confident that I've evaluated myself accurately.

6. How difficult was the topic of the discussion?

1 2 3 4 5 6 7

1. It was really easy; no trouble at all.
2. It was fairly easy; it required some thought.
3. It tended to be easy; still, I had to be careful.
4. It was neither easy nor hard; I had to think carefully and weigh the issues but it was still routine.
5. It wasn't easy; it required care, consideration, and effort.
6. It was difficult; I had to be attentive and try hard.
7. It was as close to impossible as you can get and not be impossible.

7. How good were your group's discussions?

1 2 3 4 5 6 7

1. They were shoddy.
2. They were poor discussions.
3. On the whole, they were inadequate.
4. They were as often bad as they were good.
5. They tended to be fairly decent discussions overaall.
6. Actually, they were good discussions.
7. They were excellent discussions of the material.

8. How nervous or anxious were you during the experiment?

1 2 3 4 5 6 7

1. I was calm, cool, and collected.
2. I was not nervous or anxious; perhaps attentive.
3. I was careful and watchful but not what you'd usually call nervous.
4. I was a little anxious on a few occasions.
5. At times I was anxious about what might be said or happen.
6. I was anxious or nervous several times.
7. I was quite anxious or nervous several times in the experiment.

9. How clear were the statements and opinions of the other members of your group?

1 2 3 4 5 6 7

1. I don't remember; I didn't really pay that much attention to them.
2. Not very clear; they really didn't say much that seperated themselves from one another.
3. They both were a little vague andjjust barely distinguishable from one another in what they said.
4. They were pretty close together most of the time in what they said but sometimes they had quite different opinions.
5. On the whole, their opinions were pretty clear and I would generally keep straight who was arguing what.
6. It was pretty clear who said what most of the time.
7. They were quite clearly and distinctly two different people with their own opinions, even when they agreed.

10. a. How much similarity was there in your group on the issues discussed?

1 2 3 4 5 6 7

1. Not any; we all disagreed all the time.
2. Occasionally we agreed; usually we argued.
3. We tended to disagree quite a bit but we agreed too.
4. We agreed as often as we disagreed.
5. We tended to agree more than we disagreed.
6. On the whole, we agreed.
7. We were in agreement almost all the time.

b. How confident are you that your judgment of similarity would correspond to the actual amount of similarity in the group?

1 2 3 4 5 6 7

1. I'm not at all sure; my answer was just a guess.
2. My answer was a guess, but an educated one.
3. I may likely be wrong but not by too far.
4. I think there's a good chance I'm right as there is that I'm wrong.
5. I think I'm probably right.
6. I'm willing to bet that I'm right.
7. There is no doubt at all in my mind.

11. a. To what degree did you cause or influence the other members of your group to act the way they did during the discussion?

1 2 3 4 5 6 7

1. I did not influence them at all; they acted entirely on their own.
2. I influenced them a little but mostly they were pretty much independent of me.
3. I influenced them some but no more than most people usually influence one another.
4. I influenced them a little bit more than people usually influence how other people act toward them but not much more.
5. I felt that I really influenced how people acted in the discussion, but I did not cause them to act the way they did.
6. There was a definite and marked effect I had on the way other people acted because of my influence on them.
7. I caused other people to act the way they did; it was easy to see that I was a strong influence on what other people said or did.

b. To what degree were you the cause or initiator of your own behavior?

1 2 3 4 5 6 7

1. I "caused" very few of my own actions; most of what I said or did was only reacting to other people in the group.
2. I initiated a few independent actions but for the most part other people influenced what I said or did.
3. I initiated some independent actions but others still influenced a goodly number of the things I said or did.
4. I was neither more nor less independent of the influence of others than usual.
5. I initiated many independent actions and was pretty much free from the influence of what others said or did.
6. Most of what I said was independent of what others said or did and I did not often respond to their influence.
7. I was very independent; what others did or said did not influence anything I said or did.

12. a. To what degree were you responsible for what your group said or did during the discussion; that is, to what degree did you intend for the things you said or did to influence the others in your group the way they did?

1 2 3 4 5 6 7

1. I was not at all responsible; nobody in the group acted the way I intended for them to act in response to what I said or did.
2. I was responsible for only a small amount of what the group said or did since I had only a small amount of influence in the group.
3. I was responsible for a moderate amount of what was said or done but not very much.
4. I was no more or no less responsible or influential than I usually am in group situations.
5. I was responsible for a little more of what the group said or did than usual since I found the group responsive to my influence.
6. I consider myself to be responsible for a goodly amount of what the group said or did since I was influential and found the group responding to my influence.
7. I was highly responsible for what was said or done since I was highly ingluential.

b. To what degree were you responsible for what you said or did during the group discussion; that is, to what degree did you do or say what you intended to do or say instead of your responses to the influence of others in your group?

