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The Effect of the Type A Coronary Behavior Pattern on Intergroup Conflict Reduction

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The Effect of the Type A Coronary Behavior Pattern on Intergroup Conflict Reduction

A Thesis

Presented to

the Faculty of the Department of Psychology

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by

Ian Andrew Clarke Beckford

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The Effect of the Type A Coronary Behavior Pattern on Intergroup Conflict Reduction

Ian A. Beckford August 1987 90 pages

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The purpose of the present study was to examine the effect of an individual difference variable (the Type A/B coronary prone behavior pattern) on intergroup conflict reduction. Undergraduates were first characterized as Type A/B based on a pretest. They then participated in a study that consisted of the presentation of two conflict-inducing tasks to each of two groups homogeneous with respect to the A/B dimension. There were three conditions in the study: sessions in which the groups were composed exclusively of "A"'s or "B"'s, and sessions which consisted of "A"'s and "B"'s. The two groups competed with one another on these tasks with the assumption that the group that produced the best product would be awarded extra credit. This conflict-inducing stage was followed by the presentation of two superordinate tasks, which required both groups to work together in order to gain a reward. Questionnaires were administered before and after the presentation of the superordinate tasks. These questionnaires assessed interpersonal attraction, tasks, and general processes. It was hypothesized that groups composed of Type "A"s would have less increase in attraction scores after completing

the superordinate task than would groups composed of Type "B"'s or groups composed of Type "A"'s and Type "B"'s. In other words, the superordinate goal would be less effective in reducing intergroup conflict with Type "A" groups than Type "B" groups. Although no significant differences were found in attraction or cooperation ratings among the three conditions (AA, AB, BB), the trend of the group means offered some support for the initial hypothesis. However, AA conditions did indicate the perception that they were in more control during the study than did AB or BB conditions. This finding is consistent with the results found in studies assessing Type "A"'s perceptions of control (e.g. Sanders and Malkis, 1981). The clearest finding was that the superordinate goal was effective in reducing intergroup conflict. For example, all groups increased their ratings of outgroup members over time. Finally, the effect that individual difference variables can have on intergroup conflict and on the functioning of groups is discussed.

Chapter I

Introduction and Literature Review

Conflicts between groups are commonplace, both generally and in industrial settings. Some relevant instances would be conflict between different departments in an organization (e.g, sales vs. production), or conflict between labor and management. Given how widespread intergroup conflict is, it is especially important to study ways of reducing it. A large amount of research has been conducted on various techniques for reducing intergroup conflict. The results have led to the development of several strategies for decreasing intergroup conflict (e.g. presenting superordinate goals, individuation of the outgroup; Wilder, 1986).

Surprisingly, researchers have largely ignored the role of individual difference variables in intergroup conflict reduction. Usually, individual difference variables have been controlled so as to reduce error variance. For example, Sherif (1961) in his classic Robber's Cave experiment, made sure all the subjects were as similar as possible in background. Group researchers have studied groups as if they were relatively homogeneous units. However, groups are made up of individuals who are

not the same. Differences between people may affect both intragroup and intergroup processes. In the intergroup context, it is possible that individual difference variables could either facilitate or inhibit conflict reduction.

One individual difference variable that seems particularly relevant to the intergroup conflict area is the type A/B coronary prone behavior pattern. According to Friedman and Rosenman (1974), the Type A behavior pattern may be defined as " an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other people" (p.67). The Type B behavior pattern may be defined as the absence of the Type A pattern. The Type A characteristics (hostility, competitiveness, etc.) have obvious interpersonal implications. As will be discussed below, they may also affect intergroup relations.

CAUSES OF INTERGROUP CONFLICT

Before one can address the issue of conflict reduction, one must first examine the factors that cause intergroup conflict. Two postulated causes that have received particular attention include competition over limited resources and social categorization (Forsyth, 1983).

Competition over limited resources has been the cause of many conflicts. As a result, groups try to attain desired resources and try to prevent other groups from reaching their goals. This idea is the central hypothesis of the realistic group conflict theory and has been supported in many studies (e.g. Sherif, 1961). Blake and Mouton (1970, 1979) evaluated the performance of executive's in a two week management training program in which they were to solve problems. Although the researchers never mentioned evaluating the executives' performance, the executives felt they would be evaluated, and these perceptions affected their performance. Blake and Mouton deduced that the business atmosphere and the fact that people were separated into groups induced competition and, in turn, intergroup conflict. These businessmen became very involved in winning. Leaders who helped their groups win became influential and those who did not were replaced (Forsyth,1983).

Another postulated cause of conflict between groups is social categorization (Tajfel, 1971). The mere perception of belonging to two distinct groups has been sufficient to trigger intergroup discrimination. One explanation for social categorization can be found in social identity theory. In order to obtain a positive sense of self, people compare their group with relevant other groups and act to create a favorable distinction between the groups (Wilder,

1986). According to Tajfel, one's desire for a favorable social identity causes one to favor the ingroup.

A study that illustrates this concept, using the minimal intergroup paradigm, (categorization on an irrelevant characteristic) was conducted by Tajfel, Billig, & Bundy (1971). In this study, subjects were divided into two groups based on their preferences for paintings. Subjects were required to divide monetary rewards between members of their own group and the outgroup. Subjects invariably favored the ingroup in the distribution of rewards. Based on this study, Tajfel concluded that the mere categorization of people into groups is sufficient to cause bias. Another example of categorization was illustrated in the Robber's Cave experiment. The Sherifs (Sherif et al., 1961, p. 94) "note that intergroup conflict began to develop between the two groups even before the idea of a competitive tournament was mentioned (Forsyth, 1983, p. 379)." Allen and Wilder (1975) also illustrated the bias-causing effects of the minimal group paradigm. In their study, subjects were placed into two groups and told that ingroup/outgroup members were similar or dissimilar to them. They found that subjects favored ingroup members when distributing rewards across all conditions. The authors concluded that the categorization of people into groups was enough to produce some discrimination favoring the ingroup at the expense of the outgroup. They also found that

ingroup belief similarity and dissimilarity did significantly affect discrimination. In other words, ingroup favoritism was highest when ingroup similarity was highest and attenuated when the ingroup possessed dissimilar beliefs. It might be postulated that the reason ingroup favoritism was highest when ingroup similarity was highest was because ingroup similarity strengthened ingroup members social identities. Knowing that people have views similar to your own may give you a positive sense of self (self-esteem).

INTERGROUP CONFLICT REDUCTION

Just as there are different ways to explain conflict between groups, there are also a number of techniques postulated to reduce conflict. One technique that has been used is removing the cause of the conflict. This technique does not always work, however, because people often remain hostile toward one another. One reason this occurs is because of a lack of communication between the groups. Newcomb (1947) developed the term "autistic hostility" to describe this situation. According to Newcomb, this lack of contact cements the conflict. To reduce conflict, the groups need to be in active contact with one another (Austin & Worchel, 1979). Conflict reduction will not occur if groups are not communicating.

Another technique that has been suggested is to somehow individuate the outgroup (Wilder, 1986). When there

is conflict between groups, it is easy for members of both groups to deindividuate (treat as similar) the members of the outgroup. Deindividuation only serves to increase one's disdain for the outgroup. However, if one is able to show that at least one outgroup member is different from the others, individuation may lead to better relations between the groups. As Wilder (1986) states, "the individuation of the group reduces the perceiver's reliance on the group category as a determinant of his or her behavior" (p.319). Along these lines, the careful examination of outgroup behavior should result in differentiation. Differentiation will allow one to see the group as more heterogeneous than initially assumed.

Presenting an external treat has also been demonstrated to decrease intergroup conflict (e.g., a common enemy; Worchel, 1979). The external threat should be something that allows the groups to set aside and work to overcome their differences. However, there are some problems with this technique. First, it does not decrease conflict, it only redirects it (Sherif et. al., 1961). In fact, it may increase conflict. Instead of conflict between the two initial groups, there may be increased conflict between these combined groups and a third group. Secondly, this technique may only result in a temporary reduction in conflict. When the external threat is gone, the original groups may resume their hostile actions toward each other

(Worchel, 1979).

Like the common enemy technique, superordinate goals redirect a group's attention. However, this is done in a different way. The common enemy technique redirects a group's attention to a new threat (e.g, a second, more threatening group). Superordinate goals redirect a group's attention to some desired task on which they cooperate with the outgroup. As a result, superordinate goals have been suggested as a viable technique for decreasing intergroup conflict. Superordinate goals are defined as goals that encompass all parties caught in dispute/conflict, which cannot be fulfilled by the resources and energies of the parties separately, but require the concerted efforts of all parties involved (Sherif et al., 1961; Worchel, 1979). In striving to accomplish a superordinate goal, the ingroup and outgroup are in contact. As a result, both groups have an opportunity to see that they are not as different as they first thought. Decreased feelings of dissimilarity lead to individuation of the outgroups. As an example of the use of superordinate goals, in Sherif's Robber's Cave experiment, the staff secretly sabotaged the camp's water supply. The campers were told that they would have to combine resources in order to solve the problem. As a result, the boys did unite to solve the water problem, as well as other problems (e.g., pulling a truck out of the mud). It would appear that superordinate goals would be

effective, especially if the goal/incentive is very attractive.

Superordinate goals are not an alternative to other measures in the reduction of intergroup conflict. As suggested by Sherif and the above discussion, there is no reason to believe that these techniques are mutually exclusive. The most effective strategies may be a combination of various techniques. For example, one might want to combine reducing threat potential, open communication, exchange of information, and superordinate goals in order to reduce intergroup conflict (Worchel, 1979).

Many of the previously mentioned techniques will be successful because they allow groups to come in contact with one another. Unlike categorization, which separates groups, these techniques allow groups to interact. This interaction allows group members to see that they are similar to members of the other group. Worchel, Axsom, Ferris, Samaha, & Schweiizer (1978), hypothesized that cooperation allows individuals to see themselves as belonging to a new larger group. As a result, old group boundaries are redefined, thus allowing increased interpersonal attraction to occur. In addition, by decreasing intergroup boundaries (using previously discussed techniques) an individual does not have to depend solely on the members of his group for a positive social

identity (self-esteem needs). For these reasons, the techniques that propose contact and cooperation (e.g., superordinate goals) will probably be most successful at decreasing intergroup conflict.

