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ABSTRACT

AN EXPLORATORY STUDY OF

CONFLICT MANAGEMENT AND CONFLICT RESOLUTION STRATEGIES

IN PROBLEM SOLVING GROUPS

By

Barbara Ann Walker

This is an experimental field study comparing the effects of conflict management and conflict resolution strategies in problem solving groups at three points in time. This study finds that conflict resolution groups were significantly more satisfying to members. Over time, groups resolved rather than managed conflicts which occurred.

AN EXPLORATORY STUDY OF
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IN PROBLEM SOLVING GROUPS

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To My Parents

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CHAPTER ONE

RATIONALE AND HYPOTHESES

1.1 Introduction

This paper studies conflict in small groups. Two contrasting views of small group processes are considered. Both points of view deal with the strategies groups use to deal with conflict. One perspective emphasizes the resolution of conflict. An alternative perspective holds that conflict ought to be managed and maintained for the benefit of the group and individual group members.

1.2 Purpose

This is an exploratory study of the effects of conflict management and conflict resolution strategies on small group processes. Specifically, the purposes of this study are to:

(1) Compare the effect of conflict management and conflict resolution strategies on individual member satisfaction in small groups.

(2) Analyze the communication patterns in groups which either manage or resolve conflicts, focusing on tension release communication.

(3) Compare groups which utilize conflict management and conflict resolution strategies in terms of the accuracy of solutions reached.

(4) Compare conflict management and conflict resolution groups in terms of their survival.

In this chapter, the conflict management and conflict resolution perspectives will be described. Hypotheses will be developed related to

four variables defined as potential effects of managing or resolving conflict. These variables are group survival, group satisfaction, tension release, and accuracy of group solutions.

1.3 Overview of Conflict Resolution Perspective

The conflict resolution perspective is a set of assumptions about the nature of conflict, commonly held by scholars in speech communication. This perspective emphasizes communication strategies which can be used to resolve conflict once it occurs.

Hawes and Smith (1973) define this perspective as follows:

> Normative theories of conflict assume that the only good conflict is a resolved conflict. The rationale is that people are happier, healthier, and more productive when they are 'cooperating' and 'getting along' with one another. . . . A central thesis throughout these discussions is that the effect of conflict is destructive and the best means for bringing it to a speedy end should be sought. (1973: 425-425)

According to Simons (1972), Rogers and Roethlisberger popularized this perspective when they presented a paper to speech communication scholars and psychotherapists at the Centennial Conference on Communications at Northwestern University in 1951. Comparing conflict to a breakdown in a mechanical system, they argue that the barrier to effective communication is evaluation of someone else's perspective from our own point of view. Communication breakdowns can be prevented by non-evaluation.

The conflict resolution perspective is utilized by scholars who adhere to a systems perspective. From this point of view, social systems are likened to organisms and conflict to a disease. This analysis is characteristic of the work of Talcott Parsons (1951) who treats conflict as a form of sickness in the social body.

Systems theorists in communication typically view conflict as a disruption of homeostasis. According to Hawes and Smith (1973) the conflict resolution approach assumes that cooperation is the normal state of a system:

> Equilibrium and stability of systems are thought of as conflict-free states in which all components are coordinated and acting in harmony. Conflict occurs as a temporary disruption of the system. The disruption has a beginning, in all likelihood a cause, and is terminated allowing a return to a state which, although possibly altered by the conflict, will remain stable until the next episode of disruption. (1973: 425)

Thus, underlying the conflict resolution perspective is the assumption that the effect of conflict is destructive. The quickest means to bring conflict to an end is studied. Frequently analyzed according to systems theory, this perspective views conflict as a temporary disruption of the normal state of cooperation.

There is an alternative set of assumptions underlying the study of conflict in small groups. The conflict management approach rejects the idea that conflict is a destructive deviation from normality. This approach holds that conflict should be managed and maintained for the benefit of the parties in conflict.

1.4 Overview of Conflict Management Perspective

Kenneth Boulding, editor of the Journal of Conflict Resolution, states that the title of his journal may not be appropriate for the nature of the issues covered in his journal:

> Perhaps 'management' would have been better, for the distinction between constructive and destructive conflicts is not necessarily the distinction between those which are resolved and those which are not. Conflicts are sometimes resolved in ways which are highly undesirable for one party if not for both. Sometimes there is a need for protracting conflict

> and for keeping it unresolved, perhaps by diminishing its intensity and increasing its duration. (1968: 410)

Hawes and Smith (1973) analyze the assumptions underlying the study of conflict in the field of speech communication. They find that the conflict management perspective has received little attention. They suggest that the most fruitful way of analyzing conflict assumes that "conflict is a perpetual condition to be managed and maintained" (1973: 425).

The conflict management perspective has been discussed by scholars in other fields. Sociologist Georg Simmel analyzes conflict as a positive, constructive force. Simmel (1955) argues that if we look at conflict in isolation, it may appear to be destructive. However, if we look at the total effect of conflict in a system, it may be positive force:

> If every interaction among men is association, conflict - after all one of the most vivid interactions, which, furthermore, cannot possibly be carried on by one individual alone - must certainly be considered as sociation. And in fact, dissociation factors - hate, envy, need, desire - are the causes of conflict; it breaks out because of them. Conflict is thus designed to resolve divergent dualisms; it is a way of achieving some kind of unity, even if it be through the annihilation of one of the conflicting parties. (1955: 13)

In summary, the conflict management perspective looks at the potentially constructive effects of conflict. If viewed from this perspective, conflict contributes to group unification, and is a continuous process to be managed and maintained.

Four major effects of managing conflict in small groups have been theoretically isolated, and research hypotheses can be developed related to each of these four major effects, which are group member satisfaction,

survival of the group, tension releasing and group problem solving ability.

1.5 Effects of Conflict Management Compared With Conflict Resolution Strategies

Several authors discuss potentially beneficial effects of conflict management strategies in small groups. Although their attention is focused on conflict management, theorists contrast the effects of conflict management with the effects of conflict resolution. Now, group member satisfaction will be described as a dependent variable effected by the management or resolution of conflict.

1.51 Satisfaction. According to Simmel (1955), in-group conflict has positive functions for the individual as well as for relationships. By expressing opposition, an individual is making a potentially unbearable situation at least tolerable. Simmel argues that expressing conflict gives the individual psychological relief and satisfaction.

Simmel asserts that just as a fighter must "pull himself together," individuals in conflict must similarly focus their energies. The inner changes which occur when an individual is in opposition to another individual strengthen each party.

> Daily experience shows us how easily a quarrel between two individuals changes each of them not only in his relationship to the other but also in himself. There are first of all the distorting and purifying, weakening or strengthening consequences of the conflict for the individual. In addition, there are the conditions of it, the inner changes and adaptations which it breeds because of their usefulness in carrying it out. (1955: 88)

Simmel (1955) argues that the changes which an individual goes through in order to engage in conflict are positive and satisfying. The individual must take on a concentration of his or her energies when

engaged in conflict. In a conflict-free state, however, these energies can be unfocused. Thus, one of the satisfying consequences of conflict for the individual is in the concentration of his or her efforts.

Weick (1969) explains that group members need to express opposing points of view in order to be satisfied with a group product. Conflict results from the expression of what he calls "self-centered" responses. Weick argues that the expression of self-centered responses, or individuated action, provides satisfaction with group interaction. In addition, it produces a greater degree of satisfaction with the group product, since members feel they have an input in the group.

Torrance (1957) reports the results of a number of field studies of small groups under conditions of survival. Through intensive interviews, he determines the extent to which conflict was expressed in these groups and analyzes the effects of expressing conflict on group processes.

One field study he reports deals with the effects of expressing conflict on group member satisfaction. He interviews groups of equipment technicians who were caught in a blizzard in the high Sierras. The groups adapted poorly to adverse conditions, as a majority of the group members became severely frostbitten as a result of continuing their excursion after marching through an unfrozen stream.

Each member said that he wanted to stop and dry his feet before continuing, but was afraid of expressing dissent from the group. The instructors claimed that they wanted to have the trainees stop and do the same, but thought the trainees were too apathetic to take care of themselves. Thus, the instructors interpreted fear of disagreement as apathy.

Torrance concludes that none of the group members were satisfied with the solution reached by the group to continue marching. He attributes their lack of satisfaction to their unwillingness to express disagreement.

The work of Simmel (1955), Weick (1969) and Torrance (1957) lead to the following hypothesis:

> H_1: In groups where conflict management techniques are utilized, there is greater individual member satisfaction than in groups where conflict resolution techniques are utilized.

1.52 Survival. A number of authors have looked at the effects of expressing conflict on small group survival. Each individual operationally defines the variable, but the conceptual definition of group survival is not discussed. A definition of group survival can be developed by looking at definitions of a group.

Sociological definitions of group emphasize structural characteristics and role relationships. Sherif and Sherif (1956) provide the following definition:

> A group is a social unit which consists of a number of individuals who stand in (more or less) definite status and role relationships to one another and which possesses a set of values or norms of its own regulating behavior of individual members, at least in matters of consequence to the group. (1956: 144)

McDavid and Harari (1968) state a similar definition:

> A social-psychological group is an organized system of two or more individuals who are interrelated so that the system performs some function, has a standard set of role relationships among its members, and has a set of norms that regulate the function of the group and each of its members. (1968: 237)

Using this definition, group survival can be defined as the existence over time of a collective of individuals with a common structure

and function. Group members can be added or dropped, and the group would survive. Individuals' affective relationships to other group members can change without affecting survival of the group.