1 2 3 4 5 6 7

1. I was not responsible for anything I said or did; I found that the comments of the others had a tremendous influence on my own comments.
2. I was responsible for only a little of what I said or did; most of the time others influenced my comments or behavior.
3. I was responsible for some of what I said; however, much of the time the other group members said or did things that influenced my behavior.
4. I was as responsible for what I said and did as I usually am.
5. I acted responsibly in the group; the things I said or did were usually things I intended to say or do.
6. I was very responsible for my actions; most always my comments and actions were intentional and thought out in advance.
7. I was responsible for everything I said or did in the group discussion; my comments were independent of the influence of others, intentional, and thought out in advance.

13. Was anyone in your group a leader who exercised more influence than anybody else? If so, who was it?

14. Was anyone in your group an outcast who had very little influence on the discussion? If so, who was it?

15. Did you know anyone in your group before the experiment? If so, please describe how well you knew them.

16. Had you spoken to anyone who had been in this experiment before you participated in the experiment? If so, please describe what they told you about the experiment.

17. Please describe as well as you can what you think the experiment was trying to discover.

18. a. Please describe as well as you can what the other members of your group looked like.

b. Please describe the way they acted and the things they said or did during the discussion.

c. Please describe as well as you can what kind of person you think each of the other members of your group is.

19. Do you have any comments about the experiment or this questionnaire that you would like known? If so, please mention them here.

APPENDIX D
DATA TABLES

TABLE 15

THE EFFECT OF PAYOFF STRUCTURE ON N-P: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	30.6000	17.0000	9.6000
Standard Deviation	8.7585	2.9439	2.2211

TABLE 16

THE EFFECT OF PAYOFF STRUCTURE ON N-P: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	2269.0667	2	1134.5333	37.6875[1]	.710
Error	812.8000	27	30.1037		
Totals	3081.8667	29			

1. P less than .01.

TABLE 17

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF MEMORY ERRORS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	8.3000	6.1000	5.9000
Standard Deviation	2.2136	1.3703	10.2897

TABLE 18

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF MEMORY ERRORS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	35.4667	2	17.7333	.4722[1]	.036
Error	1013.9000	27	37.5519		
Totals	1049.3667	29			

1. The insignificant F ratio likely results from two extreme cases in the cooperative condition. Although in the predicted direction, these cases increased within-group variance and obscured differences between means.

TABLE 19

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF IDENTIFICATION ERRORS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	11.8000	9.7000	4.1000
Standard Deviation	2.6583	3.0203	2.6437

TABLE 20

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF IDENTIFICATION ERRORS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	316.8667	2	158.4333	20.5067[1]	.565
Error	208.6000	27	7.7259		
Totals	525.4667	29			

1. P less than .01.

TABLE 21

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF INTERRUPTIONS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	10.0000	5.8000	3.3000
Standard Deviation	1.9437	3.5839	5.3135

TABLE 22

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF INTERRUPTIONS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	ω^2
Treatments	229.2667	2	114.6333	7.6668[1]	.308
Error	403.7000	27	14.9519		
Totals	632.9667	29			

1. P less than .01.

TABLE 23

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF SECONDS OF SILENCE: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	45.4000	38.2000	18.0000
Standard Deviation	16.3942	21.3427	8.5245

TABLE 24

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF SECONDS OF SILENCE: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	4035.4667	2	2017.7333	7.5960[1]	.305
Error	7172.0000	27	265.6296		
Totals	11207.4667	29			

1. P less than .01.

TABLE 25

THE EFFECT OF PAYOFF STRUCTURE ON TENSION RELEASE (IPS 3): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	31.0000	14.9000	2.5000
Standard Deviation	6.6667	5.3841	2.7588

TABLE 26

THE EFFECT OF PAYOFF STRUCTURE ON TENSION RELEASE (IPS 3): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	4084.0667	2	2042.0333	75.5894[1]	.833
Error	729.4000	27	27.0148		
Totals	4813.4667	29			

1. P less than .01.

TABLE 27

THE EFFECT OF PAYOFF STRUCTURE ON SELF-ANALYSIS AND SELF-QUESTIONING BEHAVIOR (IPS 9): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	11.9000	14.8000	6.2000
Standard Deviation	3.4785	19.8930	1.9889

TABLE 28

THE EFFECT OF PAYOFF STRUCTURE ON SELF-ANALYSIS AND SELF-QUESTIONING BEHAVIOR (IPS 9): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	383.8667	2	191.4333	1.3946[1]	.026
Error	3706.1000	27	137.2630		
Totals	4088.9667	29			

1. The insignificant F ratio likely results from the extremely large amount of variance in the competitive condition. As a result, differences between means are obscured.

