

Division of Research
School of Business Administration

April 1989

PROCESS FEEDBACK IN TASK-ORIENTED SMALL GROUPS

Working Paper #602

Poppy L. McLeod
Jeffrey K. Liker
Sharon A. Lobel
Gretchen M. Spreitzer
The University of Michigan
and
Marcial F. Losada
Shaul Markovitch
Electronic Data Systems

FOR DISCUSSION PURPOSES ONLY

None of this material is to be quoted or
reproduced without the expressed permission
of the Division of Research

Copyright 1989
University of Michigan
School of Business Administration
Ann Arbor, Michigan 48109

Process Feedback in Task-Oriented Small Groups

Abstract

An experiment was conducted in which task-oriented small groups received interpersonal process feedback or did not receive process feedback. A computerized version of SYMLOG, a system specifically designed to analyze and feed back interpersonal behavior, was used. The feedback compared groups' actual behaviors to ideal behaviors based on three dimensions of interpersonal behavior. The results showed that behavior along the dominance dimension was most responsive to the feedback and that behavior along the task vs socio-emotional dimension responded to the feedback in the direction opposite to the hypotheses. The relative salience of the behavior dimensions is discussed and implications for research and practice are presented.

A large proportion of the research literature on small groups has focused on the impact of feedback. However, the organization and management literature has focused primarily on task performance, to the neglect of feedback on group process. Group process feedback research is found almost exclusively in the literature on therapeutic and self-improvement groups (Nadler, 1979). Nadler and others (e.g. Hackman & Morris, 1975) have called for more systematic research on process feedback in task-oriented small groups.

The limited research on process feedback in task groups suggests that this feedback operates in much the same way as task performance feedback (Nadler, 1979). Thus, the current study begins with this assumption and applies accumulated knowledge about performance feedback, especially from the goal-setting literature, to generate hypotheses about the effects of process feedback in task-oriented small groups. Two broad questions guided this study. First, what are the effects of immediate and specific group process feedback on subsequent group behavior? Second, are some aspects of behavior, more than others, amenable to change through process feedback?

We will address these questions with preliminary data taken from a larger, on-going study of the effects of feedback and technology on small groups. We conducted an experiment in which we manipulated whether or not task groups received process feedback, using a system and technology that enable delivery of immediate and specific feedback. Before describing our methodology and results, we review literature relevant to the research questions, and present specific hypotheses.

A long tradition of empirical research supports the intuitively appealing notion that knowledge of performance quality, or feedback, has a positive effect on group performance (Nadler, 1979; Zajonc, 1962; Walter, 1975; Locke,

Cartledge & Koepfel, 1968; Jenkins, 1948; Lott, Schopler & Gibb, 1955).

However, Locke and his colleagues (Locke et al., 1968; Spoelders-Claes, 1973) have argued and demonstrated empirically that simple knowledge of results does not lead to improved performance. Rather, knowledge of results leads to the setting of goals, which in turn affects subsequent performance.

Locke's work has also demonstrated reliably that goals that are specific, challenging and desirable to the individual are the most effective at changing behavior. In order to facilitate the setting of appropriate goals, feedback should also be specific and timely.

The few existing studies on process feedback in task groups point to its importance for effectiveness. In an early study, Lott, Schopler & Gibb (1955) found that feeling-oriented feedback reduced group members' defensive feelings more than did task-oriented feedback and thereby increased task efficiency in small problem-solving groups.

Nadler (1979) reviewed a number of studies in which videotape feedback was used. In these studies, groups watched themselves as they worked on a problem and in some cases, also watched a tape of a model group working on the same problem (see for example, Weber, 1982; Walter & Miles, 1972; Walter, 1975). In general, the most behavioral change occurred when groups received feedback about their own behavior and were exposed to a model. These findings are consistent with the task feedback findings in that knowledge of results combined with a clear goal produce the largest changes. It seems clear that some model of effective group process should be part of the process feedback given to groups.

The current study begins to address this gap in the literature. We apply the expectancy theory and goal-setting (Vroom, 1964; Locke et al., 1981) approaches found in the task performance feedback literature to process

feedback. We provided specific, timely feedback about interpersonal processes to groups along with norms for ideal levels of particular interpersonal behaviors. Furthermore, we addressed an issue that has not received previous attention in the literature--whether there are differential effects of feedback for various types of interpersonal behaviors.