A psychological definition of group leads to a different concept of group survival. This type of definition stresses the fulfillment of individual member needs, rather than structure and function. Bass (1960) provides a psychological definition of group:

> We define group as a collection of individuals whose existence as a collective is rewarding to the individuals. (1960: 39)

Cattell (1951) also provides a psychological definition of group:

> A group is a collection of organisms in which the existence of all (in their given relationships) is necessary to the satisfaction of certain individual needs in each. (1951: 167)

Using a psychological definition of group, group survival is the fulfillment of the needs of a collective of individuals over time. According to this definition, groups which fail to meet the needs of individual members fail to survive. A group could survive in the sociological sense by remaining intact as a structural unit, but fail to survive in the psychological sense because member needs were not fulfilled.

All of the authors surveyed who discuss the effects of managing conflict on group survival consider survival in the sociological sense. Sociologists Simmel (1955) and Coser (1956) equate survival with a group or dyad remaining as a social-structural unit. Campbell (1965), Weick (1969) and Torrance (1957) look at survival according to the group's ability to adapt to changes in the environment. These authors take a sociological approach, implicitly defining survival as the ability of the group to persist as a structural unit. Now, the relationship between conflict management and survival will be discussed.

Simmel describes the results of not expressing conflict as leading to the destruction of relationships. The feeling of oppression increases in a relationship if conflict is not expressed. Finally, silent opposition causes such relationships to split apart.

Coser (1956) argues that the indirect expression of conflict has a negative effect on survival of the group. If group members choose to act out conflict toward alternative objects, the direct expression of conflict is inhibited. This leads to rigidity in a group structure, which would otherwise be modified by the direct expression of conflict. The expression of conflict in indirect ways may function like lightening rods, to clear the air, but it cannot prevent conflict from recurring.

Campbell (1965) discusses the survival value of altruism and of self-centered behavior. He argues that there are natural selection processes operating which cause one individual to survive at the expense of the other individual. Also, there are selection processes operating that cause one group to survive at the expense of another group.

Campbell holds that there is survival value for the individual to behave cooperatively in order for his or her group to survive. There is also survival value for the individual to behave in a self-centered way for ego-gratification. Since individual member satisfaction is ultimately beneficial to the group, it is desirable for the survival of the group to maintain selfish, as well as altruistic, responses.

Weick (1969) relying on Campbell's analysis, argues that in a small group, whenever compromise responses are emitted, the survival of both altruistic and self-centered motives is destroyed. Although compromise responses appear to be satisfying both individual and group interests, Weick maintains that these responses satisfy neither interest.

According to Weick, compromise responses fail to satisfy group interests because they level out responses from individual members which may have great adaptive value for the group. The expression of conflict may trigger the use of conflict resolution techniques in a group, which can be destructive for the group when conditions change:

> No one questions that if left on its own, the group could destroy itself with conflict and ambivalence. Our point is that the presence of conflict does not necessarily indicate that a group is dissolving; it merely signifies that the group retains heterogeneous responses and preferences, all of which may be adaptive under some circumstances. (1969: 104)

By interviewing United States Air Force jet pilots in combat in Korea, Torrance (1957) compares pilots who have exceptional fighting records with average pilots. Compared to other pilots, "aces" were more unwilling to accept "no" as an answer. They were also more willing to oppose accepted procedures than less successful pilots. Torrance concludes:

> If willingness to disagree is related to individual ability to adapt, it is only reasonable to expect that group processes are affected accordingly. Willingness to disagree has meant the difference between survival and failure to survive in group situations. (1957: 314)

Torrance (1955) describes an unpublished study by Howard which supports his conclusions about the effect of disagreement on group processes. Howard analyzes survival experiences of groups which were stranded in the Southwest Pacific in World War II. He finds that group prejudices against eating strange foods cause groups of individuals to starve to death, rather than overcoming these prejudices. Groups which survived under these adverse conditions contained individual members who dissented against the group opinion.

The work of Simmel (1955), Coser (1956), Campbell (1965), Weick (1969) and Torrance (1957) leads to the following prediction:

H_2: Groups which utilize conflict management techniques will be more likely to survive than groups which utilize conflict resolution techniques.

1.53 Tension Release. Theory relating to the tension-relieving characteristics of conflict is characteristic of Lewis Coser (1956). He criticizes the work of Georg Simmel for over-simplification of the tension-relieving characteristics of conflict. Coser characterizes Simmel's perspective as a "safety-valve" theory of conflict. That is, conflict releases hostile feelings that would otherwise build up and destroy relationships.

Coser's criticism of the "safety-valve" characterization of conflict is based on Freudian analysis, which became popular subsequent to the original publication of Simmel's work. Coser argues that the hostilities and tensions generated in a conflict situation can be acted out in other ways besides the overt expression of conflict.

Speaking about the feelings of hostility generated by conflict, Coser (1956) states:

> The relevant expression of these feelings in behavior are of at least three possible kinds: (1) direct expression of hostility against the person or group which is the source of frustration, (2) displacement of such hostile behavior onto substitute objects, and (3) tension-release activity which provides satisfaction in itself without need for object or object substitute. (1956: 41)

The discussion of Coser leads to the following prediction about tension release in small groups. Groups in which conflict is resolved rather than managed would not be able to release tension through direct expression of conflict. Therefore:

H_3: Groups in which conflict is resolved display more tension release behavior than groups in which conflict is managed.

1.54 Problem Solving. Irving Janis (1972) studies the relationship between the suppression of conflict and the problem solving ability of policy making groups. From historical records, recollections of participants and descriptions of observers, Janis reconstructs the conditions under which a number of major national policy decisions were made. He finds that groups which made policy decisions based on incomplete and distorted information, or on false premises, show the following interaction patterns:

> Direct pressure on any member who expresses strong arguments against any of the group's stereotypes, illusions, or commitments, making clear this type of dissent is contrary to what is expected of all loyal members;
>
> Self-censorship of deviations from the apparent group consensus, reflecting each member's inclination to minimize to himself the importance of his doubts and counterarguments;
>
> A shared illusion of unanimity concerning judgments conforming to the majority view (partly resulting from self-censorship of deviations, augmented by the false assumption that silence means consent);
>
> The emergence of self-appointed mindguards-members who protect the group from adverse information that might shatter their shared complacency about the effectiveness and morality of their decisions. (1972: 198)

These symptoms are among eight characteristics of groups which employ what Janis labels "groupthink." An example of a "groupthink" decision was made by John Kennedy and his staff of advisors, prior to the Bay of Pigs invasion. Individually, each man was brilliant and capable of shrewd analysis. Collectively, they did not detect serious errors in the invasion plan:

> The President and his key advisors approved the Bay of Pigs invasion plan on the basis of six assumptions, each of which was wrong. In retrospect, the President's advisors could see that even when they first began to discuss the plan, sufficient information was available

> to indicate that their assumptions were much too shakey. They could have obtained and used the crucial information beforehand to correct their false assumptions if at the group meetings they had been more critical and probing in fulfilling their advisory roles. (1972: 19)

Weick (1969) argues in favor of retaining heterogeneous responses in a problem solving group. A group will be more flexible in dealing with environmental changes if competing responses are maintained. Responses which were appropriate at one time may not be appropriate when circumstances change. Groups which preserve a larger repertoire of responses will have more resources available in solving problems, especially problems which cannot be foreseen in advance.

Weick believes that if conflict is resolved, the solution should not constitute a compromise. That is, such a solution must not destroy the original, adaptive responses present in the conflict. The only conflict resolution strategy acceptable to Weick is one which allows both points of view of uncompromised expression.

Bell (1974) argues that an emphasis on the goal of consensus, and the corresponding assumption that conflict should be resolved, destroys the group's primary reason for being together. One of the basic reasons for having groups, rather than individuals, solve problems is that inaccuracy of perception and judgment is modified in a group. This takes place when group members critically compare one idea against another. When conflict is resolved because of an emphasis on the goal of consensus, inaccurate solutions are likely to result.

Based on the discussions of Weick (1969) and Bell (1974) and the observational research of Janis (1972), we would expect that groups which utilize conflict resolution techniques would produce more accurate solutions to problems because they are drawing from a wider range of

possible responses.

This leads to the following prediction about the solutions of problem solving groups:

H_4: Groups which utilize conflict management techniques produce more accurate solutions to problems than groups which utilize conflict resolution techniques.

We have described four theoretic hypotheses which were investigated in an experimental field study. In the next chapter, we will describe a study which was conducted to test these hypotheses.

CHAPTER TWO

METHODS

2.1 Experimental Design and Procedures

This is an experimental study of small group behavior at three points in time. Students in Communication 210, Leadership were randomly assigned to twenty groups, which worked on problem solving tasks related to topics covered in class. Individuals received instructions on how to deal with conflict which occurred in their groups. Individuals in half of the groups received instructions to manage and maintain any conflicts which occurred, and subjects in the other half of the groups were told to quickly resolve any conflicts which occurred.