TABLE 29

THE EFFECT OF PAYOFF STRUCTURE ON REDIRECTED AGRESSION (IPS 10): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	4.2000	1.4000	.8000
Standard Deviation	3.0840	1.3499	1.5492

TABLE 30

THE EFFECT OF PAYOFF STRUCTURE ON REDIRECTED AGRESSION (IPS 10): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	65.8667	2	32.9333	7.1942[1]	.292
Error	123.6000	27	4.5778		
Totals	189.4667	29			

1. P less than .01.

TABLE 31

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING TENSION (IPS 15): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	6.7000	4.0000	1.1000
Standard Deviation	2.9833	2.2608	1.7920

TABLE 32

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING TENSION (IPS 15): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	156.8667	2	78.4333	13.6626[1]	.458
Error	155.0000	27	5.7407		
Totals	311.8667	29			

1. P less than .01.

TABLE 33

THE EFFECT OF PAYOFF STRUCTURE ON TENSION INCREASES (IPS 16): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	19.8000	14.8000	4.4000
Standard Deviation	2.4404	6.3561	1.9551

TABLE 34

THE EFFECT OF PAYOFF STRUCTURE ON TENSION INCREASES (IPS 16): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	1234.4000	2	617.2000	36.9008[1]	.705
Error	451.6000	27	16.7259		
Totals	1686.0000	29			

1. P less than .01.

TABLE 35

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING ANTAGONISM (IPS 17): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	2.4000	1.2000	.4000
Standard Deviation	1.9551	1.0328	.5164

TABLE 36

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING ANTAGONISM (IPS 17): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	20.2667	2	10.1333	5.8966[1]	.246
Error	46.4000	27	1.7185		
Totals	66.6667	29			

1. P less than .01.

TABLE 37

THE EFFECT OF PAYOFF STRUCTURE ON EGO DEFENSIVENESS (IPS 18): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	9.9000	11.4000	2.7000
Standard Deviation	1.3703	17.2897	6.7995

TABLE 38

THE EFFECT OF PAYOFF STRUCTURE ON EGO DEFENSIVENESS (IPS 18): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	432.6000	2	216.3000	1.8698[1]	.055
Error	3123.4000	27	115.6815		
Totals	3556.0000	29			

1. The insignificant F ratio likely results from the extremely large amount of variance in the competitive condition. As a result, differences between names are obscured.

TABLE 39

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING SOLIDARITY THROUGH INCREASING STATUS (IPS 2): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	1.4000	.6000	4.0000
Standard Deviation	1.0750	.6992	1.6997

TABLE 40

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING SOLIDARITY THROUGH INCREASING STATUS (IPS 2): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	63.2000	2	31.6000	20.9118[1]	.570
Error	40.8000	27	1.5111		
Totals	104.0000	29			

1. P less than .01.

TABLE 41

THE EFFECT OF PAYOFF STRUCTURE ON ACKNOWLEDGMENTS (IPS 4): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	28.7000	17.2000	11.4000
Standard Deviation	4.2960	3.2249	4.7889

TABLE 42

THE EFFECT OF PAYOFF STRUCTURE ON ACKNOWLEDGMENTS (IPS 4): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	1550.6000	2	775.3000	44.9112[1]	.745
Error	466.1000	27	17.2630		
Totals	2016.7000	29			

1. P less than .01.

TABLE 43

THE EFFECT OF PAYOFF STRUCTURE ON SHOWING AGREEMENT (IPS 5): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	2.5000	3.6000	4.5000
Standard Deviation	1.2693	1.1738	2.2730

TABLE 44

THE EFFECT OF PAYOFF STRUCTURES ON SHOWING AGREEMENT (IPS 5): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	20.0667	2	10.0333	3.6907[1]	.153
Error	73.4000	27	2.7185		
Totals	93.4667	29			

1. P less than .05.

TABLE 45

THE EFFECT OF PAYOFF STRUCTURE ON GIVING SUGGESTIONS (IPS 6): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	3.4000	4.4000	6.5000
Standard Deviation	1.9551	2.4129	2.0138

TABLE 46

THE EFFECT OF PAYOFF STRUCTURE ON GIVING SUGGESTIONS (IPS 6): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	50.0667	2	25.0333	5.4818[1]	.230
Error	123.3000	27	4.5667		
Totals	173.3667	29			

1. P less than .05.

TABLE 47

THE EFFECT OF PAYOFF STRUCTURE ON SUGGESTING SOLUTIONS (IPS 7): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	7.3000	4.3000	1.6000
Standard Deviation	1.4181	1.5670	2.3664

TABLE 48

THE EFFECT OF PAYOFF STRUCTURE ON SUGGESTING SOLUTIONS (IPS 7): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	162.6000	2	81.3000	24.2285[1]	.608
Error	90.6000	27	3.3556		
Totals	253.2000	29			

1. P less than .01.

TABLE 49

THE EFFECT OF PAYOFF STRUCTURE ON GIVING OPINIONS (IPS 8): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	60.5000	71.3000	74.8000
Standard Deviation	4.8819	9.7644	25.0102

TABLE 50

THE EFFECT OF PAYOFF STRUCTURE ON GIVING OPINIONS (IPS 8): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	1111.2667	2	555.6333	2.2384[1]	.076
Error	6702.2000	27	248.2296		
Totals	7813.4667	29			

1. The insignificant F ratio likely results from two extreme cases in the cooperative condition. Although in the predicted direction, these cases increased within-group variance and obscured differences between means.