INDIVIDUAL DIFFERENCES

The role that individual difference variables play in the reduction of conflict is one that is little understood and potentially important. Specifically, if one knew the role that personality variables played in the reduction of intergroup conflict, it would be beneficial to society. For example, perhaps people are more (or less) proficient at intergroup conflict reduction based on their level of self-esteem. Those group members that are high in self-esteem may be more able to reduce conflict between groups because they do not mind taking the initiative in conflict reduction. People with high self-esteem may take the initiative because they are not as dependent on the group for a positive self image as someone who is low in self-esteem. People who are low in self esteem may be afraid to take the steps needed to reduce intergroup conflict because of repercussions from in-group members.

TYPE A/B BEHAVIOR PATTERN

The individual difference variable of interest in this study is the Type A coronary prone behavior pattern. This pattern was empirically determined by Friedman and Rosenman (1974), based on their observations of cardiac patients.

Because of the lack of success they had had predicting heart disease from traditional risk factors (smoking, hypertension etc.), Friedman and Rosenman looked to behavioral characteristics that might characterize cardiac patients. They found that, indeed, their cardiac patients possessed certain behavioral characteristics not possessed by their other patients. As a result of their observations, the following definition of the type A behavior pattern was formulated: "an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other people" (Matthews, 1982, p.293). Some of the observable characteristics include impatience with slowness, concentrating on more than one thing at a time, accelerated speech, a sense of time urgency, easily aroused hostility, and competitive achievement (Matthews, 1982). The hostility and competition components, in particular, will become relevant later in our discussion of intergroup conflict reduction.

The type A behavior pattern is not considered to be a trait in the traditional sense of the word, but rather a set of overt behaviors that certain people are susceptible to demonstrating under certain circumstances (Matthews, 1982). Also, this behavior pattern is not thought to be a discrete behavior pattern but a continuum of behavior

ranging from extreme Type A to extreme Type B (which is the antithesis of Type A).

Some people feel that Type "A" behavior characteristics are mainly a reaction to the environment (Manuck & Krantz, 1984). Others claim that Type "A"s select, perceive, and actively influence their environment in ways that contribute to stress in their lives. In their "transactional" approach to Type "A"s behavior and physiological reactivity, Smith and Rhodewalt (1986) propose Type "A"s possess a set of stressful coping behaviors that are elicited by challenging situations. In addition, Type "A"s through their choices act upon their environment in ways that will influence the frequency, duration, and intensity of stressors. This model has been supported by research evidence in each of five domains: choice of situations, appraisal of situations, coping during task performance, interpersonal relationships, and self evaluation. Each of these domains will be briefly reviewed below.

CHOICE OF SITUATIONS

Both correlational and experimental evidence suggests that Type "A"s choose to enter into challenging and stressful situations (Smith & Rhodewalt, 1986). In one study, it was determined that Type A college students carry more credits and spend more time in unpaid activites while expecting a higher GPA than Type "B"s (Ovcharchyn, Johnson,

& Petzel, 1981). Type "A"s often make choices that result in a more demanding situation. For example, when under stress they often prefer to work alone (Strube & Werner, 1985; Miller, Lack, & Asroff, in press). They also prefer not to relinquish control to another person even when that individual is better able to perform the task (Miller, et. al., 1985). Finally, studies have shown that Type "A"s prefer to work on more difficult tasks. In addition, as they work on these tasks, they exhibit greater cardiovascular arousal than Type "B"s (Smith & Rhodewalt, 1986).

APPRAISAL OF SITUATIONS

Type "A"s, relative to Type "B"s, perceive situations as more challenging (Smith and Rhodewalt,1986). For example, they feel that their parents and employers expect more from them (Ovcharchyn et al., 1981; Mettlin, 1976). As a result, Type "A"s set higher standards for themselves (Grimm & Yarnold, 1984).

COPING DURING TASK PERFORMANCE

Once people are involved in a stressful situation, the way they cope with the situation will influence the immediate experience and the duration of the stressor (Smith & Rhodewalt, 1986). Type "A"s employ active problem-focused coping behaviors rather than passive or avoidant strategies (Vingerhoets, & Flohr, 1984). Type "A"s find that moderately controllable situations are the most

psychologically and physically disruptive (Rhodewalt & Agustdottir, 1984; Rhodewalt, Hays, Chemers, & Wysocki, 1984). Psychological and physical disruption occurs because moderately controllable situations require the most effort. As stated previously, when under stress Type "A"s prefer to work alone. Working alone increases task demand and reduces the potential stress buffering benefits of social support (Smith & Rhodewalt, 1986).

INTERPERSONAL RELATIONSHIPS

Interpersonal relationships are yet another area where Type "A"s initiate stressful behavior. Survey data from spouses and managers support this claim (Burke, Weir, & DeWors, 1979). Wives of Type "A"s indicated that they were less satified with their marriages than wives of Type "B"s. Wives of Type "A"s also indicated that they interacted with friends less, and expressed more depression than wives of Type "B"s (Smith & Rhodewalt, 1986).

SELF EVALUATION

Type "A"s differ from Type "B"s in their self evaluations in two ways. First, in some instances Type "A"s evaluate themselves more negatively than Type "B"s. Given objectively equal levels of performance, Type "A"s report being less satisfied (Manuck & Garland, 1979). Type "A"s feelings of dissatisfaction may occur because Type "A"s focus more on negative aspects of their performance than Type "B"s. Secondly, Type "A"s differ from Type "B"s in

their attribution for negative events. Type "A"s cite internal causes while Type "B"s cite external causes, (Smith & Rhodewalt, 1986). Again one can see how Type "A"s' desire to be in control causes them to take responsibility for things they do not complete successfully.

The literature reviewed above, then, suggests that Type "A"'s react differently to stressors. Type "A"s' also actively construct situations that are likely to elicit high levels of physiological reactivity (Smith & Rhodewalt, 1986).

PROBLEM

As stated previously, no research has been done on the Type A/B behavior pattern in the intergroup context. Most of the research directed toward this behavior pattern has been at the individual or dyadic level (Van Egeren, 1979). This lack of research in the intergroup context is surprising given the implications of the core A/B characteristics (e.g., hostility, competitiveness).

One interesting study dealing with the Type A/B behavior pattern in dyadic groups looked at pairs of Type A and Type B individuals in a Prisoner's Dilemma game (Van Egen, 1979). The study was focused on the communication patterns of Type A/Bs. The results of the study demonstrated that Type "A"s elicited the anger and competitiveness of both Type "A"s and "B"s (Van Egeren,

1979). In fact, Type "B"s were just as aggressive as As when interacting with Type "A"s. This study demonstrated that Type A individuals can cause others to become aggressive when they interact with them. It might be hypothesized that as a result, Type "A"s would also become more aggressive (Matthews, 1982).

Another study with implications for intergroup behavior was reported by Sanders & Malkis (1981). Because it is one of the few group studies in which A/B differences are examined, it will be mentioned in some detail. In this study, Type A/B individuals solved various problems in a group setting. Specifically, subjects conducted group discussions to help generate solutions to academically related problems to observe how Type "A"s would function in a group setting. The authors also manipulated problem importance and incentive for good solutions to see how this would affect Type "A"s group participation.

The first hypothesis was that because of Type "A"s' desire to control the group a greater proportion of "A"s would be seen as leaders than "B"s. This hypothesis was confirmed. The second hypothesis stated that Type A leaders would generate poorer quality solutions after participating in a group discussion than Type "B"s leaders. Poorer solutions would result because Type A leaders would be too busy trying to lead to worry about quality. This hypothesis was also confirmed in the study. The third hypothesis

stated that the addition of a social esteem incentive would intensify "A"s' efforts to exert control so as to guarantee a valuable group discussion. As a result, there would be a greater percentage of A leaders in the incentive group than the non-incentive group. This would occur because "A"s would be more responsive to valued incentives than Type "B"s (Blumenthal, McKee, Haney, and Williams, 1980). This hypthesis was not confirmed. The final hypothesis stated that the esteem incentive would increase the proportion of least helpful "A"s because Type "A"s who are frustrated because they are not leaders may be even more angry when they see that they can not gain the esteem to which other members have access. This hypothesis was supported for females.

From this study it seems as though there is at least some evidence that Type "A"s have a need to demonstrate control in a group setting. However, there were some contradictions. In general, Type "A"s were seen as more helpful than Type "B"s. This result contradicts the expected behavior of Type "A"s, especially in situations in which they are frustrated. Sanders and Malkis (1982) concluded that the coronary prone behavior pattern seemed to have a significant influence on group dynamics.

The A/B behavior pattern may also have a significant effect on intergroup dynamics. However, neither a computer based nor a manual based literature search conducted by the

author revealed any previous research on Type A/B and intergroup dynamics, including intergroup conflict reduction.

PRESENT STUDY

Because of the paucity of past research, the present study should be seen as a first step toward understanding the relationship between the Type A coronary prone behavior pattern and intergroup conflict reduction. Predictions were made, but those predictions were considered tentative given the scarce and sometimes contradictory nature of past research. For example, it was argued that groups composed of Type "A"'s (vs Type "B"'s) would be less successful at intergroup conflict reduction because of the hostile, aggressive nature of the individuals who compose those groups. Recall that Van Egeren (1979) found, in a Prisoner's Dilemma game dyadic situation, that Type "A"'s were not only more competitive than "B"'s, "A"'S brought out aggressive reactions in other "A"'s and "B"'s. One could easily imagine a spiral of competition that would become greater as each side retaliated. Also recall that studies on the interpersonal relationships of others with Type "A"'s have shown that those who interact with "A"'s express less satisfacion and more depression. On the other hand, Type "A"'s are also very goal-directed and might therefore work harder than "B"'s to achieve superordinate goals, especially if the incentives were sufficiently

attractive. "A"'s are more responsive to valued incentives (Blumenthal et al., 1980). If "A"'s, to achieve the valued incentive, worked harder than "B"'s, Type "A"'s could be viewed as more attractive and cooperative than Type "B"'s. Sanders and Malkis (1981), in their study of group discussions, did find that "A"'s were perceived as more helpful than "B"'s. Finally, if reduced tension itself were seen as a goal, Type "A"'s might work hard to achieve the goal and be able to set aside whatever general tendencies they had toward aggression. Thus, conflicting predictions were possible.

To examine the influence of the Type A/B classification on intergroup conflict reduction, a conflict-inducing situation was presented to two groups, the composition of which varied across three conditions: two groups composed exclusively of Type "A"'s, of Type "B"'s, or one of each type. After conflict had been aroused the groups were presented with a superordinate goal. Changes in intergroup attraction were assessed to determine the differential success of the superordinate goal according to the Type A/B group composition.