Students remained in their experimental groups for three sessions, held one week apart. After the third group meeting, students were asked to choose people whom they wanted to work with on their group projects. They were also asked how much they wanted to work with each group member on their project. The responses were used as a measure of survival of the groups.

Group interactions were tape recorded. Sets of coders were trained to measure dependent variables from the tapes. The variables coded were humor, laughter, negative emotions, disagreement, statements of agreement, and use of reasoning. Also, singular and plural pronouns were measured and were used to create an index of group cohesiveness.

The following discussion describes the experiment in detail. First,

the pretest will be described. Then, the independent variables will be discussed. Next, subject and group composition will be described.

After discussing the subjects and group composition, we will discuss coder and observer training. Then, the dependent variables will be described. Next, the experimental procedures will be discussed. Finally, ethical considerations will be described.

2.2 Pretest

A pretest was conducted as a trial run for the experimental procedures, and to test the effectiveness of the experimental manipulations. Students in Communication 205, Persuasion, received extra credit for participation in the pretest. Before the pretest experiment, six Communication 100 students were trained to code the sequence of interaction in the groups.

Before the students were assigned to experimental groups, they were given a list of the following ten health professions to rank from one to ten according to their prestige: plastic surgeon, neurosurgeon, pediatrician, dentist, orthopedic surgeon, registered nurse, opthamologist, dermatologist, psychiatrist, and cardiologist.

After completing the rankings, the students were placed into six three or four person groups. Three of these groups were then physically separated from the other groups. Three of the groups were given instructions labelled "Conflict Management," which contained instructions to manage conflicts which occurred. The other half of the groups received instructions labelled "Conflict Resolution," instructing them to quickly resolve all conflict which occurred. Each set of instructions contained a description of theory supporting either conflict resolution or conflict management assumptions.

The groups were told that it was their task to come up with one group ranking. Each group member had a card with "CONFLICT" printed on it in large letters. Each time a conflict occurred, group members were to hold up this conflict card. In the conflict resolution groups, members were told that they were to have their cards down most of the time. In the conflict management groups, students were told that they should have their cards up most of the time. This was to reinforce the set of procedural rules.

An observer went to each of the groups, started the tape recorder which was in the center of the groups, and asked each member to state his or her name. Every five minutes group members were reminded of the procedural rules they were to use to deal with conflict.

After completing the task, observers and participants discussed the experimental procedures with the author. Most students agreed that the theoretical introduction was unnecessary. Several observers stated that the conflict cards were distracting, and students agreed. Students said that being interrupted every five minutes was also quite distracting. From listening to tapes of the interactions, it was confirmed that both the cards and the interruptions distracted groups from their task.

A majority of the students indicated that there was at least one profession they did not know. During the exercise, a number of students asked the instructor what "opthamologist" meant.

After this discussion, a number of changes were made from the pretest situation to the experimental situation:

1. Conflict cards were not used.
2. The groups were not reminded of the rules.
3. The groups were not given an extensive theoretical

explanation of conflict management or conflict resolution.

4. A different set of instructions was used for the ranking task.

The author listened to the tapes to determine if the manipulation was effective. In the conflict management condition, there were an average of sixteen disagreements expressed per group. In the conflict resolution conditions, there was an average of one disagreement expressed per group.

2.3 Experimental Manipulations and Independent Variables

One variable was manipulated in this experiment - the procedural rules the groups used in their problem solving tasks. One set of rules was labelled conflict resolution and the other set was labelled conflict management, creating two levels of this variable. Time was a measured independent variable, at three different points. This created a two-by-three design.

2.31 Conflict Rules. One set of procedural rules was designed to bring about the resolution of conflict in the groups. Based on the pre-test manipulation, the following set of rules, labelled "Conflict Resolution," was used:

> In any group, people have different values, attitudes, and beliefs that relate to the on-going activities of the group. When you consider the different backgrounds and experiences of each person in a group, the emergence of conflict is not surprising. Since conflict can occur frequently, most groups develop ways of resolving it. One method of resolving conflict is through the specification of communication rules.
>
> Below are some communication rules to follow in your small group. If you carefully follow these rules, conflict should be effectively resolved.
>
> 1. YOUR GROUP SHOULD FUNCTION TO AVOID CONFLICTS. IF THEY OCCUR, TRY TO QUICKLY RESOLVE DISAGREEMENTS.

2. WHEN YOU AGREE WITH SOMEONE, OPENLY EXPRESS THAT DISAGREEMENT.

3. DON'T CRITICIZE THE IDEAS OF OTHER PEOPLE IN YOUR GROUP.

4. IT IS NOT NECESSARY THAT YOUR OWN POINT OF VIEW IS EXPRESSED.

Another set of rules was designed to bring about the management of conflict, labelled "Conflict Management."

> In any group, people have different values, attitudes, and beliefs that relate to the on-going activities of the group. When you consider the different backgrounds and experiences of each person in a group, the emergence of conflict is not surprising. Since conflict can occur frequently, most groups develop ways of regulating it. One method of regulating conflict is through the specification of communication rules.
>
> Below are some communication rules to use in your small group. If you carefully follow these rules, conflict should be effectively maintained.
>
> 1. YOUR GROUP SHOULD FUNCTION TO ACCEPT AND MAINTAIN CONFLICT. WHEN CONFLICT AND DISAGREEMENT OCCUR, TRY TO MAINTAIN OPPOSING POINTS OF VIEW.
>
> 2. WHEN YOU DISAGREE WITH SOMEONE, FREELY EXPRESS YOUR OWN POINT OF VIEW.
>
> 3. FREELY CRITICIZE THE IDEAS OF OTHER PEOPLE IN YOUR GROUP.
>
> 4. MAKE SURE YOUR OWN POINT OF VIEW IS HEARD.

2.32 Time. Time was a second independent variable. The experimental sessions took place at three different points in time. These were spaced one week apart, as class met once per week. Groups received the same procedural rules all three times. With the exception of two groups, which will be discussed later, group composition remained the same at all three points in time.

2.4 Subjects and Group Composition

2.41 Subjects. Several requirements were necessary for subjects. First, a collective of approximately eighty people was needed. Secondly, these people needed to meet over time, since time was one of the independent variables. Thirdly, these people needed to be in a situation where they could continue working in a small group, in order to measure survival of the group. Fourth, we needed a situation where working on a problem solving task was natural.

All these requirements were met in the author's Communication 210, Leadership, class. This class had a projected enrollment of about eighty people, and met once a week for nine weeks. Leadership classes are frequently taught with problem solving exercises. From their experimental groups, students could choose other students to work with for the rest of the term on their group projects, making survival of the small groups a relevant variable.

Seventy-seven students participated in the experiment; one freshman, seventeen sophomores, thirty-one juniors and twenty-eight seniors. Thirty-two students were female and forty-five students were male. There were twenty different academic majors represented by students in this class.

2.42 Group Composition. Since we were measuring survival of the groups, it was important that group membership remained constant across time. Therefore, several incentives were given to the students to attend all three sessions. They were offered an automatic 4.0 (A) as a participation grade in class, constituting ten percent of their final grade. Also, they were urged to attend to understand the class material, since class met once a week.

Students were randomly assigned to twenty groups of four or five students each. Females were assigned to groups first, since there were fewer females in the class, to ensure an equivalent distribution of female students across groups. Two students who anticipated being absent were not assigned to groups.

On day one of the experiment, five persons were absent who had been assigned to groups. On day two of the experiment, two people present on day one dropped the class. Any new people were not assigned to groups. On day three, group membership remained the same as on day two.

The stable size of the groups, after day one, was as follows. In the conflict resolution condition, there were three three-person groups, four four-person groups and three five-person groups. In the conflict management condition, there were two groups which had one member less than the conflict resolution groups. See Appendix A, a summary of the size of the experimental groups over time.

2.5 Dependent Variables

A number of dependent variables were measured, both from the taped interactions and from a questionnaire given to each participant. In this section, we will describe the variables measured from the tapes of group interactions. Then, we will describe the variables measured from a questionnaire.

2.51 Description of Variables Measured from Taped Interactions.

The number of times overt disagreement occurred was measured as a manipulation check. The number of times statements were made expressing agreement or positive reinforcement was also measured.

Three variables were measured which were indicators of tension release. The number of times laughter occurred was measured. The number of humorous statements was measured. Another measure of tension release was the number of statements which expressed negative emotion.

The number of statements using reasoning or evidence was measured. In addition, two variables were measured to create an interactional measure of cohesion. These were the number of times first person singular pronouns were used and the number of times first person plural pronouns were used. The more plural, as opposed to singular, pronouns which are used, the more cohesive the group (see Pacanowsky, 1975).

2.52 Operationalization of Interaction Variables. The eight interaction variables were operationalized as follows:

(1) Humorous statements - any statement that was intended to be funny by the source was coded as humorous. Humor could be directed at self, at others in the group, at the situation, or at the class and the instructors.

(2) Laughter - laughter was divided into two categories, individual and group laughter. If only one person laughed, this was considered individual laughter. If more than one person laughed simultaneously, this was considered group laughter.

(3) Negative emotions - any negative feelings that were expressed through tone of voice and were indirect expressions of hostility were coded as negative emotions. If a negative vocal tone accompanied an overt disagreement, coders were told not to code it.