TABLE 51

THE EFFECT OF PAYOFF STRUCTURE ON GIVING ORIENTATION (IPS 11): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	32.5000	51.1000	72.5000
Standard Deviation	5.0387	12.3509	13.1762

TABLE 52

THE EFFECT OF PAYOFF STRUCTURE ON GIVING ORIENTATION (IPS 11):,ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	8013.0667	2	4006.5333	34.1908[1]	.689
Error	3163.9000	27	117.1815		
Totals	11176.9667	29			

1. P less than .01.

TABLE 53

THE EFFECT OF PAYOFF STRUCTURE ON DRAWING ATTENTION (IPS 12): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	5.0000	25.2000	40.6000

TABLE 53 (Cont.)

Statistic	Individualistic	Competitive	Cooperative
Standard Deviation	3.3333	16.7451	5.9292

TABLE 54

THE EFFECT OF PAYOFF STRUCTURE ON DRAWING ATTENTION (IPS 12): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	6375.2000	2	3187.6000	29.2739[1]	.827
Error	2940.0000	27	108.8889		
Totals	9315.2000	29			

1. P less than .01.

TABLE 55

THE EFFECT OF PAYOFF STRUCTURE ON ASKING FOR OPINIONS (IPS 13): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	6.4000	26.6000	27.0000
Standard Deviation	2.7968	22.2770	6.7165

TABLE 56

THE EFFECT OF PAYOFF STRUCTURE ON ASKING FOR OPINIONS (IPS 13): ANALYSIS OF VARIANCE

TABLE 56 (Cont.)

Source	SS	df	MS	F	w^2
Treatments	2775.2000	2	1387.6000	7.5798[1]	.305
Error	4942.8000	27	183.0667		
Totals	7718.0000	29			

1. P less than .01.

TABLE 57

THE EFFECT OF PAYOFF STRUCTURE ON DISAGREEING (IPS 14): DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	4.2000	7.0000	1.2000
Standard Deviation	1.0328	1.7638	1.5492

TABLE 58

THE EFFECT OF PAYOFF STRUCTURE ON DISAGREEING (IPS 14): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	168.2667	2	84.1333	38.3716[1]	.714
Error	59.2000	27	2.1926		
Totals	227.4667	29			

1. P less than .01.

TABLE 59

THE EFFECT OF PAYOFF STRUCTURE ON ENJOYMENT OF EXPERIMENT: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	14.3000	15.5000	17.4000
Standard Deviation	1.2517	1.8409	1.9551

TABLE 60

THE EFFECT OF PAYOFF STRUCTURE ON ENJOYMENT OF EXPERIMENT: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	48.8667	2	24.4333	8.3506[1]	.329
Error	79.0000	27	2.9259		
Totals	127.8667	29			

1. P less than .01.

TABLE 61

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED DIFFICULTY OF THE DISCUSSION: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	13.0000	11.4000	9.6000
Standard Deviation	2.1082	1.8974	2.7162

TABLE 62

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED DIFFICULTY OF THE DISCUSSION: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	57.8667	2	28.9333	5.6282[1]	.236
Error	138.8000	27	5.1407		
Totals	196.6667	29			

1. P less than .01.

TABLE 63

THE EFFECT OF PAYOFF STRUCTURE ON DESIRE TO REPEAT EXPERIMENT: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	14.9000	14.1000	16.7000
Standard Deviation	1.5239	1.3703	2.2136

TABLE 64

THE EFFECT OF PAYOFF STRUCTURE ON DESIRE TO REPEAT EXPERIMENT: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	35.4667	2	17.7333	5.8462[1]	.244
Error	81.9000	27	3.0333		
Totals	117.3667	29			

1. P less than .01.

TABLE 65

THE EFFECT OF PAYOFF STRUCTURE ON DESIRE TO LUNCH WITH GROUP MEMBERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	15.8000	13.3000	16.6000
Standard Deviation	2.2509	1.1595	2.0656

TABLE 66

THE EFFECT OF PAYOFF STRUCTURE ON DESIRE TO LUNCH WITH GROUP MEMBERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	59.2667	2	29.6333	8.3257[1]	.328
Error	96.1000	27	3.5593		
Totals	1555.3667	29			

1. P less than .01.

TABLE 67

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED COOPERATION: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	17.3000	15.2000	18.8000
Standard Deviation	1.6364	2.4404	1.2293

TABLE 68

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED CO-OPERATION: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	65.4000	2	32.7000	9.6703[1]	.366
Error	91.3000	27	3.3815		
Totals	156.7000	29			

1. P less than .01.

TABLE 69

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED QUALITY OF ONE'S CONTRIBUTIONS TO THE DISCUSSION: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	13.4000	14.9000	15.1000
Standard Deviation	1.2649	1.3703	1.4491

TABLE 70

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED QUALITY OF ONE'S CONTRIBUTIONS TO THE DISCUSSION: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	17.2667	2	8.6333	4.6434[1]	.195
Error	50.2000	27	1.8593		
Totals	67.4667	29			

