Effects of the Group Discussion Process on the Persistence of Involvement

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ABSTRACT

The determinants of the persistence of involvement in what was discussed in a group are examined, focusing on the discussion process. An experimental procedure was developed to automatically measure several aspects of the process including interpersonal influence that was measured in terms of the changes of preference for alternatives that subjects showed following a short speech by another subject. The procedure used 27 four-person groups, 15 all-male and 12 all-female. The results showed that the amount of interpersonal influence a member gave the others, rapid move toward agreement, participation by speech, and discussion time elapsed contributed to determining the persistence of involvement over the month following discussion. Which of these variables was effective depended on gender and the extent of the persistence concerned. The method was considered instrumental in training to improve social skills for group problem solving, group decision making and other group work.

Key words: group discussion, social influence, persistence of involvement, group processes, influence measurement, group dynamics.

Group discussion is widely used in our daily lives for problem solving and decision making. It can be also useful for educational purposes like Buzz learning (Shioda & Ishida, 1987) and for clinical purposes like T-groups (Bradford, Gibb, & Benne, 1964) and encounter groups (Rogers, 1970). Actually, group discussion is a key component in group work, whether it aims at intervention at the individual, interpersonal, organizational, or community level, whether it is directed toward correction or improvement, and whether it is task-oriented or human-development-oriented (Conyne, 1985).

One of the more interesting topics in the area of group discussion is the study of factors that affect how participants persist in their involvement in what was discussed in a group after the discussion was over, i.e., the determinants of the persistence of involvement. This paper examines in a quantitative fashion some factors in the discussion process that affect the persistence of involvement, with an emphasis on how the interpersonal influ-

This research was supported by the 1986 Grant-in-Aid for Scientific Research (Project No. 61710062) of the Japanese Ministry of Education, Science, and Culture.

The author would like to thank Chris Crandall, not only for his assistance in editing the manuscript in English, a second language for the author, but also for his helpful comments on the research.

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ence process affects the quality and quantity of maintaining involvement in the content of discussion.

A number of studies of group (or participative) decision making, a form of group discussion, have demonstrated a strong relationship between the process of decision making and its execution that reflects persistence of involvement. In one of the earliest and most famous sets of studies, Lewin and his collaborators (Lewin, 1947; Radke and Klisurich, 1947) found that a group decision was more effective in changing food habits than a persuasive lecture or individual instruction. Group leaders led the individuals in the group to the decision to change food habits in a friendly and informal fashion, without resorting to pressure tactics that would have interfered with the group members' sense of freedom of choice.

The effectiveness of Lewin's technique has been confirmed in a wide variety of studies (e.g., Bennett, 1955; Lawrence and Smith, 1955; Levine and Butler, 1952; Makita et al., 1953; Misumi, 1956, 1960, pp. 248-252; Misumi and Haraoka, 1958, 1960; Misumi and Shinohara, 1967; Tomokovic, 1962). While reaching a decision through discussion is not sufficient for its execution, the process of voluntarily making a decision in a group setting is one crucial aspect in actually carrying it out.

In the same tradition, work on participative decision making has shown that the participative process affects the likelihood of a decision being executed (Bavelas and Strauss, 1961; Bose, 1957 [cited in Likert, 1961]; Coch and French, 1948; King, 1964 [as cited in Bucklow, 1966]; Kuriloff, 1963; Maier, 1965, pp. 160-162; Misumi, 1982; Thorsrud and Emery 1964, 1966, pp. 439-447). These studies, largely done among rank-and-file factory workers, demonstrated that workers are more motivated to carry out a decision and feel more involved in the process when they participate in the decision making. The more participative the decision making, the more likely a group decision will be executed.

Although the studies have demonstrated the effectiveness of participative decision making, they did not quantitatively examine the group process. While participativeness promotes effective execution, it is not clear what happens within the group that accomplishes this. Furthermore, these studies have tended to use the group as the level of analysis. It is possible that not all members were committed to carrying out the group's decision; most likely, there were individuals who worked toward executing the decision, and those who did not. This difference may be due, in part, to the particular individual's behavior and the behavior of others toward him or her, during the group decision process.

To investigate this hypothesis, one must carefully examine the behavior of the individuals during group discussion. Two typical methods have been used to this end. The content of members' speech has been coded by a pair (or more) of observers using a system such as SYMLOG (Bales, 1950; Bales and Cohen, 1979; Hoffman, 1979). Of course, the validity of the technique rises and falls on the degree of inter-rater agreement. Another technique often employed is the post-discussion questionnaire. This technique is not well-suited to the measurement of actual behavioral aspects of the interaction, as it relies on the individual's memory of the interaction process, and is likely to be both error-prone and biased.