Method

Participants

151 students in the Business Administration and Engineering schools of a large university served as the subjects in this study. They were undergraduate and master's students taking classes in organizational behavior or industrial engineering. Each subject was paid \$25.00 for approximately three hours of participation, not linked to course requirements or credit. However, as part of the incentive to participate they were told that they would receive feedback about their behavior in groups which could possibly affect group course performance.

The subjects worked on class projects in groups which remained intact all semester, and they participated in the experiment in these groups. Previous work (Hackman & Morris, 1975; Gallupe, DeSanctis & Dickson, 1988) has stressed the need in experimental group research to use intact rather than ad hoc subject groups. Thirty-four groups participated: 15 groups of master's level business students; 9 groups of undergraduate business students and 10 groups of undergraduate engineering students. The groups ranged in size from three to six members with an average of five members. The groups were all mixed sex. There were 93 males and 58 females.

Overview of experimental procedures

The variable manipulated for this study was the presence or absence of group process feedback. Each group was randomly assigned to one of the experimental conditions. 18 groups were in the nofeedback condition and 16 groups were in the feedback condition.¹ In both conditions, the subjects first worked on a project planning task (described below) and were given feedback on their task performance.

In the feedback condition, the task feedback was immediately followed by group process feedback (described below). They were permitted a 10 minute period to discuss the feedback among themselves following which they were told, "In order to give you the opportunity to make improvements in your group process we will have you work on a second problem". These instructions were intended to reinforce the subjects' tendencies to set process improvement goals.

In the nofeedback condition, the feedback and discussion period was treated as a general unguided discussion period. Approximately the same amount of time was allotted to this period as in the feedback condition. Following this period in both conditions, the groups then worked on an in-basket simulation task (described below) after which groups in both conditions received feedback on both their performance of this task and on their group process.

The subjects were not debriefed immediately following the experimental sessions to ensure that they would not pass biasing information to classmates who had not yet participated. All subjects were provided with a written summary of the study following the conclusion of the data collection period. All experimental sessions were videotaped, with the consent of the subjects,

and they were informed prior to the experiment that they would be observed during the session. Following the conclusion of each experimental session, the subjects were given a tour of the facility, including the observation room, and were introduced to the observers.

Experimental setting and equipment

The experimental sessions were held in a computer supported conference room located in a research center belonging to Electronic Data Systems. The groups were observed from behind a two-way mirror where the controls for the videotape equipment were located. For this experiment the observation room was equipped with three MacIntosh II computers for recording the behavioral observations.

Observation methods

The behavioral observations were made using SYMLOG, an acronym for Systematic Multiple-Level Observation of Groups (Bales & Cohen, 1979). This system has grown out of over 30 years of work with small groups at Harvard by Bales and his colleagues (Bales, 1988). SYMLOG was designed specifically to give feedback to groups about interpersonal dynamics, and has been used extensively in this manner in self-analytic groups. According to Schneider & Becker-Beck (1988), SYMLOG provides "ideal instruments and methods for studying feedback in all its ramifications." Furthermore, "SYMLOG methods open the possibility to define goals of behavior, and to evaluate intended changes in line with these goals" [pg. 126]. Thus, SYMLOG is well suited for the current study's purpose of providing specific feedback and interpersonal process goals to task-oriented small groups. The current study makes a further contribution to the literature in that it is the first controlled experimental study of the feedback effects of SYMLOG.

At the heart of SYMLOG are three bi-polar dimensions of interpersonal behavior. The first dimension is Dominant-Submissive. In SYMLOG, behaviors such as talking often or taking initiative would be considered dominant behaviors. On the other hand, sitting quietly or acting obediently are examples of submissive behaviors in SYMLOG terms. The second dimension is Friendly-Unfriendly. We have found that many people are made uncomfortable by what they consider to be the value-laden connotations of these labels. In order to avoid offending our subjects, throughout this study we used the alternate labels Group-Oriented vs. Individualistic. In SYMLOG terms group-oriented behaviors are ones such as cooperation or nurturance while individualistic behaviors are ones such as rebelling or disagreeing.