(4) Disagreement - any overt, direct expression that one person did not agree with another person was coded. This had to be directly and intentionally related to another person's comment.

(5) Agreement - any statement directly expressing that one person was in agreement with another was coded.

(6) Reasoning - any statement indicating reasons for a person's point of view was coded. Included were statements of evidence or fact.

(7) Singular pronouns - any first person singular pronoun or contraction was coded.

(8) Plural pronouns - any first person plural pronoun or contraction was coded.

2.53 Dependent Measures of Survival. After the third group meeting, a measure was taken to determine whether the small groups would survive for the rest of the term. In the time four questionnaire, each group member was asked whom he or she wanted to work with on the group project. They were also asked how much they wanted to continue working with each person in their group. See Appendix B for the questionnaire used.

The group project was a separate assignment from the small group interactions. Students were told in the beginning of the class that they would interact the first three weeks in problem solving groups, and then choose people to work with on a class project. The first three interactions, they were told, would give them experience working in groups before they started the class project.

The class project was for the students, in groups with other students of their choice, to study leadership patterns in another group, such as a fraternity, social club, or task-oriented group. This project was to terminate in a class presentation, counting twenty percent of the student's grade.

2.54 Dependent Measures of Satisfaction. In addition to questions related to survival, students were asked the following questions related to their satisfaction with the group.

> If 100 units is the average amount of satisfaction and zero is the complete absence of satisfaction, how satisfied are you with the solutions reached by your group?
>
> If 100 units is an average amount of satisfaction and zero units is the complete absence of satisfaction, how satisfied were you with the interaction in your group?
>
> If 100 units is an average amount of satisfaction and zero units is the complete absence of satisfaction, how satisfied were you with the amount of influence you had in your group?

2.6 Coder and Observer Training

2.61 Coder Training. Forty-eight coders were chosen from Communication 350R, as an optional class assignment. Coders worked in pairs. Each pair coded one of the eight variables at one point in time.

Pairs of coders were trained individually, and received the same introduction to the research project. They were told the general nature of the research, but were not told the hypotheses of the study. Coders were instructed to code the frequency with which each of the eight interaction variables occurred in the tape they were listening to. Specific training for each variable took place as follows:

(1) Humorous statements - a pretest tape was played, and coders marked down the number of humorous comments which were made. After comparing their answers, the author described various forms of humor which they might hear, such as banter, irony, teasing, joking, overstatement, understatement, sarcasm, etc.

(2) Laughter - coders listened to a small segment of the pretest

tape at a time, marking down the number of times both group and individual laughter occurred. They compared the number of times they coded laughter in each segment.

(3) Negative emotions - several training sessions were used for this variable. After the nature of the variable was explained, a pretest tape was played. Each time a coder heard a negative emotion being expressed he or she signalled and the tape was stopped. Coders listened to that segment of the tape again, and discussed the nature of the negative emotion. This procedure continued until the coders could easily discriminate the variable. Coders made a brief list of negative emotions which might occur, which they read before each coding session to refresh their memories. Such emotions included anger, resentment, frustration, bitterness, disgust, and other emotions expressing hostility.

(4) Disagreement - the same procedure, stopping the tape each time the variable occurred, was used.

(5) Agreement - coders listened to a pretest tape and coded the number of statements of agreement which they heard. They were specifically instructed not to code statements such as "Yes" or "O.K." as agreements if they were used simply as transition statements.

(6) Reasoning - coders listened to a pretest tape and were told to listen for statements starting with because as expressions of reasoning. Coders were told to code reasoning from the source's perspective. That is, if an individual was attempting to use reasoning, this was to be coded as a statement of reason. The coders were told not to evaluate the responses according to what they felt <u>should</u> be reasoning.

(7) Singular pronouns - listening to a pretest tape, students coded every time one of the following words was used: I, me, my, mine, I'll,

I've, I'd, I'm.

(8) Plural pronouns - using the same procedure as with singular pronouns, coders listened for: we, our, ours, we've, we'll, we'd.

2.62 Observers and Observer Training. Observers were used to code the sequence of interactions in the tapes, to identify a statement with a particular person, in case such data was needed for secondary analysis. Observers were Communication 100 students. Each observer was given a coding sheet, which contained columns representing people in the group and rows representing time sequence of interaction. Coders wrote group members' names across the top of the page, and marked down an "X" in the appropriate column every time a person spoke. When the following person spoke, an "X" was marked in the next row in that person's column, and so forth.

2.7 Experimental Procedures

2.71 Experimental Preparations. On the first day of class, and on their syllabus, students were told that they would be participating in a series of three exercises, which would give them knowledge of group processes before they worked on their group project. They were also told they could choose people they knew from these groups to work with on their class project at the end of the three weeks.

Cassette tape recorders were used to record the interactions of group members. Recorders were numbered from one to twenty corresponding to the groups, and tapes were placed in them with the same numbers.

Ten tape recorders were set up in an adjacent room while students were in class. These tape recorders were set up in the middle of a group of chairs. Groups were placed as far away as possible. The remaining

ten groups were set up in the classroom.

While class was still in session, twenty observers arrived in an adjacent room. They were given a brief training session on how to code the sequence of interaction. Due to a snow storm on the third day of the experiment, only fourteen observers arrived. To maintain consistency across conditions, they were not assigned to observe groups.

2.72 Day One Procedure. The author handed out group assignments. After students found their groups, the author handed out a sheet entitled "The Search for Leadership Traits," as in Appendix C. This contained a number of conflicting findings about the relationship between leadership and personality traits, and was abstracted from an article entitled "Leadership" by Cecil Gibb in the 1968 Handbook of Social Psychology.

Groups were told that this was actual data, and that it was their task to derive three conclusions from this data that they felt were the most important conclusions that could be reached. At the end of the class, they were to hand in the conclusions. The author stressed that next week's lecture was going to be based on the conclusions they reached.

Groups one through ten went to the adjacent room, and were told to look for a tape recorder with their group number on it. Students in groups one through twenty were directed to different parts of the classroom, and an assistant followed with the appropriate tape recorder.

The experimenter handed out a set of procedural rules to each person in groups eleven through twenty. These rules instructed the groups to manage conflict, and are described in Section 2.61. She explained that the use of these rules in their groups was very important to help the group run smoothly. She then read the four rules listed on their

handout sheets.

An assistant followed the same procedure in directing groups one through ten in the adjacent room. He handed out the procedural rules designed to help the groups quickly resolve conflict. He explained the importance of these rules and read them to the groups.

Observers then went to each group, turned on the tape recorders, and asked people to introduce themselves. When the groups finished the exercise they handed in a group solution and left class.

2.73 Day Two Procedures. Each class member was given the following assignment before they broke into their groups. They were assigned to rank fifteen professions according to their prestige. This exercise is "Consensus Seeking: A Group Ranking Task" as found in Pfeiffer and Jones' A Handbook of Structured Experiences in Human Relations Training, Volume II. After they finished their individual rankings, students were told to develop one group ranking.

When groups were assembled, the experimenter or an assistant passed out copies of the procedural rules and stressed the importance of following these rules. The appropriate procedural rules were read to each set of groups. The groups were given a form to record a group decision, and handed in this form when they were finished. See Appendix D for the group task.

2.74 Day Three Procedures. As an introduction to the exercise, the experimenter told students that it was extremely difficult for an instructor to assign individual grades to students for a class project. She described the following problems: It was difficult to determine how much each individual contributed to the group's effort. If the same grade was assigned to everyone in the group, this was unfair to people

who carried all the work of people who did nothing. When group members graded each other, they usually gave everyone a high grade, or gave their friends high grades and people they didn't like low grades.

Students were told that it was their task to come up with a method to use in grading their class project. For the class project students were to be reassigned to groups which would study leadership patterns in a group of their choice. As a group, they were to develop exact criteria the instructor should use in determining each individual's grade on this project. The best solution was going to be adopted by the instructor.

As the experimenter was setting up a tape recorder at group thirteen, a member of the group told her that they did not need a tape recorder because they were finished. She responded that they were not finished until the group deliberated the problem according to the procedural rules given to them. As she was talking someone wrote down a solution. Group members insisted that this was a group product.

When the tape recorder was being set up at group fourteen, a member of the group said that they had finished, too. Several members of the group said that they had discussed the problem and that they already had a solution.

When the author returned to these groups while the other groups were discussing the assignment, she found that they were studying together for the midterm exam, which was to be given after everyone completed the exercise. When they were questioned, both groups said that they agreed to hand in a solution quickly so they could study for the test together. They indicated that studying was more important than doing the exercise.

After all of the groups finished, they were separated from each

other so that they could fill out a questionnaire in confidence. The author reminded them that now they could choose people to work with on their class project, which was to start the following week. They were given the questionnaire in Appendix C.

2.75 Missing Data. Tape recordings of some of the group interactions were missing. For group fourteen on day one, the background noise was too great to hear voices of group members. The same was true for group thirteen at time two and group seventeen at time three.

When the first set of coders was listening to tape nineteen, the tape got caught in the machine and a large portion of it was "chewed." When the tape was fixed, the first eight minutes of day two's exercise were spliced off. This tape was not used in analysis of day two's interaction.