The present study is an attempt to introduce a new method to measure discussion process, with emphasis on interpersonal influence in a small group, which constitutes a large part of the group discussion process. Using the method developed, the role that process variables play in effecting the persistence of involvement will be examined. Specifically, the process variables include both group variables and individual variables listed in Table 2 and described in detail later. The extent to which subjects carry out an experimenter's request concerning the content of the discussion in the month following the discussion will serve as a dependent variable reflecting their persistence of involvement in what was discussed.
Method

Subjects

Subjects were 60 male and 48 female Japanese college students who responded to posters at several universities and colleges requesting participants for an approximately one-hour discussion task with the payment of one thousand yen, standard amount for a one-hour job. Twenty-seven four-person groups (15 all-male, 12 all-female) were created. None of the subjects knew each other or the experimenter prior to coming to the laboratory. The experimenter was a female undergraduate student.

Apparatus

Fig. 1 illustrates the physical layout of the experimental situation. A computer network consisting of four subject computers was attached to the experimenter’s master computer, which both controlled the experimental process and collected preference data. Subjects were physically separated from each other by a cloth partition, to prevent non-verbal communication through eye contact and facial expression.

Procedure

Four subjects at a time were brought into the lab, seated at the terminals, and made familiar with the preference assignment procedure by means of a simple quiz game that worked analogously to the procedure described later.

After subjects became accustomed to the keyboard operation and discussion procedure, the experimenter explained that she was doing a study on “mass communication,” and was collecting evaluations of newspaper articles written by a college student for that purpose. Subjects were presented with five articles prepared by the experimenter on political, economic, social, and scientific issues, that were representative of topics currently in the Japanese mass media. The subjects’ task was to choose the article, about which a college student would most likely be interested in writing an evaluation. Pretesting showed that none of the articles were significantly preferred over any of the others. Subjects were told that the article they chose would in fact be sent to other college students by mail in order to collect their evaluations of the article.

Measurement. The speech/measurement cycle was repeated a number of times in each group. Subjects were instructed to choose among five alternatives. At the time of initial measurement of preferences, each computer displayed ten asterisks (“*”) along the bottom of the screen. Subjects independently and privately assigned each of the ten asterisks (or “dots”) to the five alternatives according to the amount of relative preference for each alternative. An example of such an assignment is shown in Fig. 2.

Dots are assigned from the bottom line to an alternative by pressing the corresponding number key. They were able to work back and forth.

1 **
2
3 ****
4 *
5 *

You have in hand —— **

Fig. 2. The display of a subject’s computer.

Note. It shows that the subject has assigned eight dots and has two dots in hand.
assigning and reassigning preference value until satisfied, and then pressed the space bar to signal that they had finished. After the space bar was pressed, the screen flashed “Wait a moment.” while the data from the subjects were tabulated, and sent to the experimenter’s display, as shown in Fig. 3. Subjects’ preferences were not made public.

When initial preferences had been assessed, subjects’ screens read “Press the space bar when you wish to speak.” At this point, whoever wished to make some kind of speech was allowed to press the space bar. Latency to the first bar press was measured by the experimenter’s computer. The screen of the first person to press the space bar read “You may speak. When you finish speaking, press the space bar. If you wish to close the discussion, press the ‘1’ key.” Only the first person to press the space bar received this message. Those who pressed the space bar after the first subject had to wait until after the next preference assessment to speak. All other subjects’ screens read “Subject No.- is speaking.”

When this round of speaking was over, each subject was then presented with his/her previous preference distribution, and given the opportunity to make changes. Once any and all changes had been made and recorded, the subjects were prompted with the “Press the space bar when you wish to speak,” and the cycling continued.

If the speaker elected to push the ‘1’ key, indicating that he or she wished to close the discussion, then all subjects were given the opportunity to end the discussion after preferences were reassessed. The screen prompted them with “Would you like to close discussion? (1=Yes, 2=No),” and if any subject responded negatively, the discussion continued. If all subjects indicated they wished to close discussion, the experimenter verbally checked with the subjects, and if they concurred the discussion was concluded.