The major hypothesis evaluated in this study was as follows:

1. IF ONE CONSIDERS THE SUCCESS OF SUPERORDINATE GOALS TO BE CONTINGENT ON THE INCREASE IN OUTGROUP ATTRACTION RATINGS AFTER TWO GROUPS HAVE INITIALLY COMPETED,

SUPERORDINATE GOALS WILL BE LEAST SUCCESSFUL WITH TWO GROUPS EACH COMPOSED OF TYPE A INDIVIDUALS AND MOST SUCCESSFUL WITH TWO GROUPS OF TYPE B INDIVIDUALS. WHEN ONE GROUP CONTAINS TYPE A AND ANOTHER GROUP TYPE B INDIVIDUALS, SUPERORDINATE GOALS WILL LEAD TO AN INTERMEDIATE LEVEL OF SUCCESS. IN OTHER WORDS, A LINEAR INCREASE IN OUTGROUP ATTRACTION SCORES WILL BE OBSERVED ACROSS A-A, A-B, AND B-B INTERGROUP CONDITIONS.

This proposal is based on the hostile and aggressive tendencies that characterize "A"'s, on past research using dyads in competitive (i.e., Prisoner's Dilemma game) situations, and on studies of interpersonal relationships of "A"'s vs "B"'s (see Interpersonal Relationships, above). Extrapolating from the dyadic research, the A-A and A-B conditions should be characterized by greater initial competition and less initial attraction. B-groups competing with "A"'s will be drawn into the competition more so than when they are competing with another B-group. This initially lower outgroup attraction will persist during the superordinate goal phase because "A"'s are more hostile and distrustful. Therefore "A"'s will be less likely to redefine the previous group boundary to include the outgroup. "B"'s in the A-B condition may be better able to respond to the superordinate goal, hence the intermediate level of increased outgroup attraction between A-A (lower) and B-B (higher) conditions.

As noted above, however, it is possible that "A"'s will be more successful at intergroup conflict reduction. Type "A"'s increased success might occur because, desiring the superordinate goal more, they work harder and are more willing to cooperate with the outgroup to achieve the incentive. If the incentive is achieved, prior group classifications may be irrelevant. Another reason, not suggested above, why A-groups would show greater intergroup conflict reduction is based on social identity (Tajfel, 1971). According to Tajfel, intergroup bias occurs because people identify with their ingroup and elevate it in comparison with the outgroup. But pevious research suggests that "A"'s are more likely to be "loners". They prefer to work on tasks alone, even when the potential partner is more qualified. If "A"'s get less of their identity from group associations, they may care less about the initial ingroup-outgroup classification and be more willing to redefine prior group boundaries during the superordinate goal phase, especially if cooperation during tht phase will result in the achievement of a desired incentive.

Chapter II

Method

Overview

The use of superordinate goals in intergroup conflict reduction was examined under three different conditions: interactions involving two groups of Type "A"s, two groups of Type "B"s, and one group of Type "A"s with one group of Type "B"s. The procedure, adapted from Worchel et al. (1978), involved two phases. The first phase consisted of a pretest during which the Cook and Medley Hostility Scale was administered to introductory psychology students (see Appendix A for a discussion of the rationale behind the choice of the Hostility Scale to assess Type "A" and Type "B" individuals). Based on this pretest, Type "A" and Type "B" people were identified to take part in the study. The second phase occurred later in the semester during a single experimental session. The session included the presentation of a conflict-inducing exercise during which two groups, each homogeneous with respect to the A/B dimension, competed. This phase was followed by an effort to reduce intergroup conflict through the presentation of a superordinate goal to the two groups.

Experimenters

The study included three Western Kentucky University

Independent Study undergraduates, one female and two males, as experimenters. All experimenters received approximately ten hours of training so that each experimenter would perform similarly. Their training involved role playing to perfect their technique when they actually ran the study. Training also involved rehearsing the telephone script (contained in Appendix B) that would be used to contact potential subjects. The experimenters called potential subjects for the study, but did not call people for sessions they themselves were running.

Subjects

Subjects were 180 introductory psychology students at Western Kentucky University who participated for extra class credit. They were chosen from an initial sample of 586 students who earlier in the semester had been administered a pretest that included the Cook and Medley Hostility scale (Cook & Medley, 1954) and the Coopersmith Self-Esteem Scale (Coopersmith, 1967). The Cook and Medley Scale was used to characterize subjects as Type A/B. Students who scored in the bottom 37% on the pretest were considered in the low hostility group (Type B); those who scored in the top 38% were considered in the high hostility group (Type A). Subjects were run in sessions consisting of two groups per session, 4-7 people per group.

Procedure

Subjects who qualified for the study based on the

pretest were contacted individually by telephone to see if they would participate in "Beckford's Business Workshop." Subjects who could not be reached initially were called a minimum of five different times before being dropped. A total of 115 subjects or 26% of the 441 that were eligible to participate (63 "A"'s or 28% of the eligible "A"'s and 52 "B"'s or 24% of the eligible "B"'s) were dropped from the study because they could not be contacted. Subjects who were contacted were told that the study would try to determine the efficiency and performance of small groups. They were told that this would be done by simulating industrial conditions, and that they would work on a number of tasks in groups under conditions that simulated a business environment. Finally, they were told that extra credit would be given for participating in the study. Of the 326 subjects who were contacted to participate in the study, 120 or 37% of those contacted (52 of contacted or 32% of contacted "A"'s and 68 "B"'s or 41% of contacted "B"'s) indicated that they did not want to participate. If an individual was scheduled but did not show up, he/she was contacted again and asked to reschedule. If the subject did not show up a second time, he/she was dropped from the study. In the study 29 subjects or 14% (16 "A"'s or 15% of "A"'s who said they would participate and 13 "B"'s or 13% of "B"'s who said they would participate) did not show up for a session after indicating that they would participate.

Of these 29 no shows, 13 (7 "A"'s and 6 "B"'s) rescheduled their appointments and eventually participated in the study. Therefore, 16 (8%) of those who indicated that they would participate did not do so. This total number represented 9 "A"'s (8% of "A"'s who said they would participate) and 7 "B"'s (7% of "B"'s who said they would participate). Finally, there were no significant differences between Type "A"'s who participated and Type "A"'s that did not participate. In addition, there were no significant differences between Type "B"'s who participated and Type "B"'s who did not participate.

The group conflict reduction phase usually took place one day after scheduling a subject to participate in the study. The Experimenter conducting the session first made sure that at least eight people were present for the session. If the session consisted of A's and B's, he/she made sure that at least four people from each group were present (see below). Four is the minimum group size that would allow the use of certain sociometric scales. For example, one question asked subjects to name the three people with whom they would most like to work. If group size was less than four, at least one outgroup member would inevitably have to be included, making the sociometric measure less sensitive as an index of ingroup bias. As a result, when less than eight people showed up for a "pure" session (a session consisting of all A's or all B's), or

less than four people (eight total) were in each group for a mixed session (a session consisting of A's and B's), the session was canceled. Subjects who had shown up nonetheless received all their extra credit. In this case, the experimenter tried to get them to reschedule on a voluntary basis. In this study, two sessions were cancelled, an AB and a BB session, because enough people did not attend. A total of ten people came to these two sessions. They received credit for coming, but were not included in the 180 subjects that participated.

Next, the Experimenter conducting the research introduced himself/herself to the subjects (Appendix C contains the experimenter's script). Subjects were told that the Experimenter was helping Professor Zecker do research on human relations and problem solving. Subjects were told that Zecker was doing this research for various industries through the Industrial Psychology Research Center in Illinois. Subjects were told that they would be working on several group problem-solving tasks and that there would be a time limit on these tasks. The experimenter explained that the study would be divided into two parts. In part one, subjects would be divided into two groups and each group would be given the same two tasks on which to complete during a specified time period. The experimenter explained to the subjects how competition between groups was an important part of many work

situations. Subjects were told that in order to simulate this situation, the solutions of the two groups would be compared and the group that developed the best solutions would get extra credit beyond what they had initially been promised.

At this point, subjects were assigned to one of two groups. When the session involved "pure" groups (AA/BB), assignment to groups was random. However, when a group was "mixed" (contained "A"'s and "B"'s) assignment to a group was based on which personality variable one possessed. In all of the sessions, an index card was given to the experimenter by the person who scheduled the subjects for the particular session. The card contained names on two columns. The two columns represented the two groups in the study. Assignment to a group was accomplished by calling every other name alternatively from two columns on an index card. If the session was "pure", the experimenter only needed to make sure eight people were in attendance. However, if the session was "mixed" (A's and B's) the experimenter needed to make sure that at least four people from each column were in attendance. The experimenter remained blind as to whether a group was Type A or B, but did know whether the session was "pure" (all A's or all B's) or "mixed" (A's and B's). In all cases, the experimenter told the subjects that he/she would call every other name off a card in order to assign people randomly to

their respective groups.

Finally, before the subjects joined their respective groups, the experimenter explained that the Research Center requested that subjects use lab coats to simulate conditions in industry where employees wear uniforms. Subjects were told that in order to distinguish between groups, half of the subjects would wear blue lab coats and half would wear white (Type "A"'s wore white labcoats and Type "B"'s wore blue labcoats). The purpose for using the lab coats was to make the group identifications more salient.

The experimenter then explained the tasks to the subjects. Subjects were told that the tasks were designed by the Research Center. They were told that Professor Zecker or his assistant (during evening sessions) would evaluate their solutions. Subjects were told that because the solutions to the first two tasks would take some time to evaluate, the results would not be available until later in the session.

The experimenter next explained that the first task would involve subjects' reading the case history of Johnny Rocco, a delinquent in need of counseling. Their task was to develop a 4-point rehabilitation program for him (Appendix D contains the case history and instructions; for this and subsequent tasks, one description of each task and paper on which to complete the task was given to each

group). The experimenter told the subjects they would be given ten minutes. After the first task was explained, the white group was taken to a separate room and both groups began work on the task.

After completing task one, the second task was then explained. Subjects were told that this task would involve devising an advertising slogan for a new toothpaste (Plactin), from a description that they would be given (contained in Appendix D). The subjects were given ten minutes to develop a 25 word slogan.

When this task was completed, supposedly while the group products were being evaluated by Professor Zecker, the subjects were given an "Initial Reactions Questionnaire" (contained in Appendix E). The purpose of this questionnaire was to form a comparison point from which, later, to evaluate the success of the superordinate goal in conflict reduction. The questionnaire first assessed ingroup/outgroup attraction. Ingroup/outgroup attraction was assessed using 31-point likert type-scales (anchored: 1=Very Unlikable, 31=Very Likable) that allowed an individual to evaluate each member of both groups in his/her session. A second, sociometric attraction measure asked subjects to list the three people whom they would most like as friends. The third question asked subjects to list the person(s) who were leaders in their group. Each of the remaining questions used 31-point likert type scales

anchored by 1= Very Little and 31=Very Much. Subjects were asked how much they liked the tasks, how much frustration they encountered while working on the tasks, and how difficult the tasks were. The next question measured the degree to which the subject felt the other group members cooperated in accomplishing the tasks. This was done by allowing each subject to rate every other member of his/her group. Next, subjects were asked to rate the degree of control they felt they had in decision making while working on the tasks. Subjects then rated the degree to which each of the other members of their group participated while working on the business tasks. The final question measured the subjects' evaluations of their group products.