There were also missing data on day three for groups thirteen and fourteen, who finished their exercise before the recorder was turned on, as described. Thus, the missing data for the twenty groups at the three points in time were as follows:

Table 1

Missing Data for Groups

	Time one	Time two	Time three
Groups:	14	13 19	13 14 17

2.8 Ethical Considerations

Students were offered a reward for participating in all three exercises, which was 4.0 (A) as their participation grade in the class. This

grade was independent of their class project grade, since the class project started after these three exercises were completed. Students were told that they did not have to participate, although no student declined. Exercises were designed to integrate with classroom topics, so that the experiment could be a learning situation.

After the three experimental sessions, students were debriefed about the hypotheses. Students were asked about any complaints they had about participating in the experiment. One student told the experimenter after class that she felt that her privacy has been invaded by the use of the tape recorders. The experimenter explained that her individual responses were not being analyzed, since we were looking for responses on the group level. The student indicated that she felt more comfortable after this explanation.

2.9 Summary

Subjects were assigned to small groups which worked on problem solving tasks at three points in time, while their interactions were tape recorded. Half of the groups received instructions to manage conflict which occurred and half of the groups received instructions to resolve conflicts. At a fourth point in time, subjects were given a questionnaire measuring group satisfaction and survival. Coders listened to tapes of the group meetings to measure interaction variables. In the next chapter, analysis of the interaction and questionnaire data will be discussed.

CHAPTER THREE

RESULTS

3.1 Overview

In this chapter, we will present results relevant to the hypotheses. First, intercoder reliabilities for the interaction measures are presented. Second, length of time of the interactions are discussed, which is relevant to the analysis of other measures. Next, the manipulation check is presented. Then, the analysis of the self report questionnaire is presented. Finally, the analysis of interaction data is discussed.

3.2 Inter-coder Reliabilities

The following table (Table 2) represents the inter-coder reliabilities for the interaction measures. As discussed earlier, a different set of coders measured each variable at each point in time. This table represents zero-orcer correlations between coders' estimates of the freuquency with which each variable occurred at each point in time for each of the twenty groups. As shown, correlations are .92 or higher. (Table 2, next page)

3.3 Length of Time of Interactions

3.31 Time One. The length of time each group worked on the problem solving task was measured. Analysis indicates that there is no significant difference between experimental conditions in the length of time on day one (Table 3).

Table 2

Intercoder Reliabilities

Variable	Experimental time		
	Time one	Time two	Time three
Disagreement	.99	.97	.95
Agreement	.98	.90	.99
Negative emotions	.96	.97	.99
Reasons	.99	.97	.99
Humor	.99	.99	.99
Laughter	.94	.99	.97
Group laughter	.92	.99	.99
Singular pronouns	.99	.99	.96
Plural pronouns	.94	.99	.99

Table 3

Analysis of Variance
Length Day 1 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.61	.6101	.029	.867
Within groups	17	357.45	21.0206		
Total	18	357.96			

3.32 Time Two. At time two, groups in the conflict management condition interacted significantly longer than groups in the conflict resolution condition.

Table 4

Analysis of Variance
Length Day 2 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	108.46	108.46	8.16	.011
Within groups	15	212.61	13.29		
Total	17	321.07			

3.33 Time Three. There was no significant difference between experimental conditions in the length of time of the interactions at time three.

Table 5

Analysis of Variance
Length Day 3 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	17.26	17.26	.80	.386
Within groups	15	324.09	21.61		
Total	16	341.34			

3.34 Mean Length of Exercises. The mean length of time of each exercise, across groups, was as follows:

Table 6

Mean Length of Interactions

Time 1	Time 2	Time 3
28.4 Min.	21.4 Min.	11.6 Min.

3.4 Manipulation Check

The number of times disagreement occurred in each group was used as a manipulation check of the conflict variable. One-way analysis of variance at time one indicates that the manipulation was effective at this point in time.

Table 7

Analysis of Variance
Time 1 Disagreement by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	618.84	618.84	22.81	.000
Within groups	16	434.10	27.13		
Total	17	1052.94			

At time two, the conflict manipulation was also effective.

Table 8

Analysis of Variance
Time 2 Disagreement by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	160.00	160.00	8.58	.010
Within groups	16	298.50	18.66		
Total	17	485.50			

At time three, the manipulation of conflict was not effective.

Table 9

Analysis of Variance
Time 3 Disagreement by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.53	.53	.200	.661
Within groups	15	39.36	2.62		
Total	16	39.88			

These results can be understood by considering the mean number of times disagreement was expressed at each point in time. In both groups, the expression of conflict decreased over time.

Table 10

Condition Means - Number of Disagreements

	Time 1	Time 2	Time 3
Conflict Resolution	3.6	2.3	1.4
Conflict Management	13.7	8.5	1.8
Overall Means	8.7	5.4	1.6

Thus, the experiment at time three generated few expressions of disagreement, although the groups were exposed to the same experimental instructions regarding conflict as at the first two points in time.

Since the length of the interactions decreases over time, as illustrated in Table 6, the rate of disagreement was computed by dividing the number of disagreements in each interaction by the length of that interaction. The followint table presents the data which was used in a repeated measures analysis of variance, expressing disagreement as a rate.

Table 11

Condition Means - Disagreements Per Minute

	Time 1	Time 2	Time 3	Overall
Conflict Resolution	.13	.13	.12	.13
Conflict Management	.88	.48	.43	.60
Overall	.51	.31	.28	.37

Repeated measures analysis of variance was conducted using rate of disagreement as the dependent variable. This indicates that the main effect for conflict condition was significant, $p < .01$, and that the interaction of conflict by experimental time was not significant.

Table 12

Repeated Measures Analysis of Variance
Rate of Disagreement
Conflict Condition by Experimental Time

Source	S.S.	D.F.	M.S.	F	P
Conflict	3.31	1	3.31	43.89	0.000
Error	3.26	18	0.18	---	---
Time 1	0.53	1	0.53	1.90	0.185
Time 1 by Conflict	0.48	1	0.48	1.70	0.209
Error	5.05	18	0.28	---	---
Time 2	0.09	1	0.92	0.69	0.418
Time 2 by Conflict	0.10	1	0.10	0.76	0.394
Error	2.41	18	0.13	---	---
Time	0.63	2	0.31	1.51	0.235
Time by Conflict	0.58	2	0.29	1.39	0.261
Error	7.46	36	0.21	---	---

The results reported in this section will be discussed in Chapter Four.

3.5 Self Report Dependent Variables

3.51 Survival. The first measure of group survival was taken from the questionnaire where group members were asked to choose people with

whom they wanted to work for the rest of the term. The number of times each group member chose another member of the group was counted. Then, these individual scores were summed for a measure of the total number of times people in the group chose each other. This group score was used as an indicator of survival. The following analysis indicated no significant differences between experimental conditions.

Table 13

Analysis of Variance
Survival 1 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	5.00	5.00	.489	.493
Within groups	18	184.20	10.23		
Total	19	189.20			

Another measure of survival was derived from individuals' reports of how much they wanted to work with each person in the group for the rest of the term, given that 100 units is an average amount of liking. For each group, all of the liking scores were summed for each individual. A group average score was used in analysis. There were no significant differences between experimental conditions.

Table 14

Analysis of Variance
Survival 2 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	20.00	20.00	.007	.933
Within groups	18	50160.80	2786.71		
Total	19	50180.80			

3.52 Satisfaction Dependent Variables. Three questions were asked related to satisfaction. These questions related to satisfaction with the solutions, satisfaction with the group interaction, and satisfaction with influence in the group. Individuals in the conflict resolution condition were significantly more satisfied with the solutions reached by their groups than individuals in the conflict management condition.

Table 15

Analysis of Variance
Satisfaction with Solution by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	4440.20	4440.20	8.83	.008
Within groups	18	9049.60	502.76		
Total	19	13489.80			

Analysis of the second and third measures of satisfaction indicates that neither test reaches statistical significance.

Table 16

Analysis of Variance
Satisfaction with Interaction by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	3328.20	3328.20	3.13	.094
Within groups	18	19139.60	1063.31		
Total	19	22467.80			

Table 17

Analysis of Variance
Satisfaction with Influence by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	520.20	520.20	.358	.557
Within groups	18	26158.00	1453.22		
Total	19	26678.20			

Analysis using the second measure of satisfaction is significant at the .01 level. Individuals in the conflict resolution groups reported more satisfaction with the interaction than individuals in the conflict management groups.

3.53 Accuracy. The second exercise completed by the groups had an objective measure of accuracy. Group error was computed by subtracting group rankings from a corresponding objectively correct ranking of the professions. The absolute values of the error scores were added for a

group error score. Analysis indicated no significant difference between conditions.

Table 18

Analysis of Variance
Accuracy by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.80	.80	.017	.897
Within groups	18	837.00	46.50		
Total	19	837.80			

3.6 Tension Release

The null hypothesis that there is no significant difference between experimental conditions in tension release behavior was tested for three measures of tension release: laughter, humor, and expression of negative emotions. As discussed in Chapter One, these are three variables theoretically believed to express tension release. Regression analysis with dummy variables was used to test the null hypothesis. Dummy variables were created for groups, experimental condition, and experimental time.[1] Next, analysis of the three measures of tension release will be described.