1. P less than .05.

TABLE 71

THE EFFECT OF PAYOFF STRUCTURE ON CONFIDENCE IN JUDGMENT OF PERCEIVED QUALITY OF ONE'S CONTRIBUTIONS TO THE DISCUSSION: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	14.4000	15.8000	17.2000
Standard Deviation	1.1738	1.4757	1.7512

TABLE 72

THE EFFECT OF PAYOFF STRUCTURE ON CONFIDENCE IN JUDGMENT OF PERCEIVED QUALITY OF ONE'S CONTRIBUTIONS TO THE DISCUSSION: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	39.2000	2	19.6000	8.8792[1]	.344
Error	59.6000	27	2.2074		
Totals	98.8000	29			

1. P less than .01.

TABLE 73

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED ANXIETY: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	11.0000	12.4000	9.9000
Standard Deviation	2.8284	2.0656	2.1318

TABLE 74

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED ANXIETY: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	31.4000	2	15.7000	2.8017[1]	.107
Error	151.3000	27	5.6037		
Totals	182.7000	29			

1. Not significant.

TABLE 75

THE EFFECT OF PAYOFF STRUCTURE ON THE PERCEIVED CLARITY OF STATEMENTS OF OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	13.0000	15.1000	18.5000
Standard Deviation	2.4944	1.4491	1.2693

TABLE 76

THE EFFECT OF PAYOFF STRUCTURE ON THE PERCEIVED CLARITY OF STATEMENTS OF OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	154.0667	2	77.0333	23.2651[1]	.597
Error	89.4000	27	3.3111		
Totals	243.4667	29			

1. P less than .01.

TABLE 77

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED SIMILARITY OF OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	17.1000	13.7000	19.3000
Standard Deviation	1.2867	2.4060	.8233

TABLE 78

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED SIMILARITY OF OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	159.2000	2	79.6000	29.4008[1]	.654
Error	73.1000	27	2.7074		
Totals	232.3000	29			

1. P less than .01.

TABLE 79

THE EFFECT OF PAYOFF STRUCTURE ON CONFIDENCE IN JUDGMENT OF PERCEIVED SIMILARITY OF OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	16.1000	13.4000	17.3000
Standard Deviation	1.1005	2.3664	1.4944

TABLE 80

THE EFFECT OF PAYOFF STRUCTURE ON CONFIDENCE IN JUDGMENT OF PERCEIVED SIMILARITY OF OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	79.8000	2	39.9000	13.2346[1]	.449
Error	81.4000	27	3.0148		
Totals	161.2000	29			

1. P less than .01.

TABLE 81

THE EFFECT OF PAYOFF STRUCTURE ON ATTRIBUTION OF RESPONSIBILITY TO OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	11.3000	12.5000	12.8000
Standard Deviation	.8233	1.0801	1.9889

TABLE 82

THE EFFECT OF PAYOFF STRUCTURE ON ATTRIBUTION OF RESPONSIBILITY TO OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	12.6000	2	6.3000	3.2586[1]	.131
Error	52.2000	27	1.9333		
Totals	64.8000	29			

1. Not significant.

TABLE 83

THE EFFECT OF PAYOFF STRUCTURE ON ATTRIBUTION OF RESPONSIBILITY TO SELF: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	17.0000	14.6000	15.4000
Standard Deviation	1.4907	.9661	1.5055

TABLE 84

THE EFFECT OF PAYOFF STRUCTURE ON ATTRIBUTION OF RESPONSIBILITY TO SELF: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	29.8667	2	14.9333	8.2623[1]	.326
Error	48.8000	27	1.8074		
Totals	78.6667	29			

1. P less than .01.

TABLE 85

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF DETAILS USED TO DESCRIBE THE APPEARANCE OF OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	17.8000	21.9000	29.4000
Standard Deviation	3.4897	6.3325	4.4272

TABLE 86

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF DETAILS USED TO DESCRIBE THE APPEARANCE OF OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	ω^2
Treatments	692.0667	2	346.0333	14.4426[1]	.473
Error	646.9000	27	23.9593		
Totals	1338.9667	29			

1. P less than .01.

TABLE 87

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF STATEMENTS AND ACTIONS REMEMBERED: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	9.3000	19.0000	22.5000
Standard Deviation	4.2177	4.6667	4.3780

TABLE 88

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF STATEMENTS AND ACTIONS REMEMBERED: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	ω^2
Treatments	935.2667	2	467.6333	23.8859[1]	.604
Error	528.6000	27	19.5778		
Totals	1463.8667	29			

1. P less than .01.

TABLE 89

THE EFFECT OF PAYOFF STRUCTURE ON NUMBER OF ATTRIBUTIONS MADE ABOUT OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	11.3000	18.5000	25.6000
Standard Deviation	3.6530	6.1689	3.2387