After completing the first questionnaire, subjects were told that, while the first part of the experiment involved small groups working separately, the second part dealt with groups working directly together. Subjects were also told that unlike the first two tasks, these next two tasks had more objective answers. Subjects were told that in order to simulate industrial conditions, they would again have an opportunity to earn more extra credit. They were told that if the group solution met the standard set by Professor Zecker they would all earn more extra credit.

The subjects were told that the first task would involve writing as many words as possible from the word ANTIDISESTABLISHMENT (see Appendix D). Subjects were told

to use a minimum of four letters in creating a word, and that they would have eight minutes to work on this task (again, each group was provided a sheet with instructions and paper on which to put their answers). To make success feedback uniform on the task, all groups were told that they had succeeded. The experimenter appeared to grade the sheets by comparing a group's results to that of a bogus answer sheet. Sherif et. al. (1961) also arranged conditions to ensure that the groups succeeded on the superordinate goals in their Robber's Cave study. However, subsequent research (Worchel et al., 1978) has shown that if groups do not succeed on the superordinate goal, increased intergroup hostility may occur.

After completing the first superordinate goal task, the subjects completed a second task that involved reading a story in which the subjects were to be the foreman of a repair company that received a new truck. The subjects had to decide which of five employees would get the new truck (see Appendix D). The groups were given three minutes for this task. As in the previous task, all groups were told that they had picked the right person (in reality there was no correct answer).

When both tasks were completed, subjects completed a second questionnaire (contained in Appendix E) that was similar to the Initial Reactions Questionnaire. The rationale behind using this second questionnaire was that,

by comparing responses to the earlier, pre-superordinate goal stage, the success of the superordinate goal in conflict reduction could be evaluated. Like the first questionnaire, this one contained attraction, group process, and task perception questions. Unlike the first questionnaire, the second one allowed subjects to rate the combined group (i.e., process scores related to the large combined group, versus the earlier phase when each subject rated their respective in-group), when assessing cooperation and participation.

Upon completing the second questionnaire, the subjects were debriefed. In order to do this, the experimenter first asked the subjects to write down their impressions of the study (used as a suspicion check, see below) on the back of the second questionnaire. Next, the experimenter explained the purpose of the experiment and asked subjects not to divulge the purpose of the experiment to potential participants.

Suspicion, as indicated by subjects' written impressions, was determined by using a three point rating scale developed by the author and his thesis chair. Written impressions were given one of three ratings: zero for no suspicion, one for moderate suspicion (mentioned group conflict but did not tie in the pretest and individual differences), and two indicating that the subject knew what the study was about (mentioned group conflict and suspected

its relationship with the pretest and individual differences). The author and his thesis chair first rated 10% of the written impressions (18 persons) from the study. There was a 90% agreement rate. Discrepancies were resolved through discussion. After coding the remaining 90% of the data, the author had his thesis chair code 10% of these impressions. There was a 100% agreement rate. None of the subjects were eliminated because of suspicion (i.e., given a rating of 2).

Session-level Data

The individual-level data described above were subsequently prepared so that the session was the unit of analysis. As an example, to calculate outgroup attraction, each individual's attraction ratings (likert type scale) for each outgroup member was averaged to create a mean score for that individual. A session average was obtained by taking the mean of the 8-14 individuals' mean scores. This mean represented the average outgroup attraction score for a particular session (e.g. A group-A group). At the end of the experiment, there were outgroup attraction scores for each condition (six A-A sessions, seven A-B sessions, five B-B sessions; total N=18).

Nominal data (e.g., sociometric attraction) were analyzed by coding the number of ingroup members listed. Again, the scores for each person were averaged to get a session score. The leadership question on the second

questionnaire was coded two ways. First it was coded in terms of the number of ingroup members listed. Next it was coded in terms of the total number of people listed, irrespective of group membership. Session scores were generated using the above procedure.

Chapter III

Results

Design

The design of the study consisted of three different conditions: Sessions involving either two groups of Type "A"s (n=6), two groups of Type "B"s (n=5), or one group of Type "A"s with a group of Type "B"s (n=7). Questionnaire (Pre/Post Superordinate Goal) was a within-session variable. Data from the experimental sessions used the session as the unit of analysis (n=18). Pretest data were analyzed separately using the individual as the unit of analysis.

Pretest

The Cook and Medley Hostility scale was used to categorize people as Type A/B. The mean score for the pretest sample of 586 was 21.9. Males and females did not differ significantly (M(M)=23.2, M(F)=21.2), F(1,584)=1.00, NS.

Normative data from Cook and Medley's (1957) study indicated a mean of 18 for men and 19 for women. The sample used in their study consisted of 212 Minnesota public school teachers. The overall mean hostility scores using data from a study by Smith and Frohm (1985) were 21.8 and 20.8 for two samples of undergraduate students. Scores for

subjects in the current sample were closer to those obtained in the Smith and Frohm study. This may have occurred because both the Smith & Frohm sample and the sample used in this study consisted of university students. In addition, the Cook and Medley sample was obtained approximately 30 years before the sample used in this study or the Smith & Frohm sample. Using the Smith & Frohm study as the point of comparison, the present sample appears quite similar in terms of mean level of hostility reported.

The cutoff hostility score used in the current study was 25 or higher for A's and 18 or lower for B's. Based on these cut-offs, 225 A'S (the upper 38% of the sample) and 216 B's (the lower 37% of the sample) were contacted to participate in the study.

The Coopersmith Self-Esteem scale (Coopersmith, 1967) was also administered during the pretest to examine its relationship to the Ho scale. For the entire pretest sample (n=586), the correlation between the self-esteem scale and the Hostility scale was -.41 ($p<.05$). This indicated that the higher one scored on hostility, the lower one scored on self-esteem. For individuals classified as either A's or B's (n=441), there was not a significant difference in terms of self esteem ($M(A)= 66.72$; $M(B)=73.53$), $F(1,439)=1.19$, NS. There was no significant difference on self-esteem for subject sex.

Experimenter Effects

As a preliminary check on the data from the experimental session, possible experimenter effects were examined using a 3 (Group: AA, AB, BB) x 3 (Experimenter) x 2 (Questionnaire Pre/Post Superordinate Goal) Repeated Measures Analysis of Variance. The following significant Experimenter effects emerged. For the ingroup attraction (Likert) variable, results indicated that there was a significant Experimenter X Time interaction, $F(2,15)=8.54$, $p<.05$. Post Hoc analysis (using Fisher's Protected-t Technique; Welkowitz, Ewen, & Cohen, 1982) indicated that Kevin's (K) groups' ingroup attraction scores increased more over time than Linda's (L) or Trigg's (T) groups. Results for the sociometric attraction variable in contrast indicated a main effect for Experimenter, $F(2,15)=4.25$; $p<.05$. Post Hoc analyses indicated that, overall, L's groups (2.2) were significantly more attracted to the ingroup than K's groups (1.8). Analysis of the leadership variable indicated that the interaction between Experimenter and Time approached significance $F(2,15)=3.49$, $p<.06$. L's groups listed fewer ingroup members as leaders over time than K or T's groups. Results for the variable that assessed task enjoyment indicated a main effect for Experimenter $F(2,15)=4.72$, $p<.05$. Post Hoc analyses indicated that K's groups enjoyed the tasks significantly more than L's or T's groups (Ms=25.9, 23.3, & 23.2). Table

1 lists the number of sessions each experimenter ran under each condition.

Table 1
Sessions Run by Experimenters

	AA	AB	BB
Linda	2	3	2
Kevin	3	3	1
Trigg	1	1	2

Experimental Session- Initial Ratings

This section includes scores obtained from the Initial Reactions questionnaire, which was administered after the conflict-inducing phase. Data were analyzed using a one-way (Group: AA, AB, BB) ANOVA. Table 2 lists the means for the dependent variables.

Attraction Ratings. There were two types of attraction measures used in this study: Likert scales and a sociometric scale. On both measures, differences in initial ingroup attraction between the three groups were not statistically significant. In terms of initial outgroup attraction, there was no evidence that the groups differed on initial outgroup attraction as a function of the A/B classification, ($F<1$)

Process Scores. There were four group process scores calculated in this study: cooperation, participation, leadership, and control (see Table 2). There was no evidence of initial differences on cooperation

Table 2: Mean Initial Ratings

	AA	AB	BB
Ingroup Attraction	23.7	24.2	25.5
Outgroup Attraction	20.1	21.7	21.4
Socio. Attraction	0.9	0.8	0.7
Leadership	2.5	2.6	2.8
Control	24.4	22.2	22.8
Cooperation	26.2	25.6	25.2
Participation	25.1	24.5	23.9
Enjoying the Tasks	23.7	21.2	23.9
Frustration	10.7	8.9	10.9
Difficulty	12.5	11.7	13.6
Product Quality Eval.	23.6	24.2	22.9

Means with differing subscripts differ significantly $p<.05$ (protected-t post-hoc comparison)

($F(2,15)=1.00$, NS) or participation. Means for the leadership variable indicated that BB groups listed the most members as leaders and AA groups listed the least (see Table 2). Although these differences were not significant, there was a weak tendency for Groups, $F(2,15)=2.31$, $p<.14$. Results for perceptions of control did indicate a significant effect, $F(2,15)=4.32$, $p<.05$. Post-Hoc comparisons revealed that AA groups had greater perceptions of control than AB or BB groups (see Table 2). AB groups indicated that they perceived they had the least amount of control at time one. However, the AB condition was not significantly different from the BB condition.

Task Perceptions. There were four measures of task perception: enjoyment of the tasks, difficulty with the tasks, frustration with the tasks, and general evaluation of the tasks (see Table 2). No evidence indicated that all the groups differed initially on any of these measures (all variables had $p>.18$).

Experimental Session-Changes over time

In this section scores are evaluated across the two questionnaires: the questionnaire administered after the conflict-inducing stage and the questionnaire administered after the completion of the superordinate tasks. Data were analyzed using a 3 (Group: AA, AB, BB) X 2 (Questionnaire: Pre/Post Superordinate Goal) Repeated Measures Analysis of Variance. Table 3 lists the means over time for the primary

variables.