3.61 Negative Emotions. Regression analysis for the dependent variable negative emotion is presented in Appendix E. Although entering all

[1] According to Winer (1962: 520) the number of dummy variables created for experimental condition and for time is equal to n-1, n representing levels of the independent variable. The number of dummy variables created for groups is q-1, q being equal to the number of groups within each condition. Thus, one dummy variable was created for the conflict condition, two for time, and eighteen for groups (nine for each condition).

of the variables in the regression equation results in a significant F Ratio, E = .3102, $p<.01$, the experimental condition is contributing less variance than any of the other variables. Time is contributing more variance, significant at less than .01, than the other variables. See Appendix E for the regression table.

3.62 Humor. Humor was used as a dependent variable with the same independent variable set reported above in regression analysis. In this analysis, the overall F Ratio = 1.32, p = .238. The change in the variance explained by adding the independent variable conflict was .003, contributing less of the variance than the other variables, as described in Appendix F.

3.63 Laughter. The same regression analysis was completed as reported above, with the dummy variables as the independent set and laughter as the independent variable. The overall F Ratio was 2.086, p = .031. However, the independent variable conflict added .001 to the explained variance. See Appendix G for a summary of this analysis.

3.64 Exploratory Analysis of Tension Release. We conducted exploratory analyses of the effect of the conflict manipulation on tension release behaviors. As indicated, the three measures of tension release were laughter, humor, and expression of negative emotions. Analysis was conducted separately for times one and two. Time three was eliminated from this analysis since there was no significant difference between conditions in the expression of conflict at time three.

Analysis of the expression of negative emotions on days one and two indicates that one day one, there was significantly more negative emotion expressed in conflict management groups than in conflict resolution groups. On day two, there is no significant difference.

Table 19

Analysis of Variance
Negative Emotion by Conflict - Day 1

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.21	.21	6.97	.018
Within groups	16	.49	.03		
Total	17	.70			

Table 20

Analysis of Variance
Negative Emotion by Conflict - Day 2

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.04	.04	1.46	.245
Within groups	16	.49	.03		
Total	17	.53			

As discussed in the regression analysis of the negative emotion variable, the two dummy variables for time accounted for a significant portion of the variance in negative emotions. This can be understood more completely by looking at the table of means for this variable.

Table 21

Means - Negative Emotions

	Day 1	Day 2	Day 3
Conflict Resolution	2.6	3.3	22.9
Conflict Management	8.8	7.0	18.7
Overall Means	5.3	4.7	19.4

Thus, although the mean length of the interactions decreased over time, there were a greater number of negative emotions expressed at time three.

Analysis of the two other measures of tension release indicates that there are no significant differences by experimental condition.

Table 22

Analysis of Variance
Humor by Conflict - Day 1

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.02	.02	.662	.428
Within groups	16	.40	.03		
Total	17	.42			

Table 23

Analysis of Variance
Humor by Conflict - Day 2

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.13	.13	.919	.352
Within groups	16	2.29	.14		
Total	17	2.42			

Table 24

Analysis of Variance
Laughter Day 1 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.02	.02	.55	.47
Within groups	16	.65	.04		
Total	17	.67			

Table 25

Analysis of Variance
Laughter Day 2 by Conflict

Source	D.F.	S.S.	M.S.	F	P
Between groups	1	.03	.03	.125	.728
Within groups	16	3.40	.21		
Total	17	3.42			

3.7 Conclusions

The major conclusions which can be made from our analyses will be discussed in Chapter Four. These conclusions are:

(1) Manipulation of conflict was effective at times one and two but not at time three.

(2) Conflict management groups took significantly longer to solve the problem at time two than conflict resolution groups. There was no significant difference at the other two points in time.

(3) The null hypothesis that there is no difference in survival of conflict management and conflict resolution groups was not rejected.

(4) The null hypothesis that there is no difference between experimental groups in the accuracy of solutions was not rejected.

(5) The null hypothesis that there is no difference between experimental conditions in group member satisfaction was rejected. This was in the opposite direction as predicted, such that there was more satisfaction with solutions in the conflict resolution groups.

(6) The null hypothesis that there was no difference between experimental conditions in tension release behavior was not rejected for measures of tension release across the three points in time. For time one considered separately, however, there was significantly more expression of negative emotion in the conflict management groups, contrary to prediction.

CHAPTER FOUR

DISCUSSION AND IMPLICATIONS

4.1 Overview

This chapter discusses the conclusions drawn from results in Chapter Three and describes implications for future research. First, the experimental situation and the manipulation of conflict is discussed. Then, implications for support or non-support of the proposed hypotheses is described. Finally, directions for future research are suggested.

4.2 The Experimental Situation and the Manipulation of Conflict

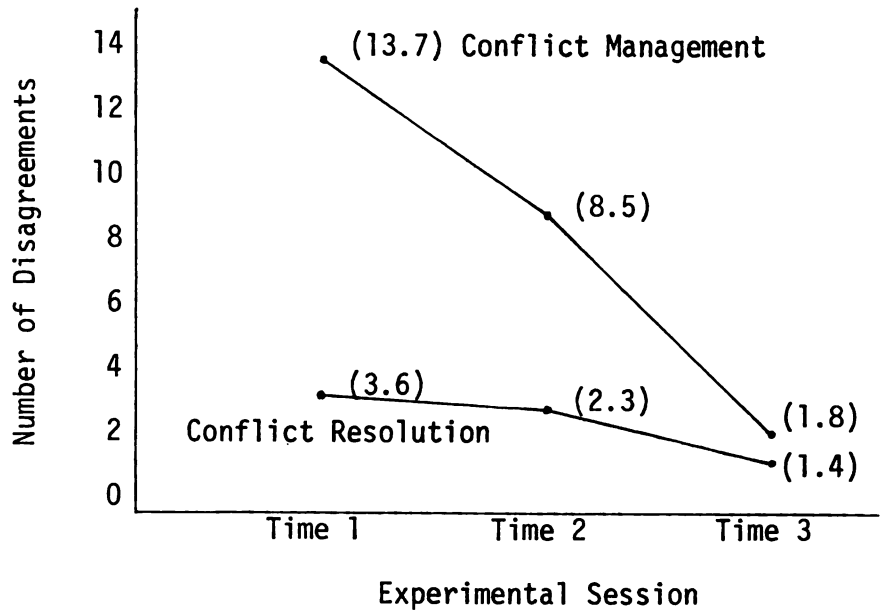
As described in Chapter Three, there was significantly more expression of disagreement in the conflict management condition than in the conflict resolution condition at times one and two. However, at time three there was no significant difference between conditions. This is illustrated in the following figure.

One interpretation of the differential effect of the conflict manipulation relates to the experimental situation at time three. As described, a midterm exam was being given the second hour of class, and two groups in the conflict management condition were not included in analysis because they quickly finished their exercise to study for the exam.

As described in Chapter Three, conflict management groups took significantly longer than conflict resolution groups to complete the time two exercise. In order to avoid another lengthy interaction, conflict

Figure 1

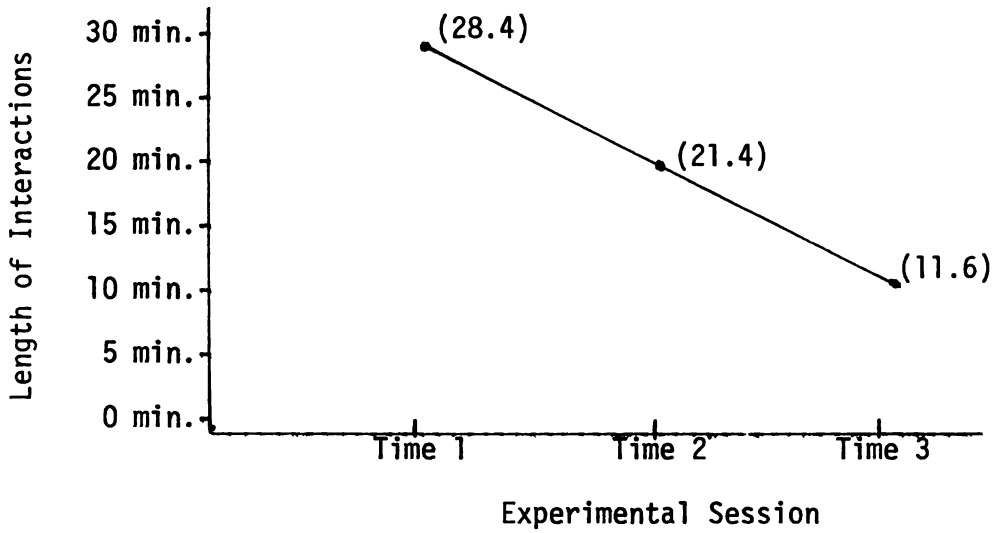
Number of Disagreements by Condition



management groups may have ignored rules to express conflict, creating more time to study for the exam. The following figure supports the idea that groups quickly finished the time three exercises in order to study.

Figure 2

Mean Length of Interactions Across All Groups



Based on the interpretation above, one would expect that under conditions of expediency, conflict would be resolved rather than managed. Rubin and Brown (1975), analyzing a number of bargaining situations, support this interpretation. They report that in many negotiation situations, conflict is managed until there is an expediency, at which point conflict is resolved.