TABLE 90

THE EFFECT OF PAYOFF STRUCTURE ON NUMBER OF ATTRIBUTIONS MADE ABOUT OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	1022.4667	2	511.2333	24.7815[1]	.613
Error	557.0000	27	20.6296		
Totals	1579.4667	29			

1. P less than .01.

TABLE 91

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED QUALITY OF THE GROUP'S DISCUSSION: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	14.9000	13.8000	16.7000
Standard Deviation	.9944	1.0328	1.2517

TABLE 92

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED QUALITY OF THE GROUP'S DISCUSSION: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	42.8667	2	21.4333	17.7515[1]	.528
Error	32.6000	27	1.2074		
Totals	75.4667	29			

1. P less than .01.

TABLE 93

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED INFLUENCE TOWARD OTHERS: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	6.7000	12.1000	8.9000
Standard Deviation	1.8288	2.2828	1.5329

TABLE 94

THE EFFECT OF PAYOFF STRUCTURD ON PERCEIVED INFLUENCE TOWARD OTHERS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	147.4667	2	73.7333	20.3350[1]	.563
Error	97.9000	27	3.6259		
Totals	245.3667	29			

1. P less than .01.

TABLE 95

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED INFLUENCE OF OTHERS TOWARD SELF: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	13.6000	11.6000	14.3000
Standard Deviation	1.5776	1.7764	1.4944

TABLE 96

THE EFFECT OF PAYOFF STRUCTURE ON PERCEIVED INFLUENCE OF OTHERS TOWARD SELF: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	39.2667	2	19.6333	7.4767[1]	.302
Error	70.9000	27	2.6259		
Totals	110.1667	29			

1. P less than .01.

TABLE 97

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF SECONDS OF EYE CONTACT: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	65.1000	173.7000	161.2000
Standard Deviation	24.9597	273.7124	32.4955

TABLE 98

THE EFFECT OF PAYOFF STRUCTURE ON THE NUMBER OF SECONDS OF EYE CONTACT: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	70618.0667	2	35309.0333	1.3829[1]	.025
Error	689376.6000	27	25532.4667		
Totals	759994.6667	29			

1. The insignificant F ratio likely results from the extremely large amount of variance in the competitive condition. As a result, differences between means may be obscured.

TABLE 99

THE EFFECT OF PAYOFF STRUCTURE ON LENGTH OF INTERACTION SEQUENCE: DESCRIPTIVE DATA

Statistic	Individualistic	Competitive	Cooperative
Mean	3.4000	4.9000	7.7000
Standard Deviation	1.5055	1.9120	1.4181

TABLE 100

THE EFFECT OF PAYOFF STRUCTURE ON LENGTH OF INTER— ACTION SEQUENCE: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	95.2667	2	47.6333	18.0126[1]	.531
Error	71.4000	27	2.6444		
Totals	166.6667	29			

1. P less than .01.

TABLE 101

THE EFFECT OF INTERACTION PHASE ON N-P: DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	15.0112	9.7053	5.9763
Standard Deviation	4.9440	2.2181	2.4415

TABLE 102

THE EFFECT OF INTERACTION PHASE ON N-P: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	325.0190	2	162.5095	43.2068[1]	.738
Error	101.5514	27	3.7612		
Totals	426.5704	29			

1. P less than .01.

TABLE 103

THE EFFECT OF INTERACTION PHASE ON NUMBER OF INTERRUPTIONS: DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	3.5000	3.8000	4.3000
Standard Deviation	3.1002	3.9384	3.7431

TABLE 104

THE EFFECT OF INTERACTION PHASE ON NUMBER OF INTERRUPTIONS: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	3.2667	2	1.6333	.1252[1]	.062
Error	352.2000	27	13.0444		
Totals	355.4667	29			

1. The insignificant F ratio likely results from the small number of observations per group per phase. As a result, within-group variance obliterated any differences that may exist between means.

TABLE 105

THE EFFECT OF INTERACTION PHASE ON NUMBER OF SECONDS OF SILENCE: DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	61.8000	23.8000	15.4000
Standard Deviation	23.3800	9.3429	9.3714

TABLE 106

THE EFFECT OF INTERACTION PHASE ON NUMBER OF SECONDS OF SILENCE: ANALYSIS OF VARIANCE

Source	SS	df	MS	F	w^2
Treatments	12225.0667	2	6112.5333	25.4077[1]	.619
Error	6495.6000	27	240.5778		
Totals	18720.6667	29			

1. P less than .01.

TABLE 107

THE EFFECT OF INTERACTION PHASE ON TENSION RELEASES (IPS 3): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	1.5000	3.4000	11.0000
Standard Deviation	.5270	4.8120	8.7560

TABLE 108

THE EFFECT OF INTERACTION PHASE ON TENSION RELEASES (IPS 3): ANALYSIS OF VARIANCE

Source	SS	df	MS	F	W^2
Treatments	505.4000	2	252.7000	7.5734[1]	.305
Error	900.9000	27	33.3667		
Totals	1406.3000	29			

1. P less than .01.

TABLE 109

THE EFFECT OF INTERACTION PHASE ON SELF-ANALYSIS AND SELF-QUESTIONING BEHAVIOR (IPS 9): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	5.3000	5.9000	4.3000
Standard Deviation	3.1287	3.2472	3.4010

TABLE 110

THE EFFECT OF INTERACTION PHASE ON SELF-ANALYSIS AND SELF-QUESTIONING BEHAVIOR (IPS 9): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	13.0667	2	6.5333	.6144[1]	.026
Error	287.1000	27	10.6333		
Totals	300.1667	29			

1. The insignificant F ratio likely results from a small number of observations (resulting in small means) and large within-group variance.