Attraction Scores. Ingroup attraction scores increased over time for both AA and AB groups, while BB groups actually decreased their ratings. AA groups had the largest increase (see Table 3). However, the Group X Time interaction was not significant, $F(2,15)=1.99$, $p<.18$. Attraction scores based on the sociometric scale indicated that, over time, all groups increased the number of outgroup members that they listed as friends (see Table 3), $F(1,15)=28.44$, $p<.01$. There were no other effects on this variable.

Outgroup attraction ratings based on Likert scores indicated a similar pattern: ratings increased over time in all groups (see Table 3). There was a main effect for Time $F(1,15)=29.15$, $p<.01$. No other effects emerged on this measure.

Process Scores. Ratings on group cooperation indicated a main effect for Time $F(1,15)=6.90$, $p<.05$. All groups stated that they felt that their members (ingroup) cooperated less over time (see Table 3). Ratings by subjects on the cooperation of the merged group (post-superordinate goal) revealed no significant differences between the means for the three conditions, ($F<1$).

Results for the participation variable indicated only a weak tendency for Group that approached significance

Table 3: Mean Ratings, Pre-Post Superordinate Goal Over Time

		AA	AB	BB
Ingroup Attraction (Likert)				
	Pre	23.7	24.2	25.5
	Post	25.1	24.9	24.6
OutGroup Attraction (Likert)				
	Pre	20.1	21.7	21.4
	Post	23.3	23.6	23.6
Attraction (Sociometric):				
	Pre	0.9	0.8	0.7
	Post	1.2	1.3	1.7
Cooperation				
	Pre	26.2	25.6	25.2
	Post	25.3	23.5	23.5
Participation				
	Pre	25.1	24.5	23.9
	Post	25.5	22.9	23.4
Leadership (number of ingroup members listed)				
	Pre	2.5	2.6	2.8
	Post	1.5	1.6	1.5
Total Scores (total number of people listed as leaders)				
	Pre	2.5	2.6	2.8
	Post	2.7	2.9	2.8
Control				
	Pre	24.4	22.2	22.8
	Post	21.9	19.8	20.3
Enjoying the Task				
	Pre	23.7	21.2	23.9
	Post	25.9	25.3	26.3
Frustration				
	Pre	10.7	8.9	10.9
	Post	5.9	7.1	6.0
Difficulty				
	Pre	12.5	11.7	13.6
	Post	6.9	8.0	6.9

$F(2,15)=2.05$, $p<.16$. AA conditions tended to have higher participation ratings than the AB or BB conditions, although the differences were not significant (see Table 3; .3, 23.7, 23.7).

Results for the leadership variable (number of ingroup members listed) indicated a main effect for Time, $F(1,15)=395.71$, $p<.001$. All groups decreased the number of ingroup members that they listed as leaders over time (see Table 3). In addition, the Group X Time interaction approached significance, $F(2,15)=2.74$, $p<.10$. BB conditions had the largest decrease over time. Results for the total number of leaders listed (irrespective of in-outgroup) indicated a main effect for Time, $F(1,15)=7.83$; $p<.05$. All groups increased the total number of leaders listed over time (see table 3).

Finally, there were main effects for Time, $F(1,15)=2.24$, $p<.05$, and Group $F(2,15)=6.10$, $p<.05$, on the perception of control variable (see Table 3). All groups showed lower control ratings over time. Also, Post Hoc analyses indicated that, in general, AA conditions had significantly higher perceptions of control than AB conditions. However, AA conditions did not differ significantly from BB conditions.

Task Perceptions. All groups enjoyed the tasks more over time (see Table 3). There was a main effect for Time, $F(1,15)=36.08$, $p<.01$. In addition, all groups reported less

frustration over time (see Table 3). Again, there was a main effect for time, $F(1,15)=26.13$; $p<.05$. Decreased frustration was more pronounced for the AA & BB conditions than the AB condition. However, the interaction between Group X Time was not significant, $F(2,15)=1.79$, NS. In terms of task difficulty, there was a main effect for Time indicating that all groups claimed the tasks were less difficult over time, (see Table 3) $F(1,15)=70.58$, $p<.01$. In addition, the interaction between Group and Time indicated a weak tendency, $F(2,15)=1.95$; $p<.18$. Decreased perceptions of difficulty over time were more pronounced for AA & BB conditions than for the AB condition, although the differences were not significant. In terms of group product evaluation, AA and BB conditions increased their evaluations over time, while AB conditions decreased their evaluations over time. Differences were not significant, however. Finally, the three conditions did not differ significantly in terms of task performance, as measured by the number of words generated on the first superordinate task $F<1$, NS. Means and ANOVA's for all variables are reported in Appendix F.

Chapter IV

Discussion

Relationship of Results to the Primary Variables

The results of the study did not support the main hypothesis, which stated that intergroup conflict reduction would be least successful with Type A groups (i.e., the AA condition would have less of an increase over time in outgroup attraction scores than the BB conditions). Outgroup attraction scores did increase for BB groups over time. However, outgroup attraction also increased in the AA and AB conditions. It was hypothesized that BB groups would be most attracted to outgroup members over time. This increased attraction was reflected in both the outgroup and sociometric attraction ratings. If one looks at the sociometric scale (Appendix F; table 3) one will see that, over time, BB groups listed more outgroup members as friends, as would be expected. This trend was also reflected in the outgroup attraction scores at time two. The BB groups had the highest outgroup attraction scores at time two (although the score was the same as the AB condition and only slightly higher than the BB condition). Thus, although the results were not significant, the trend of the means offer weak support for the author's initial claims in regard to outgroup attraction.

More important is the fact that all groups increased their outgroup attraction ratings over time. The increase in outgroup attraction ratings suggests that the situation, as constructed in this study, was so powerful that it overwhelmed differences due to the A/B dimension. The increase in outgroup attraction scores across groups indicates that the superordinate goal was effective regardless of Type A/B classification.

The cooperation ratings for the three conditions did not support the notion that the BB condition would evidence the most (or AA the least) cooperation. There are several reasons for this occurrence. Pure A conditions may have found their members to be more conscientious than B's while engaging in the tasks. This increased conscientiousness may have been reflected in higher cooperation and participation scores. A's also tended to list the fewest number of leaders. The listing of fewer leaders may have occurred because "A"'s felt that everyone was participating and cooperating. A's might have selected one or two leaders who coordinated things so well that the members were all able to participate equally without many leaders. The previous statement is consistent with the fact that, generally, A's found their tasks less difficult and less frustrating over time than AB's. They also found their tasks slightly less difficult than BB conditions.

AA conditions perceived they were more in control than

the other two conditions throughout the study. This perception of control may seem inconsistent with perceptions of high cooperation and participation. It does not seem as though one would have a high sense of control if one is cooperating and sharing participation with other people. However, if one thinks of control in terms of control over the task as opposed to control over an interpersonal situation, AA conditions' ratings make more sense. The control question on both questionnaires was phased in terms of task perception, not interpersonal relations. As a result, the present cooperation and participation ratings are not really inconsistent. The fact that AA conditions felt they were in more control in this study, supports findings in other studies (Sanders & Malkis, 1981; Smith & Rhodewalt, 1986). In the Sanders and Malkis study (1981), A's tended to demonstrate control in the group setting. In addition, as in the Sanders study, A's in this study were seen as more helpful. Although helpfulness was not measured in this study, the helpfulness results of the Sanders study are consistent with the cooperation and participation ratings obtained here.

Overview of Significant Findings

There were several significant findings in this study. Although most of the findings were not significant along the A/B dimension, these findings did illustrate that the superordinate goal was successful for all conditions.

Outgroup attraction increased for all groups over time. This increase would seem to indicate that the superordinate goal led to a loosening of old group boundaries and caused subjects to view outgroup members more favorably.

There was also a decrease in cooperation scores for all groups over time. The decrease may have been because it is more difficult to coordinate a larger group (the two groups merged) than it is to coordinate a small group. There was also a decrease in the number of ingroup leaders listed over time. The decrease may have been due to a diffusion of leaders caused by the groups merging. This explanation was also supported by the increase in the total number of people listed as leaders. These findings also support the claim that outgroup attraction increased over time. In addition this increase in outgroup attraction indicates that group boundaries were loosened over time.

As stated previously, AA conditions perceived that they had the most control at time one and time two. However, all conditions decreased their control ratings over time. The decrease in control ratings was probably due to the increased number of people participating in the second part of the study. The larger number of people probably made it more difficult for subjects to perceive that they were in control.

Over time all conditions rated the tasks as more enjoyable, less frustrating and less difficult. This was

probably because the groups were larger during the second part of the study. These larger groups made it easier for people to do the tasks because there was more input from other subjects. These increased ratings may also have been due to the fact that all the conditions received success feedback. If the conditions had not succeeded, the results may have been different.

Explanations for Lack of Outgroup Attraction Differences

There are many possible reasons why the present results did not conform to the original hypothesis regarding outgroup attraction. First, the subjects may not have been "true" A's and B's, particularly with regard to Type B individuals. As stated previously, the mean score for the sample used in this study was higher than that used in the Cook and Medley study. In addition, the distribution of scores for the subjects used in the present study was negatively skewed (-0.071), meaning that the scores tended toward the high end of the distribution. Because scores had a tendency to be high, it became more difficult to differentiate between "true" A's and "true" B's. Another reason the sample may not have been representative is due to the time the study was conducted. Given that this study was conducted toward the end of the semester, subjects may have been so focused on earning extra credit that typical interpersonal relationship styles were set aside. Subjects knew that if they were to display noncooperative behavior,

or were overly hostile, they would risk gaining the extra credit bonus.

The degree to which intergroup conflict was instilled may also have affected the results of the study. Specifically, the initial conflict-inducing stage may not have aroused intense competition and ingroup bias. As a result, attraction ratings, specifically outgroup attraction ratings, were uniformly high. Although the trend of the group means seem to support the initial hypothesis regarding attraction, the differences between these means were not significant. If one inspects the attraction scores, one will see that the means are only slightly different for the three groups. If the conflict-inducing stage had been more effective, there may have been a greater difference in the initial attraction scores, and in changes over time, for the three groups. In the Worchel et. al. (1978) study that used a very similar procedure and the same attraction measures, the initial outgroup attraction scores in all conditions were lower than the ones obtained in this study (12.54 vs. 20.1-21.4 across the three conditions in this study).