Another interpretation of the results in Figure 1 is based on cultural norms regarding the expression of conflict. Individuals in the conflict resolution condition were given instructions that resembled normal behavior for most people in conflict situations. Individuals who were asked to manage conflict, however, were asked to break cultural

norms. Since it is difficult to break cultural norms, subjects may have returned to conflict resolution norms as their groups continued to interact over time.

It is also possible that individuals found that conflict management did not work, based on the nature of the task they were engaged in. As described, individuals were asked to arrive at a group decision, although they were told not to resolve conflicts. Several students indicated that this seemed like a double bind. In order to deal with a perceived discrepancy between reaching a group decision and managing conflict, students may have learned to ignore the conflict management instructions as their group continued to interact.

Another explanation for the decrease in the expression of conflict in the conflict management condition over time could be the nature of the problems which the groups worked on. At times one and two, the groups were involved in solving objective problems which were not ego-involving. The exercise at time three was designed to be more ego involving than the first two exercises. Based on research by Maier (1970), we expected that greater ego-involvement with the task would produce more conflict.

Since there was less expression of conflict at time three, this suggests that greater ego-involvement may <u>not</u> be associated with more willingness to express conflict. A number of groups at time three, as their group solution to how their project was to be graded, wrote as their solution, "You decide," "You know better than we do," or "Let another group figure it out." The consequential nature of the task may have produced a diffusion of responsibility. Also, it may have been more difficult to express conflict when the situation was not in the context of an

exercise, as it was at times one and two.

A number of alternative explanations exist for the decrease over time in the expression of conflict in the conflict management condition: (1) due to a midterm exam following the time three exercise, students may have ignored conflict management procedures in order to finish their task quickly; (2) students were breaking cultural norms by managing conflict, and returned to more comfortable conflict resolution norms; (3) a double bind was perceived between managing conflict and arriving at a group decision, and the contradiction was eventually removed by ignoring the conflict management rules; or (4) it was more difficult to manage conflict at time three because the task was more ego involving.

4.3 Survival

We failed to reject the null hypothesis that conflict management groups are more likely to survive than conflict resolution groups. We cannot infer lack of support for the underlying theory that conflict management has greater survival value than conflict resolution because of the failure of our manipulation at time three. Our measurement of survival depended on the conflict management norms being operational at all three points in time.

However, the survival variable can be used to interpret the behavior of groups at time three. At this point in time, there was survival value for the individuals to hurry through the exercise and study for the exam. Therefore, group survival was less important.

This analysis relies on the description of survival by Campbell (1965). He argues that there are two selection processes operating when individuals interact in groups, group survival and individual survival.

Often, these forces seem to be in opposition, so that an individual chooses either group-centered or individuated action.

We have not rejected the theory that conflict management strategies have more survival value than conflict resolution strategies. Rather, we hold that our experiment did not adequately test the hypothesis derived from this theory. This study raises some questions about conflict and survival which merit research attention.

One researchable question deals with Campbell's theory that individuated action is opposed to group-centered responses. We have suggested that under conditions where individual survival is threatened, individuals are more likely to use conflict resolution strategies than conflict management strategies. As it is relevant to many situations involving international bargaining, this proposition merits empirical investigation.

4.4 Accuracy

We failed to find a difference between conflict management and conflict resolution groups in the accuracy of solutions. Our hypothesis that conflict management groups would produce more accurate solutions than conflict resolution groups was based on the theory proposed by Weick (1969) that groups managing conflict produce "superior" solutions to problems than groups resolving conflict. Janis (1972) suggests that groups which express conflict are more rational. Although it was not hypothesized, analysis shows no significant difference between conditions in the number of times rational arguments or explanations are used.

Further research is necessary to investigate the effects of conflict management strategies on solution quality. A number of researchers

have suggested that solutions to problems are "superior" when conflict management techniques are used, but have not specified what is meant by a superior solution.

Although we have failed to show significant differences between conflict management and conflict resolution groups in the accuracy of solutions, accuracy is only one criterion which can be used to evaluate solutions. Solutions to problems vary according to their acceptance, short term utility, long range effects, creativity, accuracy, or other criteria. The effect of conflict management on all types of solutions needs to be studied before conclusions can be drawn about the relative superiority of solving problems using conflict management strategies.

4.5 Satisfaction

Our null hypothesis was rejected for one measure of satisfaction, satisfaction with group solutions. However, this was in the opposite direction as predicted. That is, individuals reported significantly more satisfaction with the solutions reached in the conflict resolution groups than in the conflict management groups. The other measure of satisfaction, approaching significance, indicates that individuals in the conflict resolution groups were more satisfied with the interaction in their group than individuals in the conflict resolution groups.

Since these measures were taken after the time three interaction, they need to be interpreted with caution. Tentatively, the results we obtained may be explained in terms of the tasks the groups were engaging in. In all of the tasks in this experiment, groups were asked to arrive at a group solution. The easiest, quickest way to reach a solution was to resolve conflicts which occurred. In the discussion following all

three exercises, an individual in the conflict management condition said that he felt like he was in a "Catch 22" situation. That is, if the groups obeyed instructions and maintained conflicting points of view, they would be unable to arrive at a group solution.

Another explanation of the tentative finding that conflict management groups were more satisfied with group solutions is that the expression of conflict increased individuals' awareness that there were alternative solutions to the problem. Group members were also aware that with any solution chosen, there would be some dissent among others in the group. In conflict resolution groups, on the other hand, there would be apparent consensus with any solution.

Our finding that conflict resolution groups were more satisfied with solutions than conflict management groups relates to Weick's discussion about the processes which take place in participative decision making groups. He argues that such groups are not really participative because the norm is conflict resolution. However, Weick observes that participants in such groups feel satisfied, since there is apparent consensus and positive feeling between group members.

The findings do not represent evidence against Simmel's theory about the satisfaction inherent in expressing conflict, but cause us to look more closely at the situations in which conflict occurs. Most of the groups which Simmel discusses are religious, political, or have some kind of ideological commitment. Thus, the goals of these groups are socio-emotional, or have a strong socio-emotional component. The groups studied had primarily task-oriented goals. Group member satisfaction in relationship to the expression of conflict needs to be studied in socio-emotional groups to adequately test Simmel's theory.

4.6 Tension Release

The hypothesis that there would be more tension release behaviors in conflict resolution groups than in conflict management groups was not supported. However, exploratory analysis of the data revealed that at one point in time, there was significantly more expression of negative emotion in the conflict management groups than in the conflict resolution groups, contrary to our prediction. Negative emotions were defined as any hostility expressed through tone of voice, so that overt disagreements were not coded within this category.

There are several explanations for this finding. One is that the procedural rules themselves generated more tension and hostility than the conflict resolution rules. The normal mode of operation in small groups, especially in the classroom, is to resolve or avoid conflict, so procedural rules stressing conflict resolution were probably easy to follow. Since it is less common for groups to manage conflict, following conflict management rules might have been difficult, generating hostility when individuals were first asked to use them.

Another explanation for greater expression of negative emotion in the conflict management group relates to the nature of the task, as described earlier. The groups were engaged in arriving at a group solution, although they were told not to resolve conflicts. The apparent contradiction in these two procedures may have generated hostility.

Our hypothesis about tension release behavior was derived from Coser's theory that when conflict is suppressed hostility is generated, which is indirectly expressed. Coser's theory needs to be tested in groups where there are socio-emotional, as well as task, goals. We suggested that hostility may have been generated over the expression of

conflict because such behavior seemed contradictory to arriving at a group solution. In situations where there is no group solution required, Coser's theory may be applicable.

4.7 Research Extension

Further research is necessary investigating the conditions under which conflict management is a desirable strategy in small groups. The groups studied in this investigation were task oriented, and were asked to reach one group decision. In addition, groups were given a somewhat limited amount of time during which they completed their exercises. In groups operating under different conditions, conflict management may be a more desirable strategy.

Groups with socio-emotional goals need to be investigated. In such groups, conflict management strategies may offer greater individual member satisfaction than conflict resolution strategies.

Further investigation is also needed with task-oriented groups which have various goals. Although conflict management strategies may be undedirable when a group decision must be reached in a limited amount of time, groups which do not need to reach consensus or do not have time limitations may benefit by using conflict management strategies.

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APPENDICES

APPENDIX A

GROUP SIZE OVER TIME

APPENDIX A

GROUP SIZE OVER TIME

	Number of People		
Group Number:	Time 1	Time 2	Time 3
1	1	4	4
2	5	5	5
3	5	5	5
4	4	4	4
5	5	5	5
6	3	3	3
7	4	3	3
8	4	4	4
9	5	4	4
10	3	3	3
11	4	4	4
12	4	4	4
13	3	missing	3 (from q'aire)
14	missing	4	4 (from q'aire)
15	5	5	5
16	3	3	3
17	4	4	4 (from q'aire)
18	4	4	4
19	4	4	4
20	3	3	3

APPENDIX B

THE SEARCH FOR LEADERSHIP TRAITS

APPENDIX B

THE SEARCH FOR LEADERSHIP TRAITS

Between World War I and World War II, psychologists were primarily interested in studhing and measuring personality traits. A great deal of research took place which attempted to look for personality traits which characterized leaders. Below is a description of some of the important findings in the search for leadership traits, which extends into current research studies.

