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Extending the Stepladder Technique: An Examination of Self-Paced Stepladder Groups

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The stepladder technique was developed to facilitate group effectiveness by sequentially entering members into a group. Unlike past research where the experimenter regulated the entry of members into a group (Rogelberg, Barnes-Farrell, & Lowe, 1992), this study examined 26 4-person stepladder groups that proceeded through the stepladder process at a self-determined pace (i.e., group members decide how much time to take at each step). Self-pacing stepladder groups produced significantly higher quality group decisions than did the 26 4-person conventional groups studied. Furthermore, members with the best individual decisions in self-pacing stepladder groups, on average, exerted the greatest amount of influence in their respective groups and had more influence on group decision quality than best members in conventional groups.

Despite the increased use of project teams, focus groups, autonomous work groups, quality circles, multifunctional work groups, and team chief executive officers, groups are not always effective. In response, a myriad of techniques (e.g., stepladder, delphi, nominal group, consensus decision making, dialectical inquiry) have been proposed to improve group performance. Each of these techniques affects how a group is structured and organized to increase the probability of productive group processes, which in turn are expected to lead to effective performance. The present study examines the usefulness of a proposed, more practically oriented adaptation of the stepladder technique for facilitating group performance. In addition, the viability of the best member influence explanation for stepladder success broached in the original stepladder research is examined.

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The Stepladder Technique

The stepladder technique (Rogelberg, Barnes-Farrell, & Lowe, 1992) is a decision-making approach intended to facilitate group effectiveness by structuring the entry of members into a group. Step 1 of the technique involves the creation of a two-person subgroup (the core) that begins preliminary discussion of the group task. After a fixed time interval, another group member joins the core group and presents his or her ideas concerning the task. The three-person group then discusses the task in a preliminary manner. The process continues in steps until all members have systematically joined the core group. When this occurs, the group arrives at a final solution. Figure 1 displays the stepladder technique as applied to a four-person group.

The stepladder technique has four requirements. First, each group member must have sufficient time to think about the group's task before entering into the core group. Second, the entering member must present his or her preliminary solutions before hearing the core group's preliminary solutions. Third, with the entry of each additional member to the core group, sufficient time must be provided to discuss the task. Fourth, a final decision cannot be reached until the group has formed in its entirety.

In Rogelberg and colleagues' (1992) examination of the stepladder technique, each four-