While the preferences were being measured, the experimenter’s screen displayed the preference weightings of the subjects (as in Fig. 3). While the group was “in search” of a speaker, the screen displayed cumulative time from the beginning of the discussion, consisting of both time in search of a speaker and time used in a speech. The screen also displayed the speaking subject’s number. All these data were captured on videotape, along with the actual verbal contents of each speech.

The experimenter made clear that subjects should respond on the computer with their own preferences, even if they planned to follow the group consensus. Subjects were also told that they were prohibited from making any remarks such as a brief agreement or joke unless they had been designated as the speaker.

Experimenter’s Request. After the group came to an agreement about which article to choose, the experimenter expressed her hope that each of the subjects would cooperate in obtaining an evaluative description of the article chosen by the group. Here, it was emphasized by the experimenter that the cooperation was the extra that was never covered by the amount of payment and that subjects were, therefore, totally free in deciding whether they would cooperate or not.

The experimenter then distributed a large

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>2</td>
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<tr>
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<td>2</td>
<td>2</td>
<td>3</td>
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<td>0</td>
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<td>S3</td>
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</tr>
<tr>
<td>S4</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

(CYCLE 12) Elapse Time 0:24:53

Fig. 3. The display of experimenter’s computer. 

Note. It is in the stage of measurement of preferences after the 12th speech. It shows that three of the four subjects have finished assigning dots, and that 24 minutes and 53 seconds have elapsed in the previous and present stages of searching for a speaker and speech. Subject 1, for example, assigned one, three, zero, four, and two dots to the first through fifth alternative, respectively.
envelope containing materials with which they could obtain such evaluation by mail, along with a card with the name and address of a “college student” from whom the subject was to obtain an evaluation. Every “college student” was a confederate of the experimenter.

The contents of the envelope represent the dependent variables in this experiment, and are used to measure the degree of persistence of involvement in what was discussed in a group.

The contents were as follows:
(a) A manual in which the collection procedure was detailed.
(b) A copy of the newspaper article chosen by the subject’s group.
(c) A cover letter, to be used to ask the confederate to make an evaluation of the article.
(d) A paper on which to write the evaluation.
(e) A pre-stamped envelope for mailing out the materials (b, c, d, and f) to the confederate.
(f) A pre-stamped envelope for use by the confederate to send his or her evaluation to the subject.
(g) A pre-stamped envelope with which the subjects could send back the written evaluation from the confederate to the experimenter.
(h) A pre-stamped postcard on which the subject was to write a first reminder to the confederate in the event he/she did not elicit a response. The manual included an example of the reminder.
(i) A second pre-stamped postcard to be used if the first postcard did not elicit a response. The manual included an example of the second reminder.

The manual clearly outlined the procedure by which to mail the materials. By the day following the discussion, subjects were to send materials (b), (c), (d), and (f) to the “student” on the address card. When the evaluation was received, subjects were to transfer it to the experimenter with envelope (g).

Confederates were instructed to make no response to the subjects, and brought all of the mailings they received to the experimenter. Thus all subjects, if they were to execute the experimenter’s request in its entirety, would have to perform all of the above steps.

Changes in preference as interpersonal influence.
Change in preference among group members following a speech indicates the amount of the speaker’s influence. It is assumed that each asterisk in the display has a preference weight of 0.1 and that ten asterisks therefore total 1.0.

At this point, let us examine the quantitative representation of interpersonal influence. In the following equations, let the preference of member $i$ for an alternative $k$ at the $s$th measurement period be given by

$$sP_{ik} \quad (s=0,1,2,...,m; \quad i=1,2,...,n; \quad k=1,2,...,r).$$

When $s$ is equal to zero, $sP_{ik}$ represents preference immediately before the group discussion starts. The total number of speeches during the discussion is $m$; $n$ and $r$ denote the number of members and alternatives, respectively.

The amount of influence of a particular speech by member $i$ on member $j$ is defined as the shift in preference of $j$. This influence, during the $s$th speech in a discussion, is represented as:

$$\sqrt{\frac{1}{r} \sum_{k=1}^{r} (sP_{ik} - s_{i-1}P_{ik})^2 / 0.02}$$

Dividing by 0.02 is only for purposes of computational convenience. With the above formula, an amount of shift, or influence is counted as one unit, if a single asterisk is moved from one alternative to another. Similarly, moving two asterisks together from an alternative to another is counted as a shift of two units, while moving two asterisks in the same alternative to two different alternatives, one for each, is counted as a shift of...
The formula also represents, as a reciprocal, the influence that member \( j \) received from member \( i \) by the \( s \)th speech made by \( i \). Thus, using this formula allows us to calculate both the influence a person gives with his or her speech, as well as how much a person is influenced by a speech of one of the others (received influence). Also, the amount of influence of member \( i \) on the other members is obtained by summing the amount of influence on each of the other members.