Height. Caldwell and Wellman (1926) found that girl leaders were above average height; athletic captains and class presidents were the tallest boy leaders; while magazine representatives were among the shortest in the class. Gowin (1915) found that executives in insurance companies were taller than policyholders, that bishops were taller than clergymen, that university presidents were taller than college presidents.

Appearance. Partridge (1934) studied Boy Scout leaders and found a strong positive relationship between appearance ratings and leadership. Ackerson (1942) found that slovenliness and leading others in misconduct were highly related for both delinquent girls and delinquent boys.

Intelligence. Catell and Stice (1954) find that problem-solving leaders were significantly more intelligent than nonleaders. Sociometric or popular leaders show no difference from nonleaders in respect to intelligence. Gibb (1969) reports that in routine, mechanical or practical activities, leaders are no more intelligent than nonleaders.

Self Confidence. (1) Cowley (1928) found self-confidence to be one factor to be possessed in common by three widely different types of leaders. (2) Cox (1926) found that great leaders are characterized by such traits as self-confidence, self-assurance, and self-knowledge. (3) Bellingrath (1930) reported a high correlation between teacher ratings of self-confidence and leadership status for 224 boys. (4) Gibb (1947) reports a strong association between interviewer ratings of self-confidence and selection for military leadership.

Personality Adjustment. Cattell and Stice (1954) found an absence of anxious worrying differentiated leaders from non-leaders, although this relationship did not hold for sociometric popular leaders. The same researchers found that deliberate will control (determination, stability of purpose and organizational precision) distinguished leaders from non-leaders. Deliberate will control was particularly characteristic of problem-solving leaders.

Dominance. Jennings (1950) in a study of 400 institutionalized girls, found that dominant, aggressive people tend to be isolated rather than chosen or given the role of leader (ratings of dominance were based on complaints to the housemother in this detention home). Hunter and Jordan (1939) in their comparison of leaders with non-leaders among college students found leaders significantly more dominant than non-leaders.

Authoritarianism. (1) Bass (1954) looked at the relationship between authoritarian personality traits and the emergence of leaders in initially leaderless groups. The extremely rigid, authoritarian, and conservative personalities displayed little leadership. The extremely

equalitarian person also did not emerge as a leader, while moderately equalitarian persons emerged as leaders. (2) Gilmore (1955) found that sociometric or popular leaders were more equalitarian than nonleaders. (3) Hollander suggests that people who are authoritarian probably lack social intelligence or social perception. (4) Groups of highly authoritarian people usually choose highly authoritarian leaders, whereas groups of low authoritarian people usually choose low authoritarian leaders (Haythorn, 1956).

Empathy. Gage and Exline (1953) found that task leaders in laboratory discussion groups were not more empathic than nonleaders. (2) Meyer (1955) reports that good leaders perceive group members with goals, motives, and feelings of their own; whereas poor leaders are more likely to see people in relation to their own motives and goals. (3) Mann (1959) reviewed 16 studies on the sensitivity of leader(s) and found that 15 of the studies showed that leaders were significantly more sensitive than nonleaders.

Additional Studies. (1) Schrag (1954) found that leaders selected by sociometric or popular criteria in a prison among prison inmates were more rebellious, neurotic, and psychopathic than nonleaders. They also were involved in more cases of attempted escape, fighting, assault and were more likely than nonleaders to be convicted of violent crimes than were nonleaders (this prison was maximum security). (2) Grusky (1959) working in a small minimum security prison where treatment was a dominant goal, found that popular leaders who emerged among prison inmates were more cooperative and less hostile than nonleaders.

APPENDIX C

APPENDIX C

For the group project, I would like to place you with people you like to work with. First, name the people in your small group, and beside each name indicate how much you would like to work with them for the rest of the term. Use the following scale:

> If 100 units is the average amount of liking and zero units is the complete absence of liking, how much would you like to work with each person?

If you would like to work with the person twice as much as average, your answer would be 200 units. If you would like to work with the person half as much as average, your answer would be 50 units. Choose any whole number you wish.

Group Members	Amount you would like to work with person for the rest of the term
1.	
2.	
3.	
4.	
5.	

Name five people you would like to work with on the class project for the rest of the term, in order of preference. They can be people now in your group, or other people in the class. I will put you in groups of 9 for the class project, and I will try to put you in groups of people you choose. Indicate no preference if you have no choice.

1.

2.

3.

4.

5.

(You do not have to answer all of the choices if you only have three people you would like to work with. You would list three people and indicate no choice for numbers 4 and 5.)

I would like some specific information on how you liked working in your groups so far. Use any whole number.

If 100 units is an average amount of satisfaction, and zero is the complete absence of satisfaction, how satisfied were you with the solutions reached by your group?

_____ units

If 100 units is an average amount of satisfaction, and zero units is the complete absence of satisfaction, how satisfied were you with the interaction in your group?

_____ units

If 100 units is an average amount of satisfaction, and zero units is the complete absence of satisfaction, how satisfied were you with the amount of influence you had in your group?

_____ units

If 100 units is an average amount of liking and zero units is the complete absence of liking, how much would you like your entire group to stick together for the rest of the term?

_____ units

If 100 units is an average amount of liking and zero units is the complete absence of liking, how much did you like the procedural rules used in your group?

_____ units

If 100 units is an average amount of closeness and zero units is the complete absence of closeness, how close do you feel to others in your group?

_____ units

If 100 units is an average amount of satisfaction and zero units is the complete absence of satisfaction, how satisfied would you be if all of your group members worked with you on the group project?

_____ units

If 100 units is an average amount of satisfaction and zero units is the complete absence of satisfaction, how satisfied would you be if none of your group members worked with you on the group project?

_____ units

APPENDIX D

APPENDIX D

Instructions: Rank the following occupations according to the prestige which is attached to them in the United States. Place a "1" in front of the occupation which you feel to be the most prestigious, etc., all the way to "15," least prestigious.

_____ Author of novels

_____ Newspaper columnist

_____ Policeman

_____ Banker

_____ U.S. Supreme Court Justice

_____ Lawyer

_____ Undertaker

_____ State Governor

_____ Sociologist

_____ Scientist

_____ Public school teacher

_____ Dentist

_____ Psychologist

_____ College professor

_____ Physician

APPENDIX E

INDEPENDENT VARIABLES WITH NEGATIVE EMOTIONS

APPENDIX E

INDEPENDENT VARIABLES WITH NEGATIVE EMOTIONS

Variable	F	Sig.	R^2	R^2 Change
D2	1.268	.269	.081	.081
T1	36.718	.000	.213	.132
D4	1.533	.225	.216	.002
D5	.480	.494	.218	.000
D6	1.423	.242	.231	.001
D7	2.760	.107	.253	.013
D8	3.281	.080	.253	.021
D9	.552	.463	.254	.000
D10	1.087	.305	.256	.002
D11	1.654	.208	.257	.002
D12	1.248	.272	.257	.000
D13	2.099	.157	.262	.005
D14	1.756	.185	.266	.004
D15	.944	.339	.266	.000
D16	2.586	.118	.280	.014
D17	3.118	.087	.309	.028
D18	.451	.507	.310	.001
D19	.752	.392	.314	.005
T2	35.092	.000	.676	.361
D3	.161	.691	.680	.003
Conflict	.070	.793	.680	.000

Overall F .3145

F prob. .002

APPENDIX F

INDEPENDENT VARIABLES WITH HUMOR

APPENDIX F

INDEPENDENT VARIABLES WITH HUMOR

Variable	F	Sig.	R^2	R^2 Change
D2	.041	.841	.007	.007
T1	3.71	.063	.052	.045
D4	1.47	.234	.063	.011
D5	.056	.815	.069	.005
D6	.118	.733	.072	.003
D7	.056	.815	.079	.007
D8	.412	.526	.079	.000
D9	.041	.841	.088	.010
D10	.029	.867	.100	.002
D11	.419	.522	.103	.012
D12	8.29	.007	.344	.241
D13	.010	.920	.345	.001
D14	.019	.891	.345	.000
D15	.229	.636	.359	.013
D16	.021	.885	.363	.004
D17	.004	.947	.368	.004
D18	2.62	.115	.440	.072
D19	.008	.932	.440	.000
T2	1.05	.313	.458	.018
D3	.764	.389	.468	.010
Conflict	.173	.681	.471	.003

Overall F 1.316

Significance .238

APPENDIX G

INDEPENDENT VARIABLES WITH LAUGHTER

APPENDIX G

INDEPENDENT VARIABLES WITH LAUGHTER

Variable	F	Sig.	R^2	R^2 Change
D2	.257	.616	.009	.009
T1	11.08	.002	.144	.135
D4	.010	.920	.144	.000
D5	.262	.162	.150	.005
D6	.049	.827	.150	.000
D7	.715	.404	.169	.018
D8	.609	.441	.186	.017
D9	.112	.729	.188	.002
D10	.759	.390	.210	.021
D11	.523	.475	.214	.004
D12	7.448	.010	.389	.175
D13	.111	.741	.392	.002
D14	.273	.605	.400	.008
D15	1.16	.289	.432	.032
D16	.256	.617	.443	.011
D17	.445	.510	.467	.024
D18	.001	.974	.471	.004
D19	.241	.627	.503	.032
T2	1.29	.265	.520	.017
D3	3.11	.087	.585	.064
Conflict	.074	.778	.586	.001

Overall F 2.086

Significance .031