The superordinate goal also may not have been as effective as possible. A superordinate goal is a goal that encompasses all parties caught in dispute/conflict, that cannot be fulfilled by the resources and energies of the parties separately, but requires the concerted efforts of

all parties involved (Sherif et al., 1961; Worchel, 1979). In Sherif's classic Robber's Cave study (1961), the boys could not have completed their superordinate tasks if they had not worked together. For example, it was not possible for one boy to pull the truck out of the mud. However, in this study it was possible for the groups to succeed on the tasks without the input of each group member. For example, on the word generating task, it was possible for one bright individual to generate all the words by himself/herself. As a result, this task might not be considered a "true" superordinate task. Likewise, the truck dilemma problem could have been solved by one individual. However, it should be noted that the superordinate tasks used in this study did have an effect. For example, the outgroup attraction ratings did increase over time. So, although the scores did not increase according to the A/B classification, there was a uniform increase of scores. This uniform trend for scores to increase or decrease for all conditions was seen in many variables. All conditions increased the number of outgroup members listed as friends, and leaders over time. All conditions increased their ratings of the degree to which they enjoyed the tasks over time. All conditions decreased their frustration, difficulty and control ratings over time. So, it would seem as though the superordinate goal did have an affect on the three conditions.

Another reason Type A's may have rated members (ingroup and outgroup) as highly as they did was because the situation was not stressful enough. In other words, they might not have rated their members as cooperative or as having participated as much if the situation had been more stressful. According to Smith and Rhodewalt (1986), A's display characteristic behavior when the situation is very stressful and difficult. In other words, if the tasks had been more stress provoking (e.g., if the groups had failed at the superordinate tasks), A's might not have been as attracted to their members. In addition, they may not have rated other members (ingroup and outgroup) as highly on the cooperation and participation scales.

The fact that, by design, all groups succeeded on the superordinate tasks may also have affected subjects' ratings of the other members. If some subjects had failed, they may have rated the other groups less favorably. Ratings might have decreased because subjects would need someone to blame for their lack of success. Worchel et.al. (1977) found that variation in success feedback affected attraction ratings. Groups that did not succeed did not rate outgroup members as favorably as those subjects who had succeeded at their tasks.

The lack of differences in outgroup attraction may also have been due, in part, to the experimenter effects that were obtained. The data were affected by the different

experimenters. It is obvious that Kevin's groups had high scores on one of the attraction scales (Likert scale) and enjoyed the tasks more when compared to Linda's and Trigg's groups. These high scores may have resulted from Kevin's amiable personality, which might have made an individual feel good even if initially he/she did not. Kevin's personality may have caused subjects to rate other subjects favorably, even if they really did not like them. Thus, the higher scores in Kevin's groups may have overridden any personality differences in his groups. As the above discussion implies, if there had been only one experimenter perhaps the results would have come out differently. However, in this study, because of time constraints, the use of a single experimenter was not possible.

Implications

The study of the effect of individual differences on intergroup conflict reduction can potentially help us understand why groups function the way they do. However, the data from this study seem to indicate that situational factors can override personality differences. This implies that in industry, if one could construct a situation in which people had an attractive incentive to cooperate, it would matter less whether the people involved were Type A/B. Everyone would work toward the goal and set aside their differences. As far as this study is concerned, one might hypothesize that A's saw interpersonal relations as a

challenge. In other words, they were willing to be friendly with someone in order to complete the superordinate task, and get the extra credit. As stated previously, it would have been interesting to see their reaction if they had not received the extra credit.

A logical next step would be to do a replication of this study. The replication should include more sessions in order to increase statistical power. If possible, one experimenter should be used inorder to decrease experimenter variance. The superordinate goal that is chosen might be one that requires the input of all members. Also, the feedback people get should be varied so as to see whether success/failure has a differential affect according to the A/B dimension. Manipulating success feedback was impractical in this study because of the small sample size.

The study of the effects of individual differences on intergroup relations is interesting. The effects that these type variables, and specifically the Type A/B distinction, may have on industry and society in general could be potentially rewarding. If the suggestions for replication are implemented, valuable results may be obtained.

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Appendices

Appendix A

Appendix A

ASSESSMENT TECHNIQUES

A number of ways have been suggested to measure the Type A behavior pattern. These include the structured interview, the Jenkins Activity Survey (Matthews, 1982), and the Cook and Medley Hostility Scale (Smith & Frohm, 1985). The structured interview contains 25 questions that ask about a person's characteristic way of responding to situations that often elicit hostility and competitiveness (Matthews, 1982). Based on their responses to these questions an individual can be placed in one of four categories. These categories are A1 (fully developed Type A), A2 (incompletely developed Type A), X (An equal representation of Type A and Type B characteristics), and Type B (the absence of Type A characteristics). Studies on the structured interview have demonstrated that Type As speak in a different manner than Type Bs. For example when asked to read a paragraph about a war battle aloud Type As spoke quickly, loudly, and explosively. This may be an indication of the individuals impatience and competitiveness (Matthews, 1982).

The Jenkins Activity Survey (JAS) is a self report measure. It contains 50 questions that are similar to those asked in the structured interview. Unlike the structured

interview, however, scores are dichotomized based on some division of continuous scores (e.g. median split, quartile split etc.). Studies that have used the JAS to categorize individuals have found that Type As perform better than Type Bs in difficult situations that call for persistence/endurance. Type As work more quickly on simple tasks when subjects are not told that there is a time limit (Matthews, 1982).

The scale that will be used to categorize people in this study is the Cook and Medley Hostility Scale. It is a scale derived from the Minnesota Multiphasic Personality Inventory. The scale measures suspiciousness, resentment, frequent anger, and cynical distrust of other people (Smith & Frohm 1985). The scale appears to be reasonably reliable and valid. The authors reported an internal consistency coefficient of .86 (Smith & Frohm, 1985). The convergent and discriminant validity findings indicate that the scale measures a specific type of hostility. High Ho scorers are susceptible to anger, and are suspicious and resentful of others.

The reason this scale will be used is because in addition to its measuring anger and hostility, high scores on the scale have been shown to be related to coronary heart disease (Smith & Frohm,1985). The Jenkins scale while relating to a wealth of psychological phenomena (e.g. cognitive and social stress-engendering behaviors) has not

been shown to predict highly health implications (Smith & Rhodewalt, 1986). It does not measure the affective characteristics of the Type A behavior very well. The emotional correlates of the Type A behavior pattern need to be clarified. This needs to be done because emotions such as anger have been shown to be related to the etiology of coronary artery and heart disease (Matthews, 1982). The structured interview, in contrast, is less informative about psychological aspects of the A/B pattern, but gives a better indication of the health implications (Matthews, 1982). For example, in one study it was determined that Type As assessed by the structured interview released higher levels of norepinephrine during contests than Type Bs during contests. This higher level of norepinephrine has been shown to increase the risk of coronary problems. While the Structured Interview provides a better index of reactivity and associated vulnerability to disease, The Jenkins Activity may give a better index of the indirect disease risk associated with the tendency to create a stressful environment (Smith & Rhodewalt, 1986). Unlike the other two scales, the Cook and Medley Hostility Scale gives one both sets of information. In addition, hostility has been identified as one of the Type A components likely to contribute to heart disease (Dembroski & MacDougall, 1983).

Appendix B

Appendix B

Telephone Script

Hello, may I speak to ( ), Hi, ( ) my name is ( ), from the psychology department here at Western. How would you like to receive some extra credit in your intro psych class? You'd be participating in a psych study called "Beckford's Business Workshop". It would involve coming in for about an hour and working on some business-like tasks with other people in a group. We really appreciate your helping us out. The times that are available are X:00 o'clock Xuesday in room XXX in CEB etc. IT'S VERY IMPORTANT THAT YOU COME ON TIME BECAUSE YOU WILL BE WORKING WITH OTHER PEOPLE AND THE EXERCISES CAN NOT BE PERFORMED UNTIL EVERYONE HAS ARRIVED. If you could get a pencil and paper, I've got some information for you to write down (give info). Now, could you read back the place, date, and time you are scheduled to come in so that I know that I have given you the right information? Also, if for some reason you can't show up please contact Ian Beckford at 745-5638. Anyway, thanks for your help ( ), and I'll see you on Xuesday at X:00 in room XXX. Bye.

Appendix C

Appendix C

Script for Group Study

Hi, my name is and I'm helping Psychology Professor Zecker conduct some research on human relations and problem solving. As you know, in private industries there are many times when small groups must work together, such as on an assembly line, in committies, or to solve a problem or task. How people in these groups interact is very important in determining what is accomplished by the group. Various factors can affect group interaction, such as:

1. the type problem they're working on
2. the time allowed to do the task
3. the type of people in the group
4. the working conditions that members of the group must work under and so forth.

As you might imagine, a lot of industries are interested in determining to what degree each of the factors I mentioned influences the output of various groups. Some of these industries have contacted the Industrial Psychology Research Center in Illinois to find out more about the efficiency and performance of small groups working under pressure. The Research Center has been using a wide variety of people from different age groups and economic classes, and because many college students enter the business field follwing graduation, industries are very interested in how college students respond in different work situations. Professor Zecker is associated with the Research Center and is using WKU students for his research.

In this study, you'll be working on several group problem solving tasks. Pressure is set by a time limit. The study is divided into two parts. In Part 1, I'll be dividing you up into two smaller groups. Each group will be given the same tasks and each group will come up with a solution. As you know, most work situations within private industries are very competitive; there is competition between groups for bonuses, special rewards, etc. To simulate this, each group is competing against the other for additional extra credit points (bonus points). Dr. Zecker has checked with your "intro" professors. For each of the 2 tasks, the group solutions will be compared to each other and the group with the BEST solution will get "bonus" points. So, just as in private industry, what happens is that one group wins and one group loses. Any questions.

Before I explain the tasks, I'll divide you up. The Research Center has requested the use of lab coats to stimulate conditions in industry where employees wear uniforms. To distinguish between groups, half of you will wear blue and the other half will wear white lab coats

(randomization of groups was done here; see methods). Here are some tags to distinguish between members of each group.

Now I'll tell you a little about the tasks you'll be working on. They've been designed by Research Center and have proven in past studies to be very reliable. Professor Zecker and his assistant, are both very experienced at evaluating the tasks and therefore they will be analyzing your solutions. The solutions to the first two tasks will take a while to be analyzed--- (Dr. Zecker in day, his assistant at night), so I won't have the results back until later in the session. For the first task, each group will be given a case history of Johnny Rocco, a delinquent in need of counseling. The aim is to devise a 4-point rehabilitation program for him. You'll be given 10 minutes. If the blue will wait in this room (Hand task to group, marking color on response sheet; check watch). Don't forget that you're competing with the other group and your solutions will be compared. (Take white group to other room).