The third dimension is Instrumentally Controlled and Task-Oriented vs. Emotionally Expressive. This dimension captures the classic distinction between task and socio-emotional behaviors in groups (Bales, 1958). Examples of task-oriented, controlled behaviors are gathering or organizing information, while expressive behaviors include joking or showing affection. It is possible that emotionally expressive behaviors can be used in the service of the task. Thus, in this study we used the convention that emotional behaviors in direct service of the task should be coded as task behaviors. Combined, the three dimensions yield more specific behavioral descriptions.

Observers in the current study. A total of 11 people served as the observers in this study. They had backgrounds either in management, social or health sciences. Only one of them had been exposed to SYMLOG prior to this study. There were three male and eight female observers. Each saw an average of seven sessions. They were thoroughly trained in recognizing the specific types of behavior and recording their observations according to SYMLOG

protocol using computers. The experiment agenda was arranged carefully so that the observers would be blind to the feedback condition of the groups.

Three-person teams were assigned to each session. According to Bales & Cohen, teams with as few as three members can achieve good interrater reliability especially on the group-oriented vs. individualistic and task vs. emotional dimensions. Furthermore, the technology we used allowed for a much greater volume of codes than could be achieved under the conventional methods assumed by Bales & Cohen, and thus gives us a data set more reliable than would be otherwise expected with three-person observation teams. At the time of this writing, interrater reliability statistics were not yet available from the data set, thus our findings will be reported with caution.

The observation technology. Two of the authors designed a computer interface, using the Hypercard language that allows SYMLOG observations to be recorded directly online. This piece of software has been named HyperSYMLOG. Using a mouse, observers can simply point to icons on the computer screen representing the group members and the type of SYMLOG behavior to be recorded. With a click of the mouse, the entire message is placed into a disk file. Observers can make as many as six or seven observations per minute using this software as compared to three to four using paper and pencil. Since the data are placed directly into a disk file, they can be analyzed instantaneously and fed back to group members.

Feedback

The feedback was linked directly to the SYMLOG dimensions. We wanted feedback that was specific and prescriptive. Further we wanted to deliver the feedback in a way that would enable the subjects to set goals for their groups. We presented the groups with "ideal" ranges of the three SYMLOG behavioral dimensions and compared each group's actual data to those ideal

ranges. Thus, groups could see how far outside of these ranges they fell, and set goals for their behavior to fall within these ranges.

Development of the ideals. While Bales' work does not provide specific guidelines for quantifying the behaviors leading to effective group process, there nevertheless exist generally accepted ideas of what kinds of behaviors and in what relative proportions are necessary for effective group work. For example Bales (1958) has demonstrated the importance of balancing task and socio-emotional behaviors in groups. Furthermore, if a subgroup of people dominate the group's activities, to the exclusion of less dominant members' input, group effectiveness generally suffers (Bales & Cohen, 1979). Additionally, cohesive groups--those in which group-oriented behaviors outweigh individualistic behaviors--are generally more effective than are non-cohesive groups. While there are naturally exceptions to these principles (eg. Janis, 1973), they apply reasonably well to task-oriented groups.

For the current study, we identified three principles of effective interpersonal processes in small task-oriented groups based upon the three SYMLOG dimensions. We then operationalized these principles as the number of points between the two most extreme members on each dimension. We established the ideal ranges for these point spreads based upon theoretical guidelines given by Bales & Cohen combined with empirical SYMLOG observations of numerous groups (McLeod, 1985).

The principles are as follows:

1. Effective groups should have even levels of participation among the members. Greater than a 7-point range between the most dominant and most submissive members is beyond the range of effective group process.
2. Effective groups should have a preponderance of group-oriented

behaviors. Greater than a 9-point range between the most group-oriented and the most individualistic members is beyond the range of effective group process.

3. Effective groups should show a balance between task and socio-emotional behaviors. Greater than 18 or less than 9 points between the most task-oriented and the most socio-emotional members is beyond the range of effective group process.

Feedback procedures. The feedback consisted of showing the subjects a summary "field" diagram of the SYMLOG ratings of their group. The diagrams result from aggregating the observations across the team of observers and over the time of the group discussion. The data are analyzed according to the methods described by Bales & Cohen to produce these diagrams. The diagrams show the positions of each group member on each of the dimensions and the ranges between the most extreme members on each dimension.