If member \( i \) makes a certain number of speeches during a discussion, the amount of cumulative influence on member \( j \) as a result of these speeches is represented as \( I_{ij} \). If one member speaks five times in a discussion, summing the amount of influence of \( i \) on \( j \) for those five times gives \( I_{ij} \). Similarly, one may represent the cumulative amount of influence of \( i \) on the other members as \( I_{in} \) and the cumulative amount of received influence of member \( i \) by the other members as \( I_{oi} \). Unless otherwise noted, discussion of influence (or received influence) denotes cumulative influence (or received influence) on (or by) the other members in a whole discussion.

**Process variables**

Group-process variables measured during the discussion are broken into two distinct types: those associated with the group session (group variables), and those associated with individuals within the groups (individual variables). The two types of variables, listed in Table 2, are described below.

The experimental procedure made it possible to identify both the beginning and the end of a speech by a particular individual. The number of speeches represents how many times a group member spoke during the discussion, and speaking time represents the cumulative time spent speaking by a particular group member. The total number of speeches represents the group version of the same variable, i.e., the total number of speeches made by all four group members, and the total speaking time represents the total time spent speaking by all four group members. The total elapsed time is the sum of the total speaking time and the total time spent in search of a speaker.

The amount of influence and received influence are represented by \( I_{in} \) and \( I_{oi} \), respectively. The total influence, a group variable, is the sum of the influence exerted by all four members, which by definition is equal to the sum of the received influence of all four members. In addition to the absolute value, both percentage and rank within group were computed for influence, received influence, number of speeches and speaking time, as relative value.

The valence (the attraction of a particular alternative) within the group was defined as the average preference of all group members, and is thus a group variable. It represents the likelihood the group will adopt a particular alternative. In the analyses that follow, we will pay particular attention to the initial and final valence of the “adopted alternative” as well as individual preference for it.

**Results**

Subjects were classified into five groups based on the degree of execution of the experimenter’s request:

(0) Those who did nothing.
(1) Those who sent out only the first mailing (b-f) until the next day of the discussion.
(2) Those who sent out the first reminder (h) 10 days post-discussion.
(3) Those who sent out the second reminder (i) 20 days post-discussion.
(4) Those who completed the entire procedure, 30 days post-discussion.

Table 1 shows the frequency distribution at each level of execution. Difference in the execution between male and female subjects is not negligible although significance level is around .07. While 65% of the female subjects carried out some portion of the request, only 47% of the male subjects did so. Considering the gender difference in the execution, the following analysis concerning
Table 1
The Frequency Distribution of Execution Level

<table>
<thead>
<tr>
<th>Execution levels</th>
<th>Males N (%)</th>
<th>Females N (%)</th>
<th>Total N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0) No commitment</td>
<td>32(53)</td>
<td>17(35)</td>
<td>49(45)</td>
</tr>
<tr>
<td>(1) Until the next day</td>
<td>14(23)</td>
<td>10(21)</td>
<td>24(22)</td>
</tr>
<tr>
<td>(2) Until ten days later</td>
<td>6(10)</td>
<td>11(23)</td>
<td>17(16)</td>
</tr>
<tr>
<td>(3) Until twenty days later</td>
<td>5(8)</td>
<td>5(10)</td>
<td>10(9)</td>
</tr>
<tr>
<td>(4) Until thirty days later</td>
<td>3(5)</td>
<td>5(10)</td>
<td>8(7)</td>
</tr>
<tr>
<td>Total</td>
<td>60(100)</td>
<td>48(100)</td>
<td>108(100)</td>
</tr>
</tbody>
</table>

Note. \( x^2(1, N=108)=3.45, p<.07 \), for sex by execution levels (level 0 and levels 1-4). \( x^2(2, N=108)=5.39, p<.07 \), for sex by execution levels (level 0, 1, and 2-4).

The effects of the group-process variables on the execution were done on the male and female subjects separately.

Table 2 shows the comparisons of the means of the group process variables between level 0 and combined levels 1-4, and between level 1 and combined levels 2-4. The comparison between level 0 and levels 1-4 was done in order to find which group-process variables motivated subjects to be committed to carrying out some portion of the experimenter’s request, regardless of its extent. The comparison between level 1 and levels 2-4 was done in order to find the factors that motivated them to be more committed to the request.