TABLE 111

THE EFFECT OF INTERACTION PHASE ON REDIRECTED AGRESSION (IPS 10): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	6.0000	3.6000	1.7000
Standard Deviation	2.5820	1.5055	.9487

TABLE 112

THE EFFECT OF INTERACTION PHASE ON REDIRECTED AGRESSION (IPS 10): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	92.8667	2	46.4333	14.1661[1]	.467
Error	88.5000	27	3.2778		
Totals	181.3667	29			

1. P less than .01.

TABLE 113

THE EFFECT OF INTERACTION PHASE ON SHOWING TENSION (IPS 15): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	2.8000	.8000	.4000
Standard Deviation	1.3894	.7888	.5164

TABLE 114

THE EFFECT OF INTERACTION PHASE ON SHOWING TENSION (IPS 15): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	33.0667	2	16.5333	17.4375[1]	.523
Error	25.6000	27	.9481		
Totals	58.6667	29			

1. P less than .01.

TABLE 115

THE EFFECT OF INTERACTION PHASE ON TENSION INCREASES (IPS 16): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	44.0000	18.0000	10.0000
Standard deviation	23.3381	9.1894	8.1650

TABLE 116

THE EFFECT OF INTERACTION PHASE ON TENSION INCREASES (IPS 16): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	6320.0000	2	3160.0000	13.6250	.457
Error	6262.0000	27	231.9259		
Totals	12582.0000	29			

1. P less than .01.

TABLE 117

THE EFFECT OF INTERACTION PHASE ON SHOWING ANTAGONISM (IPS 17): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	3.5000	5.9000	3.7000
Standard Deviation	3.2404	1.8529	1.6364

TABLE 118

THE EFFECT OF INTERACTION PHASE ON SHOWING ANTAGONISM (IPS 17): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	35.4667	2	17.7333	3.2027[1]	.128
Error	149.5000	27	5.5370		
Totals	184.9667	29			

1. The insignificant F ratio likely results from the relatively large amount of error variance in the first interaction phase.

TABLE 119

THE EFFECT OF INTERACTION PHASE ON EGO DEFENSIVENESS (IPS 18): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	1.5000	.4000	.2000
Standard Deviation	1.3540	.5164	.4216

TABLE 120

THE EFFECT OF INTERACTION PHASE ON EGO DEFENSIVENESS (IPS 18): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	9.8000	2	4.9000	6.4537[1]	.267
Error	20.5000	27	.7593		
Totals	30.3000	29			

1. P less than .01.

TABLE 121

THE EFFECT OF INTERACTION PHASE ON SHOWING SOLIDARITY THROUGH INCREASING STATUS (IPS 2): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	.7000	0.0000	0.0000
Standard Deviation	.6749	0.0000	0.0000

TABLE 122

THE EFFECT OF INTERACTION PHASE ON SHOWING SOLIDARITY THROUGH INCREASING STATUS (IPS 2): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	3.2667	2	1.6333	10.7561[1]	.394
Error	4.1000	27	.1519		
Totals	7.3667	29			

1. P less than .01.

TABLE 123

THE EFFECT OF INTERACTION PHASE ON GIVING ACKNOWLEDGEMENTS (IPS 4): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	41.0000	48.2000	39.1000
Standard Deviation	29.2309	34.6885	17.0127

TABLE 124

THE EFFECTS OF INTERACTION PHASE ON GIVING ACKNOWLEDGMENTS (IPS 4): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	460.8667	2	230.4333	.2945[1]	.049
Error	21124.5000	27	782.3889		
Totals	21585.3667	29			

1. The insignificant F ratio results from a large amount of within-group variance, particularly in the first and second phases.