The experimenter first explained carefully the nature of the SYMLOG dimensions and how to interpret the diagram. Then the effectiveness principles were explained and the ideal ranges were presented. As the ideal ranges were presented, each group's actual ranges were also presented. The experimenter made no interpretations or judgments of the subjects' data. The ideal data and the actual data were simply presented to the subjects.² The experimenter stressed that if the group wanted to make changes in its process, that it was the responsibility of everyone, not just one or two members.

Experimental Tasks

Two tasks were used in this study. The first was a project planning task. It is a ranking task, similar to tasks such as the NASA Lost on the Moon exercise that are used to demonstrate the benefits of group decision making. In this task a list of 20 management activities has to be arranged

according to the proper sequence for planning, organizing, implementing and controlling a project. A couple of examples are: 1. Review current project situation; 2. Decide on a basic course of action. The groups were instructed to solve this problem through group consensus, within 30 minutes. Following completion of the task, the correct answers, based on the judgment of experts in project planning were provided.

The second task was an in-basket simulation task. The groups took the role of a manager with limited time, faced with an in-basket full of correspondence requiring some response. The task was to decide, again by consensus, what actions would be taken for each of the nine items in the in-basket within 50 minutes. Following completion, they were given the actions suggested by experienced managers.

Dependent variables and Hypotheses

Data collection for this study was completed two weeks prior to this writing, and data coding is still underway. Thus the results presented are preliminary. The dependent variables are based upon the ranges of behavior on each dimension between the most extreme group members (e.g. between the most dominant and the most submissive member).

We expected that after feedback the behavior in the feedback groups would change in a direction consistent with the feedback they received and would be closer to the ideals. For the dimensions of dominance and group-orientedness the feedback ideals presented stressed that smaller ranges between the extreme members were desirable. The task-oriented dimension ideal was curvilinear-- above or below certain numbers would be undesirable. However the actual data on this dimension, as will be seen below, fell within a very narrow range so that virtually all the groups received feedback indicating that their actual range was too narrow.

This reasoning led to the following hypotheses:

H1a: Following feedback, the behavior ranges in the feedback groups for the dominant vs. submissive and the group-oriented vs. individualistic dimensions should be smaller than in the no feedback groups.

H1b: Following feedback, the behavior ranges in the feedback groups for the task-oriented vs. emotional dimension should be larger than in the no feedback groups.

H1c: Before feedback, there should be no significant difference between feedback and no feedback groups in size of behavior range for any of the dimensions.

H2a: Following feedback, the behavior ranges of the feedback groups should be closer to the ideal than in the no feedback groups, on each dimension.

H2b: Before feedback, there should be no significant differences between the feedback and no feedback group in the distance between actual and ideal behavior ranges on any dimension.

Results

The data were analyzed using t-tests comparing groups in the feedback condition to groups in the no feedback condition. In all cases the analyses to be reported are at the group level. Table 1 presents the means and t-test results. Following feedback, the range of dominant vs. submissive behavior among feedback groups was significantly smaller than for the no feedback groups, as expected ($p < .05$, one-tailed). The effect on the group-oriented dimension was in the right direction, but not statistically significant. By

contrast, the effect on the task-oriented dimension was significant and in the direction opposite to the hypothesis ($p < .05$, one-tailed). That is, the range of behavior among the feedback groups was smaller than among the no feedback groups on the second task. The groups did not differ significantly before feedback on any dimension.

The analysis of the distance between the actual and ideal ranges showed a pattern of results parallel to those above. The feedback groups showed ranges of dominant vs. submissive behavior that were significantly closer to the ideal ranges following feedback than the no feedback groups, as expected ($p < .05$, one-tailed). The effect on the group-oriented dimension was in the same direction but not statistically significant. As before, the task-oriented dimension effect was significant and opposite to the expected direction ($p < .05$, one-tailed). That is, the feedback groups showed ranges of behavior that were significantly further from the ideal following feedback than the no feedback groups.

Discussion

The results of this study supported the hypotheses for the dominant vs. submissive dimension. Groups receiving feedback showed the largest difference from the no feedback groups and were closest to the ideal behavior ranges following feedback along this dimension. The results for the group-oriented vs. individualistic behavior dimension were parallel, but were not as strong, and the results for the task-oriented vs. emotionally expressive behavior dimension were contrary to our hypotheses. This discussion will center around explanations for the differences in effects on these dimensions.