The second task is to devise an advertising slogan for a new toothpaste from the description given here (hand description; the new tootpaste is PLACTIN and is supposed to decrease cavities by 80%; in addition it gets rid of all plaque and other bacteria from your teeth. It has a fruity flavor so that it appeals to children). The slogan must be 25 words or less, and you will have 10 minutes. (give response sheet and ask them to write down group color) I'll see if-- can start analyzing your rehabilitation programs. (say same to other group).

I'll be back with the White group in a minute.

Before we go on to the second part of the study, we'd like you to answer a few questions to help the Research Center better understand what's been going on. Put your group color and your ID# on top. Also, they want you to please answer all questions. I'll be back in about 5 minutes. (Return to room and collect).

Now, while the first part of the study concerned small groups working separately, the second part deals with groups working directly together. Of course, this is very common in industry too, when separate groups will work on two or more tasks as a group. These tasks are different from the first two because they have definite, objective answers. Again, to stimulate "real" industrial conditions, you will have a chance to win extra bonus credit. If the solutions meet the standard, everyone will get more points.

The first task is to write as many words as possible from the word, using a 4-letter minimum. You will have 5 minutes to do it. (collect & "grade" sheet; tell the group

they have succeeded and that they generated 5-6 words over the standard).

Here's the last task. You decide who deserves the new truck. You have 5 minutes. (later) Let me check your answer against the standard. (tell correct).

I'm sure you want to know how you did on the first two tasks, so I'll see if is finished. Meanwhile, we'd like you to fill out a second questionnaire. Don't forget to answer all the questions. I'll be back in about 5 minutes.

I got tied up for a second, but he'll have the results back in a minute. In the meantime, what are your impressions of the study so far? Any reactions?

SUSPICION CHECK
DEBRIEF
SIGN CREDIT SLIPS

Appendix D

OPINION SURVEY

Thank you for agreeing to take part in this survey. The survey has two parts. Because the two sections are different, please take the time to read each set of instructions carefully. The instructions and survey items are contained in this booklet, but you will mark your answers on a SEPARATE answer sheet provided. There are no right or wrong answers to these questions. All we want is your honest opinion. Your responses will be kept strictly confidential. Only our research team will have access to this information.

Part I

We'd like to ask you a number of questions about how you feel about yourself. Please express your agreement or disagreement with each item using the scale provided on the searate answer sheet. Response options are "strongly disagree", "disagree", "agree", and "strongly agree". Circle the ONE response per item that best reflects what you think. Please complete EACH of the 25 items in Part 1. Also, in marking your answers on the answer sheet, make sure that the number of the statement agrees with the number on the answer sheet. Thank you.

1. I often wish I were someone else.
2. I find it very hard to talk in front of a group.
3. There are lots of things about myself I'd change if I could.
4. I can make up my mind without too much trouble.
5. I'm a lot of fun to be with.
6. I get upset easily at home.
7. It takes me a long time to get used to anything new.
8. I'm popular with people my own age.
9. My family expects too much of me.
10. My family usually considers my feelings.
11. I give in very easily.
12. It's pretty tough to be me.
13. Things are all mixed up in my life.

14. Other people usually follow my ideas.
15. I have a low opinion of myself.
16. There are times when I would like to leave home.
17. I often feel upset about the work that I do.
18. I'm not as nice looking as most people.
19. If I have something to say, I usually say it.
20. My family understands me.
21. Most people are better liked than I am.
22. I usually feel as if my family is pushing me.
23. I often get discouraged at what I am doing.
24. Things usually don't bother me.
25. I can't be depended on.

-END PART I-

Part II

Read each of the following statements and decide whether it is true as applied to you or false as applied to you. Mark your answers on the separate answer sheet provided. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the letter "T". If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the letter "F". If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet. But try to give a response to every statement. Remember to give YOUR OWN opinion of yourself. In marking your answers on the answer sheet, be sure that the number of the statement agrees with the number on the answer sheet. Remember, try to respond to every statement. Thank you for your cooperation.

1. When I take a new job, I like to be tipped off on who should be gotten next to.

2. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.

3. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.

4. I have often had to take orders from someone who did not know as much as I did.

5. I think a great many people exaggerate their misfortunes in order to gain their sympathy and help of others.

6. It takes a lot of argument to convince most people of the truth.

7. I think most people would lie to get ahead.

8. Someone has it in for me.

9. Most people are honest chiefly through fear of being caught.

10. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.

11. I commonly wonder what hidden reason another person may have for doing something nice for me.

12. It makes me impatient to have people ask my advice or

otherwise interrupt me when I am working on something important.

13. I feel that I have often been punished without cause.

14. I am against giving money to beggars.

15. Some of my family have habits that bother and annoy me very much.

16. My relatives are nearly all in sympathy with me.

17. My way of doing things is apt to be misunderstood by others.

18. I don't blame anyone for trying to grab everything he can get in this world.

19. No one cares much what happens to you.

20. I can be friendly with people who do things which I consider wrong.

21. It is safer to trust nobody.

22. I do not blame a person for taking advantage of someone who lays himself open to it.

23. I have often felt that strangers were looking at me critically.

24. Most people make friends because friends are likely to be useful to them.

25. I am sure I am being talked about.

26. I am likely not to speak to people until they speak to me.

27. Most people inwardly dislike putting themselves out to help other people.

28. I tend to be on my guard with people who are somewhat more friendly than I had expected.

29. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.

30. People often disappoint me.

31. I like to keep people guessing what I'm going to do next.

32. I frequently ask people for advice.

33. I am not easily angered.

34. I have often met people who were supposed to be experts who were no better than I.

35. I would certainly enjoy beating a crook at his own game.

36. It makes me feel like a failure when I hear of the success of someone I know well.

37. I have at times had to be rough with people who were rude or annoying.

38. People generally demand more respect for their own rights than they are willing to allow for others.

39. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.

40. I am often inclined to go out of my way to win a point with someone who has opposed me.

41. I am quite often not in on the gossip and talk of the group I belong to.

42. The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me.

43. I have often found people jealous of my good ideas, just because they had not thought of them first.

44. When a man is with a woman he is usually thinking about things related to sex.

45. I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.

46. I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them.

47. I strongly defend my own opinions as a rule.

48. People can pretty easily change me even though I thought that my mind was already made up on a subject.

49. Sometimes I am sure that other people can tell what I

am thinking.

50. A large number of people are guilty of bad sexual conduct.

END PART II. PLEASE COMPLETE BRIEF BACKGROUND INFORMATION AT BOTTOM OF ANSWER SHEET.

THANK YOU.

NAME TAG:

Initial Reactions Questionnaire

Listed below are a number of questions designed to measure your initial impressions of the study. Read each question carefully and circle ONE dot per response. If the question asks you to write in a response do so in the space provided below the question. In addition, if you are asked to refer to a group member please do so by refering to the person by name tag ID (e.g GRAY 1). NA=NOT APPLICABLE

1. How likable did you find each of the following participants (for EACH participant, circle the ONE dot that best describes your feelings)?

	Very Unlikable	Moderately Likable	Very Likable
a. BLUE 1	. . . . .	. . . . .	. . . . .
b. BLUE 2	. . . . .	. . . . .	. . . . .
c. BLUE 3	. . . . .	. . . . .	. . . . .
d. BLUE 4	. . . . .	. . . . .	. . . . .
e. BLUE 5 NA	. . . . .	. . . . .	. . . . .
f. BLUE 6 NA	. . . . .	. . . . .	. . . . .
g. BLUE 7 NA	. . . . .	. . . . .	. . . . .

	Very Unlikable	Moderately Likable	Very Likable
h. WHITE 1	. . . . .	. . . . .	. . . . .
i. WHITE 2	. . . . .	. . . . .	. . . . .
j. WHITE 3	. . . . .	. . . . .	. . . . .
k. WHITE 4	. . . . .	. . . . .	. . . . .
l. WHITE 5 NA	. . . . .	. . . . .	. . . . .
m. WHITE 6 NA	. . . . .	. . . . .	. . . . .
n. WHITE 7 NA	. . . . .	. . . . .	. . . . .

2. List the three people whom you would most like as friends (please list each person by name tag ID).

1. ----------

2. ----------

3. ----------

3. What person or persons would you say were leaders in your group while working on the business tasks (list according to name tag ID)?

---

4. How much did you enjoy working on the business tasks (circle ONE dot)?

Very Little		Moderately		Very Much
.	.	.	.	.

5. How frustrated did you become while working on the business tasks, (circle ONE dot)?

Very Little		Moderately		Very Much
.	.	.	.	.

6. How difficult did you find working on the business tasks (circle ONE dot)?

Very Little		Moderately		Very Much
.	.	.	.	.

7. How much do you feel each member of the group cooperated while working on the business task(s) (for each member circle ONE dot)?

	Very Little		Somewhat		Very Much
a. MEMBER 1	.	.	.	.	.
b. MEMBER 2	.	.	.	.	.
c. MEMBER 3	.	.	.	.	.
d. MEMBER 4	.	.	.	.	.
e. MEMBER 5 NA.	.	.	.	.	.
f. MEMBER 6 NA.	.	.	.	.	.
g. MEMBER 7 NA.	.	.	.	.	.

8. How much control do you feel you yourself had while working on the business task(s) (circle ONE dot)?

Very				Very

Little Moderately Much

. . . . . .

9. How much do you feel each member of the group participated in working on the business task(s) (for each member circle ONE dot)?

	Very Little	Somewhat	Very Much
a. MEMBER 1	. . . . .		
b. MEMBER 2	. . . . .		
c. MEMBER 3	. . . . .		
d. MEMBER 4	. . . . .		
e. MEMBER 5 NA.	. . . . .		
f. MEMBER 6 NA.	. . . . .		
g. MEMBER 7 NA.	. . . . .		

10. How good do you feel your group's product(s) was/were (circle ONE dot)?

Very Poor Average Very Good

. . . . . .

NAME TAG:

Questionnaire #2

Listed below are a number of questions designed to measure your impressions of this part of the study. Read each question carefully and circle ONE dot per response. If the question asks you to write in a response do so in the space provided below the question. In addition, if you are asked to refer to a group member please do so by refering to the person by name tag ID (e.g GRAY 1). NA=NOT APPLICABLE

1. How likable did you find each of the following participants (for EACH participant, circle the ONE dot that best describes your feelings)?

	Very Unlikable	Moderately Likable	Very Likable
a. BLUE 1	. . . . .		
b. BLUE 2	. . . . .		
c. BLUE 3	. . . . .		
d. BLUE 4	. . . . .		
e. BLUE 5 NA	. . . . .		
f. BLUE 6 NA	. . . . .		
g. BLUE 7 NA	. . . . .		