TABLE 125

THE EFFECT OF INTERACTION PHASE ON SHOWING AGREEMENT (IPS 5): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	3.5000	6.2000	5.3000
Standard Deviation	1.2693	3.1903	2.0028

TABLE 126

THE EFFECT OF INTERACTION PHASE ON SHOWING AGREEMENT (IPS 5): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	37.8000	2	18.9000	3.5886[1]	.147
Error	142.2000	27	5.2667		
Totals	180.0000	29			

1. P less than .05.

TABLE 127

THE EFFECT OF INTERACTION PHASE ON GIVING SUGGESTIONS (IPS 6): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	.2000	.4000	1.9000
Standard Deviation	.4216	.5164	.8756

TABLE 128

THE EFFECT OF INTERACTION PHASE ON GIVING SUGGESTIONS (IPS 6): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	17.2667	2	8.6333	21.3853[1]	.576
Error	10.9000	27	.4037		
Totals	28.1667	29			

1. P less than .01.

TABLE 129

THE EFFECT OF INTERACTION PHASE ON SUGGESTING SOLUTIONS (IPS 7): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	.6000	1.0000	1.8000
Standard Deviation	.8433	.8165	.7888

TABLE 130

THE EFFECT OF INTERACTION PHASE ON SUGGESTING SOLUTIONS (IPS 7): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	7.4667	2	3.7333	5.6000[1]	.235
Error	18.0000	27	.6667		
Totals	25.4667	29			

1. P less than .01.

TABLE 131

THE EFFECT OF INTERACTION PHASE ON GIVING OPINIONS (IPS 8): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	17.2000	19.5000	41.4000
Standard Deviation	9.2832	9.6753	11.3647

TABLE 132

THE EFFECT OF INTERACTION PHASE ON GIVING OPINIONS (IPS 8): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	3568.4667	2	1784.2333	17.3258[1]	.521
Error	2780.5000	27	102.9815		
Totals	6348.9667	29			

1. P less than .01.

TABLE 133

THE EFFECT OF INTERACTION PHASE ON GIVING ORIENTATION (IPS 11): DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	35.3000	8.0000	6.5000
Standard Deviation	28.4802	7.8881	6.8516

TABLE 134

THE EFFECT OF INTERACTION PHASE ON GIVING ORIENTATION (IPS 11): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	5256.6000	2	2628.3000	8.5679[1]	.335
Error	8282.6000	27	306.7630		
Totals	13539.2000	29			

1. P less than .01.

TABLE 135

THE EFFECT OF INTERACTION PHASE ON DRAWING ATTENTION (IPS 12): DESCRIPTIVE DATA

Statistics	Phase 1	Phase 2	Phase 3
Mean	3.4000	5.0000	4.4000
Standard Deviation	2.5033	2.2608	3.3066

TABLE 136

THE EFFECT OF INTERACTION PHASE ON DRAWING ATTENTION (IPS 12): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	13.0667	2	6.5333	.8785[1]	.008
Error	200.8000	27	7.4370		
Totals	213.8667	29			

1. The insignificant F ratio likely results from a small number of observations (resulting in small means) and large within-group variance.

TABLE 137

THE EFFECT OF INTERACTION PHASE ON ASKING FOR OPINIONS (IPS 13): DESCRIPTIVE DATA

Statistics	Phase 1	Phase 2	Phase 3
Mean	1.1000	.8000	3.4000
Standard Deviation	1.1005	.7888	1.8379

TABLE 138

THE EFFECT OF INTERACTION PHASE ON ASKING FOR OPINIONS (IPS 13): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	40.4667	2	20.2333	11.6482[1]	.415
Error	46.9000	27	1.7370		
Totals	87.3667	29			

1. P less than .01.

TABLE 139

THE EFFECT OF INTERACTION PHASE ON DISAGREEING (IPS 14): DESCRIPTIVE DATA

Statistics	Phase 1	Phase 2	Phase 3
Mean	1.4000	1.8000	3.5000
Standard Deviation	1.0750	.9189	1.2693

TABLE 140

THE EFFECT OF INTERACTION PHASE ON DISAGREEING (IPS 14): ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	24.8667	2	12.4333	10.3292[1]	.383
Error	32.5000	27	1.2037		
Totals	57.3667	29			

1. P less than .01.

TABLE 141

THE EFFECT OF INTERACTION PHASE ON NUMBER OF SECONDS OF EYE CONTACT: DESCRIPTIVE DATA

Statistics	Phase 1	Phase 2	Phase 3
Mean	67.9000	20.2000	13.6000
Standard Deviation	18.6038	8.7280	6.0037

TABLE 142

THE EFFECT OF INTERACTION PHASE ON NUMBER OF SECONDS OF EYE CONTACT: ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	w^2
Treatments	17557.8000	2	8778.9000	57.4633[1]	.790
Error	4124.9000	27	152.7741		
Totals	21682.7000	29			

1. P less than .01.

TABLE 143

THE EFFECT OF INTERACTION PHASE ON LENGTH OF INTERACTION SEQUENCE: DESCRIPTIVE DATA

Statistic	Phase 1	Phase 2	Phase 3
Mean	2.7000	4.0000	4.5000
Standard Deviation	3.0203	3.1269	2.7183

TABLE 144

THE EFFECT OF INTERACTION PHASE ON LENGTH OF INTERACTION SEQUENCE: ANALYSIS OF VARIANCE

Sources	SS	df	MS	F	W^2
Treatments	8.6000	2	4.3000	.4907[1]	.035
Error	236.6000	27	8.7630		
Totals	245.2000	29			

1. The insignificant F ratio likely results from small means and relatively large within-group variance, obscuring differences between means.