A useful question is why did the experiment seem to "work" for the dominant vs. submissive dimension and not for the others? While we were

running the experimental sessions it quickly became clear that the subjects were paying more attention to the feedback on this dimension and seemed to concentrate most consciously on changing this particular aspect of their groups' behavior. Thus, we speculate that this dimension of behavior responded more to the feedback because it was most salient to the subjects in this study, and that the salience of this dimension interfered with their ability to pay attention to the others.

Several explanations for the salience of the dominant vs. submissive dimension, relative to the other two are possible. First, it is possible that this behavior dimension best fits the model of effective feedback. That is, it is the most specific and clear. For example, the subjects seemed to find it easy to conclude that "in order to get our behavior range closer to the ideal we have to get Chris to talk more and Pat to talk less". It may have been less clear to the subjects what specific behaviors should change in order to be more group-oriented or less task-oriented.

Second, the equality of participation principle presented in the feedback is consistent with larger societal values in favor of democracy. This value may have been further emphasized for these subjects because the classes from which they were recruited stress consensus, participation and democracy in the work place. Even in the experiment itself, the subjects were instructed to use group consensus when working on the tasks. For these reasons, equality of participation may have been an easier concept for these to grasp than balance between task vs. socio-emotional behavior, for example.

A third explanation is that the dominant vs. submissive dimension may have the most vivid imagery on the diagrams they were presented. The standard format for SYMLOG field diagrams (Bales & Cohen, 1979) represents each group member in a two-dimensional space with the group-oriented and the task-

oriented dimensions as the coordinates. Each member is indicated by a circle labeled with his or her name, the size of which corresponds to position on the dominance dimension. Perhaps seeing the large and small circles representing the group members made this dimension most salient in the minds of these subjects.

The nature of the effect was such that feedback groups became generally more task-oriented relative to the no feedback groups following feedback. The effect we observed in this study then, could be a fallout from their efforts at altering their dominance behavior. Perhaps their attention to the dominance behavior made them appear more serious.

Another explanation is that perhaps the task-oriented vs. emotional dimension fits least well the criteria of effective feedback. The behaviors identified by this dimension are less clear and specific than for the dominance dimension. Furthermore, the time constraint placed on the tasks contributed to the groups' task focus. Since the ideals developed for this dimension were based on a research tradition of working with self-analytic groups which exhibit more expressive behavior than was actually observed in the experiment, the goals presented by the feedback may in fact have been unattainable for the subjects under these task conditions.

These possible explanations for the pattern of results obtained in this study represent avenues for future research. This study also raised a number of implications for practice. First it demonstrates the power of process feedback. Small doses of immediate process feedback affect subsequent group process at least up to one hour after the feedback. These effects were demonstrated in leaderless groups of students with no particular training in group process. Thus, the potential in groups with well trained members and facilitators could be great.

These findings suggest also that groups may have difficulty in digesting multi-dimensional feedback. It needs to be broken down into manageable chunks. This suggests that one-shot feedback sessions should focus on getting across only one or a very few simplistic rules. More complex feedback should only be planned for long term situations. Attention should also be given to the design of visual displays of data so that particular aspects of feedback are not made disproportionately salient. Bales (1989, personal communication) agrees that feedback is most effective in small doses, over extended time periods, and when the recipients have the opportunity to think carefully about it. He says it is analogous to a mother bird feeding hungry chicks. Even though the chicks' mouths are wide open the mother still has to expend tremendous effort to find the food, grind it up and slide it down their throats.

This study also demonstrated the potential usefulness of SYMLOG as a feedback tool. It is a system that people can readily understand and can begin to use its more basic capabilities after very little training or explanation. Its contributions to research remain to be fully exploited and it deserves more attention in this regard.