	Very Unlikable	Moderately	Very Likable
h. WHITE 1	. . . . .		
i. WHITE 2	. . . . .		
j. WHITE 3	. . . . .		
k. WHITE 4	. . . . .		
l. WHITE 5 NA	. . . . .		
m. WHITE 6 NA	. . . . .		
n. WHITE 7 NA	. . . . .		

2. List the three people you would most like as friends (please list each person by name tag ID)?

1. ----------

2. ----------

3. ----------

3. What person or persons would you say were leaders in the group during the task(s) in this second phase (list according to name tag ID)?

---

4. How much did you enjoy working on the task(s) in this second phase (circle ONE dot)?

Very Little		Moderately		Very Much
.	.	.	.	.

5. How frustrated did you become while working on the task(s) in this second phase (circle ONE dot)?

Very Little		Moderately		Very Much
.	.	.	.	.

6. How difficult did you find the task(s) during this second phase (circle ONE dot)?

Very Little		Moderately		Very Much
.	.	.	.	.

7. How much do you feel each person below cooperated during the task(s) in this second phase (circle ONE dot)?

		Very Little		Somewhat		Very Much
a. BLUE 1		.	.	.	.	.
b. BLUE 2		.	.	.	.	.
c. BLUE 3		.	.	.	.	.
d. BLUE 4		.	.	.	.	.
e. BLUE 5	NA	.	.	.	.	.
f. BLUE 6	NA	.	.	.	.	.
g. BLUE 7	NA	.	.	.	.	.

	Very Little		Somewhat		Very Much
a. WHITE 1	.	.	.	.	.

b. WHITE 2 . . . . . .

c. WHITE 3 . . . . . .

d. WHITE 4 . . . . . .

e. WHITE 5 NA . . . . . .

f. WHITE 6 NA . . . . . .

g. WHITE 7 NA . . . . . .

8. How much control do you feel you yourself had while working on the task(s) during this second phase (circle ONE dot)?

Very Little — Moderately — Very Much

. . . . . .

9. How much do you feel each person below participated in working on the task(s) during this second phase (for each member circle ONE dot)?

Very Little — Somewhat — Very Much

a. BLUE 1 . . . . . .

b. BLUE 2 . . . . . .

c. BLUE 3 . . . . . .

d. BLUE 4 . . . . . .

e. BLUE 5 NA . . . . . .

f. BLUE 6 NA . . . . . .

g. BLUE 7 NA . . . . . .

Very Little — Somewhat — Very Much

a. WHITE 1 . . . . . .

b. WHITE 2 . . . . . .

c. WHITE 3 . . . . . .

d. WHITE 4 . . . . . .

e. WHITE 5 NA . . . . . .

f. WHITE 6 NA . . . . . .

g. WHITE 7 NA . . . . . .

10. How good do you feel the business product(s) was/were during this second phase?

Very Poor	Moderately Good	Very Good
. . . . .	. . . . .	. . . . .

Appendix E

Appendix E
JOHNNY ROCCO

Please read the following story and develop, within your group, a 4-point rehabilitation program. Please record your answers on the BLANK sheet of paper that has been provided. Thank you.

Walk through the slum section of any American city some evening. Pause at the pool rooms, the dingy bars, the candy stores, and certain street corners where boys and young men gather. Any one of them might be a Johnny Rocco. Johnny is a short, chunky fellow of twenty. He looks older than his years. His hair, which is dark with a slightly reddish cast, is receding at the temples. He has dark eyes and a pale complexion. He carries his shoulders stiffly, walking with a cocky rolling gait. At first contact Johnny seems tough, very tough.

Johnny was born in a large mid-western industrial city. His parents Italian immigrants, had settled there at the turn of the century. There were nine other children aside from Rocco. The neighborhood where the Roccos resided was known as the worst in the city. It was also known for its high crime and juvenile delinquency rates.

Johnny's father worked irregularly as a bar tender, teamster, or day laborer. Two things he did regularly-he drank and gambled. In his drunken rages he often attacked the children and their mother. His father eventually died in a drunken brawl.

Johnny's mother was umemployed, and suffered from heart disease. Johnny had a love hate relationship with his mother because she favored his younger brothers over him. She resented Johnny, because of his bad behavior.

Johnny was in and out of trouble for most of his life. At one point it did seem as if his life was turning around when he met a counselor by the name of Mr. O'brien. Mr. O'Brien helped Johnny get into better schools, and into a foster home. However, although Johnny's behavior improved, he soon reverted to his previous behavior. As a result Johnny entered the military.

Johnny was discharged from the military after a short period inorder to care for his ailing mother. Johnny's mother died soon after he was discharged, and Johnny ended up marrying a girl he got pregnant. Johnny's child was born in August, and a few months later Johnny's wife gave birth to another child.

Answer Sheet-Task #1

SLOGAN

Please read the following description of a new toothpaste and within your group develop a slogan that is 25 words or less. Please put your answer on the sheet of paper provided.

The name of the product is PLACTIN. This new toothpaste reduces hard, crusty tartar that builds up above the gumline between dental visits. It also fights cavities with fluoristant. With proper brushing it also helps to remove plaque that can lead to gingivitis (red, swollen gums). Tests have shown that PLACTIN is 80% more effective in removing plaque than its competitors. Finally, PLACTIN is gentle on tooth enamel and safe for the entire family, and its minty taste is especialy appealing to children.

Answer Sheet-Task #2 Slogan

WORD

Within your group please generate as many words as possible from the word "ANTIDISESTABLISHMENT". Put your answers on the BLANK sheet of paper provided behind this sheet of paper. Thank you.

Answer Sheet-Task #3

TRUCK DILEMMA

Please read the following story and decide within your group who should get the truck. Please record your answers on the BLANK sheet of paper that has been provided. Thank you.

You are the foreman of a crew of repairmen, each of whom drives a small service truck to and from his various jobs. Every so often, you get a new truck to exchange for an old one and you have the problem of deciding which of your men should have the new truck. Often there are hard feelings because each man seems to feel he is entitled to the new truck, so you have a tough time being fair. You now have to face the same issue again because a new Chevrolet truck has just been allocated to you for distribution.

Here are some facts about the repairmen and their trucks.

	Years With Company	Type of Truck Used
George	17	2-year-old Ford
Bill	11	5-year-old Dodge
John	10	4-year-old Ford
Charlie	5	3-year-old Ford
Hank	3	5-year-old Chevrolet

Most of the men do all their driving in the city, but John and Charlie cover the jobs in the suburbs.

Answer Sheet-Task #4

Appendix F

Appendix F

Unless otherwise noted, n's for the following tables are as follows: A-A condition=6, A-B condition=7, B-B condition=5.

Table 1-3: Attraction

Table 1: Ingroup Attraction (Likert)

	AA	AB	BB		ANOVA (F,p)
Time 1	23.7	24.2	25.5	24.4	Gps: .29 NS
Time 2	25.1	24.9	24.6	24.9	Time: .79 NS
	24.4	24.6	25.1		GxT: 1.99 p<.18

Table 2: OutGroup Attraction (Likert)

	AA	AB	BB		ANOVA (F,p)
Time 1	20.1	21.7	21.4	21.1	Gps: .52 NS
Time 2	23.3	23.6	23.6	23.5	Time: 29.15 p<.05
	21.7	22.6	22.5		GXT: .82 NS

Table 3: Attraction (Sociometric): Lower scores equal greater outgroup attraction

	AA	AB	BB		ANOVA (F,p)
Time 1	2.1	2.2	2.3	2.2	Gps: .13 NS
Time 2	1.8	1.7	1.7	1.7	Time: 28.44, p<.05
	1.9	1.9	2.0		GXT: .49, NS

Table 4-7: Process Scores

Table 4: Cooperation

	AA	AB	BB		ANOVA (F,p)
Time 1	26.2	25.6	25.2	25.7	Gps: 1.26 NS
Time 2	25.3	23.5	23.5	24.1	Time: 6.90 p<.05
	25.8	24.5	24.4		GxT: .37 NS

Table 5: Participation

	AA	AB	BB		ANOVA (F,p)
TIME 1	25.1	24.5	23.9	24.6	GPS: 2.09, p<.16
TIME 2	25.5	22.9	23.4	23.9	Time: 1.69, NS
	25.3	23.7	23.7		GxT: 1.53, NS

Table 6: Leadership
(number of ingroup members listed)

	AA	AB	BB		ANOVA (F,p)
Time 1	2.5	2.6	2.8	2.6	Gps: .90. NS
Time 2	1.5	1.6	1.5	1.5	Time: 395.71, p<.05
	1.9	2.1	2.1		GxT: 2.74, p<.10

Table 7: Total Scores
(total number of people listed as leaders)

	AA	AB	BB		ANOVA (F,p)
Time 1	2.5	2.6	2.8	2.6	Gps: 1.74, NS
Time 2	2.7	2.9	2.8	2.8	Time: 7.835, p<.05
	2.6	2.8	2.8		GxT: 1.39, NS

Table 8: Control

	AA	AB	BB		ANOVA (F,p)
Time 1	24.4	22.2	22.8	23.1	Gps: 6.10, p<.05
Time 2	21.9	19.8	20.3	20.7	Time: 25.24, p<.05
	23.2	20.9	21.5		GxT: 0.0, NS

Table 9-12 Task Perception Scores

Table 9: Enjoying the Task

	AA	AB	BB		ANOVA (F,p)
Time 1	23.7	21.2	23.9	22.8	Gps: 1.35, NS
Time 2	25.9	25.3	26.3	25.8	Time: 36.08, p<.05
	24.8	23.3	25.1		GxT: 1.71, NS

Table 10: Frustration

	AA	AB	BB		ANOVA (F,p)
Time 1	10.7	8.9	10.9	10.1	Gps: .12, NS
Time 2	5.9	7.1	6.0	6.4	Time: 26.13, p<.05
	8.3	7.9	8.5		GxT: 1.79, NS

Table 11: Difficulty

	AA	AB	BB		ANOVA (F,p)
Time 1	12.5	11.7	13.6	12.5	Gps: .14, NS
Time 2	6.9	8.0	6.9	7.4	Time: 70.58, p<.05
	9.7	9.9	10.3		GxT: 1.95, p<.18

Table 12: Product Quality Evaluation

	AA	AB	BB		ANOVA (F,p)
Time 1	23.6	24.2	22.9	23.6	Gps: .05, NS
Time 2	23.9	22.9	23.8	23.5	Time: 0.0, NS
	23.7	23.6	23.3		GxT: .60, NS