It was found that particular sets of variables sharing a common nature created significant differences between two levels concerned, although the make-up of the set varied depending on gender and which pair of levels was being compared. In the male subjects, group-process variables reflecting rapid move toward agreement, such as initial and final valence of the adopted alternative, were likely to motivate them to carry out some portion of the request. They were likely to be further motivated by active participation in discussion, as reflected in the number or the time of speeches by each member.

In the female subjects, time elapsed for discussion was found to be critical in discriminating those who completed some part of the request from those who did not. Specifically, those who were committed to level 1 or more were shown to have been a member of a group that spent a longer time in discussion than those who did not commit to anything. Furthermore, each subject’s amount of influence, in terms of its relative amount in a group such as rank or percentage, was found to contribute to commitment to execution of level 2 or more.

Discussion

The experimental results suggested that group-process variables, such as rapid move toward agreement, participation, discussion time elapsed, and relative amount of interpersonal influence contributed to maintaining involvement in what was discussed in a group even after the group was disbanded. Which of these variables was effective depended on gender and the extent of involvement concerned.

Here, it should be noted that the execution of the experimenter’s request by subjects reflected the persistence of involvement in what they discussed rather than compliance to an authority figure, i.e., the experimenter. They came to the lab since they were interested in getting some money by participating in a discussion task as experimental subjects. The experimenter, an undergraduate student like subjects, stressed that the extra work was never covered by the payment and that their execution was, therefore, totally up to decision by subjects. Thus, it seems safe to say that the execution by subjects reflected voluntary behavior.
Toshio Sugiman

Table 2
Group Process variables and Execution Levels

<table>
<thead>
<tr>
<th>Group process variables</th>
<th>Male Level 0</th>
<th>Levels 1-4</th>
<th>Female Level 0</th>
<th>Levels 1-4</th>
<th>Total Level 0</th>
<th>Levels 1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of subjects</td>
<td>32</td>
<td>28</td>
<td>14</td>
<td>14</td>
<td>17</td>
<td>31</td>
</tr>
<tr>
<td>Group variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of speeches</td>
<td>37</td>
<td>30</td>
<td>24</td>
<td>36*</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>Total speaking time (min.)</td>
<td>33.1</td>
<td>30.9</td>
<td>27.1</td>
<td>34.7*</td>
<td>23.7</td>
<td>33.5*</td>
</tr>
<tr>
<td>Total elapsed time (min.)</td>
<td>45.2</td>
<td>41.1</td>
<td>36.5</td>
<td>45.8*</td>
<td>31.6</td>
<td>43.5**</td>
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<tr>
<td>Total influence</td>
<td>29.3</td>
<td>26.6</td>
<td>26.7</td>
<td>26.5</td>
<td>23.7</td>
<td>19.5</td>
</tr>
<tr>
<td>Initial valence of the adopted alternative</td>
<td>.26 .34**</td>
<td>.34 .33</td>
<td>.31 .31</td>
<td>.31 .31</td>
<td>.30 .30</td>
<td></td>
</tr>
<tr>
<td>Final valence of the adopted alternative</td>
<td>.66 .73*</td>
<td>.79 .68*</td>
<td>.65 .65</td>
<td>.63 .66</td>
<td>.67 .67</td>
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Individual variables

Speaking time

<table>
<thead>
<tr>
<th>Absolute (min.)</th>
<th>Male 7.8</th>
<th>8.3</th>
<th>6.3</th>
<th>10.2*</th>
<th>Female 6.3</th>
<th>8.2</th>
<th>8.6</th>
<th>8.0</th>
<th>7.8</th>
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<tbody>
<tr>
<td>% within group</td>
<td>24</td>
<td>26</td>
<td>24</td>
<td>28</td>
<td>27</td>
<td>24</td>
<td>22</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Rank within group</td>
<td>2.7</td>
<td>2.3</td>
<td>2.6</td>
<td>1.9*</td>
<td>2.4</td>
<td>2.5</td>
<td>2.8</td>
<td>2.4</td>
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Number of speeches

<table>
<thead>
<tr>
<th>Absolute</th>
<th>Male 9.4</th>
<th>7.4</th>
<th>5.4</th>
<th>9.4*</th>
<th>Female 5.8</th>
<th>6.6</th>
<th>8.0</th>
<th>6.0</th>
<th>7.5</th>
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<tbody>
<tr>
<td>% within group</td>
<td>26</td>
<td>24</td>
<td>22</td>
<td>26*</td>
<td>26</td>
<td>24</td>
<td>25</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Rank within group</td>
<td>2.3</td>
<td>2.4</td>
<td>2.7</td>
<td>2.0*</td>
<td>1.9</td>
<td>2.4</td>
<td>2.5</td>
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Influence