References

- Bales, R. F. (1958) Task roles and social roles in problem-solving groups. In E. E. Maccoby, T. M. Newcomb & E. H. Hartley (Eds.) Readings in Social Psychology. New York: Holt, Rinehart and Winston, Inc. 437-447.
- Bales, R. F. (1978) A new overview of the SYMLOG system: measuring and changing behavior in groups. In R. B. Polley, A. P. Hare & P. J. Stone (Eds.) The SYMLOG Practitioner: Applications of Small Group Research. New York: Praeger.
- Bales, R. F., & Cohen, S. P. (1979) SYMLOG: A System for the Multiple Level Observation of Groups. New York: Free Press.
- Gallupe, R. B., DeSanctis, G. & Dickson, G. W. (1988) Computer-based support for group problem finding: An empirical investigation. MIS Quarterly, 12, 277-298.
- Hackman, J. R., & Morris, C. M. (1975) Group tasks, group interaction process and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.) Advances in Experimental Social Psychology, 8, New York: Academic Press.
- Janis, I. (1973) Victims of Groupthink: A Psychological Study of Foreign Policy Decisions and Fiascos. Boston: Houghton Mifflin.
- Kim, J. S. & Hamner, W. C. (1976) Effect of performance feedback and goal setting on productivity and satisfaction in an organizational setting. Journal of Applied Psychology, 61, 48-57.
- Locke, E. A., Cartledge, N. & Keoppel, J. (1968) Motivational effects of knowledge of results: A goal-setting phenomenon? Psychological Bulletin, 70, 474-485.
- Locke, E. A., Shaw, K. N., Saari, L. M & Latham, G. P. (1981) Goal setting and task performance: 1969-1980. Psychological Bulletin, 90, 125-152.
- Lott, A. J., Schopler, J. H. & Gibb, J. R. (1955) Effects of feeling oriented and task oriented feedback on defensive behavior in small problem-solving groups. American Psychologist, 10, 335. (Abstract)
- Nadler, D. A. (1979) The effects of feedback on task group behavior: A review of the experimental research. Organizational Behavior and Human Performance. 23, 309-338.
- Schneider, J. F. & Becker-Beck, U. (1988) Delivery and reception of feedback in academic SYMLOG groups: A problem analysis. In R. B. Polley, A. P. Hare & P. J. Stone (Eds.) The SYMLOG Practitioner: Applications of Small Group Research. New York: Praeger.
- Spoelders-Claes, R. (1973) Small group effectiveness on an administrative as influenced by knowledge of results and sex composition of the group. European Journal of Social Psychology, 3, 389-402.

Vroom, V. H. (1964) Work and Motivation, New York: John Wiley & Sons.

Walter, G. A. (1975) Effects of video tape feedback and modeling on the behaviors of task group members. Human Relations, 28, 121-138.

Walter, G. A. & Miles, R. E. (1972) Essential elements for improving task-group membership behaviors. Proceedings of the American Psychological Association Annual Convention, 7, 461-462.

Weber, R. J. (1971) Effects of videotape feedback on task group behavior. Proceedings of the American Psychological Association Annual Convention, 6, 499-500.

Zajonc, R. B., (1962) The effects of feedback and probability of group success on individual and group performance. Human Relations, 15, 149-161.

Table 1
Mean values and t-test results

<u>Variable</u>	<u>Feedback</u>	<u>Nofeedback</u>	<u>t</u>	<u>p (one-tailed)</u>
Task 1				
behavior range^b				
Dominance	15.06 (5.94) ^a	17.89 (6.20)	1.35	.093
Grp-orient.	9.12 (4.99)	10.83 (4.89)	1.01	.161
Tsk-orient.	4.81 (2.26)	5.83 (2.83)	1.15	.129
Task 2				
behavior range				
Dominance	10.69 (5.11)	16.06 (5.38)	2.97	.003
Grp-orient.	12.62 (5.76)	14.89 (5.66)	1.15	.128
Tsk-orient.	4.94 (2.41)	6.89 (2.97)	2.11	.021
Task 1				
ideal vs. actual^c				
Dominance	8.12 (5.84)	10.89 (6.20)	1.33	.192
Grp-orient.	1.75 (4.01)	2.72 (4.10)	.070	.491
Tsk-orient.	4.19 (2.26)	3.44 (2.31)	-0.95	.351
Task 2				
ideal vs. actual				
Dominance	4.31 (4.36)	9.17 (5.16)	2.94	.006
Grp-orient.	4.25 (4.99)	6.28 (5.11)	1.17	.251
Tsk-orient.	4.12 (2.28)	2.50 (2.43)	-2.00	.054

- a. Standard deviations are in parentheses.
b. Absolute difference in scores between the most extreme members on each dimension (e.g. between the most dominant and the most submissive people).
c. Absolute difference between the actual and ideal behavior ranges on each dimension.

Notes

1. These N's are not equal because two groups dropped out late in the experiment.
2. The full text of the instructions to the subjects is available from the senior author.