<table>
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<tr>
<th>Absolute</th>
<th>Male 7.7</th>
<th>6.2</th>
<th>6.4</th>
<th>6.0</th>
<th>Female 6.2</th>
<th>4.7</th>
<th>3.2</th>
<th>5.4</th>
<th>6.2</th>
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<tbody>
<tr>
<td>% within group</td>
<td>26</td>
<td>24</td>
<td>27</td>
<td>22</td>
<td>27</td>
<td>24</td>
<td>16</td>
<td>28*</td>
<td></td>
</tr>
<tr>
<td>Rank within group</td>
<td>2.4</td>
<td>2.5</td>
<td>2.4</td>
<td>2.6</td>
<td>2.1</td>
<td>2.5</td>
<td>3.2</td>
<td>2.2*</td>
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Received influence

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<thead>
<tr>
<th>Absolute</th>
<th>Male 6.5</th>
<th>7.6</th>
<th>7.8</th>
<th>7.4</th>
<th>Female 5.8</th>
<th>4.9</th>
<th>5.5</th>
<th>4.7</th>
<th>6.2</th>
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<tbody>
<tr>
<td>% within group</td>
<td>23</td>
<td>28</td>
<td>28</td>
<td>27</td>
<td>22</td>
<td>27</td>
<td>33</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Rank within group</td>
<td>2.6</td>
<td>2.2</td>
<td>2.0</td>
<td>2.4</td>
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<td>2.4</td>
<td>2.1</td>
<td>2.5</td>
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</table>

Initial preference for the adopted alternative

<table>
<thead>
<tr>
<th>Male .27</th>
<th>.32</th>
<th>.34</th>
<th>.30</th>
<th>.31</th>
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Final preference for the adopted alternative

| Male .63 | .76*| .85 | .68*| .66 | .64 | .64 | .64 | .67 |

Note. **p<.01; *p<.05; + p<.10.

which was based on retained involvement in what they discussed in a group, not feeling of compliance with the experimenter.

A term, involvement, used in the present study might be regarded as inadequately defined. The mailing task was not what subjects decided to do in the discussion, and therefore was not the execution of their decision. Rather it was the extra work that the experimenter requested after the discussion was over. It is natural, however, to assume that the subjects' experience of the discussion might influence whether they carried out the mailing task. Considering that the discussion required collaboration in reaching a common decision, it seems reasonable to argue that those who were more involved and remembered more of the discussion would be more likely to carry out the mailing task than those who were less involved. Involvement, indirectly defined like this, is of value in predicting the long-term impact of discussions. Many discussions in our mundane experience have little impact and are almost forgotten within a month, which was the period in which the persistence of involvement was followed up in the present...
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experiment.

We should be cautious in reaching a general conclusion concerning the determinants of the persistence of involvement. It is an over-generalization to assume that the subjects in the present experiment consisted of a representative sample randomly picked out of a population of either males or females, or even a population of Japanese male or female college students, when the sample size and the way in which they were recruited are taken into account.

The results, however, suggest that the group process grasped in the present study is critically important in predicting the persistence of involvement. In particular, interpersonal influence, measured for the first time by a method developed in the present study, was shown to determine persistence in the female subjects. Also, the other process variables, easily and automatically measured by the method, were shown to affect persistence.

It was interesting that both group and individual variables contributed to determining the persistence of involvement in both male and female subjects. That is, rapid move toward agreement, a group variable, was likely to motivate the male subjects to persist in their involvement until the next day of the discussion, and participation by speeches, an individual variable, was likely to motivate them to persist a week later or beyond. Also, the female subjects were likely to be motivated by long discussion time, a group variable, to persist until the next day and were likely to be further motivated by the influence they gave to the others, an individual variable.

The method developed in the present study is considered instrumental in training for group problem solving, group decision making, or group discussion in general. Participants in the training may have an opportunity to improve their sensitivity to ways of influencing others during group discussion if an appropriate feedback procedure is installed in the present system. Furthermore, it may be possible for the method to help the participants enrich their understanding of group process to improve their social skills necessary for the practice of group work.

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(Received Sep. 24, 1992 ; Accepted Jan. 6, 1993)