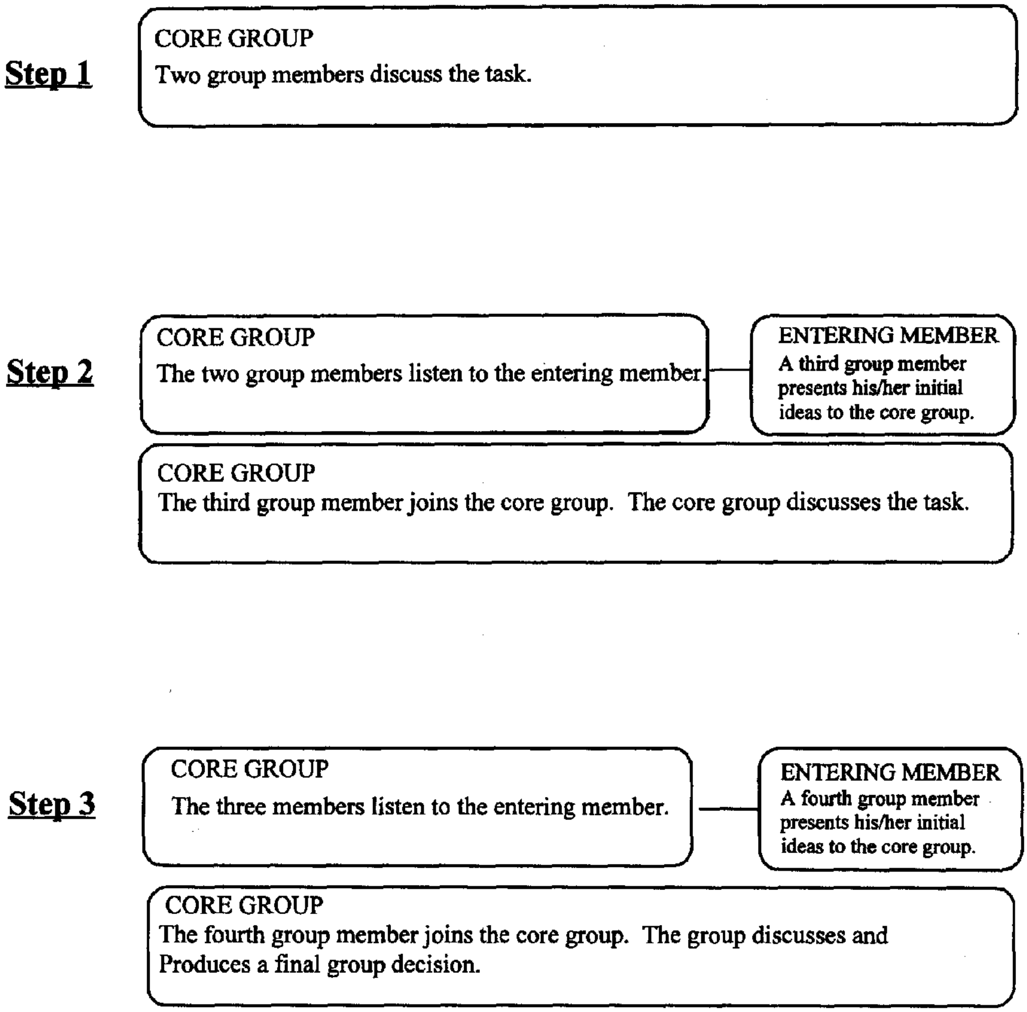

Figure 1. The three steps of the stepladder process applied to four-person groups.

person group proceeded through the stepladder process at a pace determined and regulated by an experimenter. For example, the initial two-person core group discussion lasting for exactly 7 min was followed by a 7-min, three-person discussion. The group task was Johnson and Johnson's (1987) winter survival exercise, where a group rank-orders 12 items remaining from an airplane crash in terms of their order of importance for survival. Results indicated that stepladder groups produced significantly higher quality solutions to the exercise than groups using the conventional approach to decision making (all members working on the task collectively and at the same time). Furthermore, decisions provided by stepladder groups surpassed the quality of their most expert member's individual solution significantly more often (56%) than did the conventional groups (13%).

The Present Study

Given the increasing prevalence of groups, the initial documented success of the stepladder technique, and the costs associated with group ineffectiveness, further research is needed to confirm, extend, and begin to examine why the stepladder technique may be effective. This study begins to address these research needs by making two unique contributions to the literature. The first contribution, an applied contribution, examines what happens when groups are allowed to regulate themselves when using the stepladder technique. That is, when groups are allowed to proceed through the stepladder process at a self-determined pace (i.e., they decide how much time to take at each step) rather than at the previously used experimenter-regulated pace, do they still outperform conventional groups? The second contribution, the theoretical contribution, examines the best member influence explanation that was postulated by Rogelberg et al. (1992) to explain stepladder success. Specifically, we examine whether best members in stepladder groups exert the greatest amount of influence in their respective groups and have more influence, in general, on group decision quality than their best member counterparts in conventional groups.

Self-Pacing of the Stepladder Technique

Rogelberg et al.'s (1992) initial testing of the stepladder technique occurred in a highly time-regulated environment such that groups knew explicitly how long they were going to spend on each step of the stepladder process. Although this original research was an important first step in establishing the value of the stepladder technique, if the technique's effectiveness depends on particular and enforced time regulation at each step, its practicality and feasibility for organizations may be called into question. First, explicit time regulations run contrary to the notions of empowerment and autonomy. Second, the expectation that group members will closely monitor elapsed time at each step may be unreasonable and may result in the group bringing in a facilitator to manage the stepladder process. Third, explicit time constraints may appear forced and unnatural for decision makers. Finally, the 7-min increments used in the initial stepladder research certainly will not be applicable to all tasks, therefore, how does the team approach other tasks (e.g., what are the time requirements)? Taken together, it follows that for the technique to be effectively used in applied settings, stepladder groups should be able to work at whatever pace they choose and feel is appropriate for the task at hand. Specifically, the group itself should determine how long to spend at each step in the process. Unfortunately, past research has not examined how self-pacing stepladder groups perform relative to conventional groups. Not only is this problematic given the aforementioned practicality concerns, but, furthermore, applied psychologists cannot assume that self-pacing is merely an innocuous adaptation of the experimenter-regulated stepladder procedure. When groups are allowed to self-pace, they are given complete control over their group processes. As a result, group members may choose not to embrace the stepladder technique and instead may speed hastily through the steps to include everyone in the group, thus creating the "feel" of the "natural" conventional group structure. Although theoretical work on the stepladder technique does not exist to substantiate this claim, unfortunately for advocates of the stepladder technique three bodies of research would suggest that this "not-embracing-the-stepladder-technique-in order-to-be-more-like-a-conventional-group" concern is quite valid. First, individuals have a tendency to accept the status quo and avoid new ways of doing things; this is known as a *status quo bias* (Samuelson & Zeckhauser, 1988; Schweitzer, 1994). Second, research has found that people have a tendency to repeat solutions and approaches that have worked in the past; this is a type of fixation called *mental set* (e.g., Luchins, 1942). Third, resistance to change literature suggests that people resist change due to habit and fear of the unknown (e.g., Nadler, 1983).

Taken together, these lines of research suggest that it cannot be assumed that a self-paced adaptation of the original experimenter-regulated stepladder group will outperform conventional groups. Consequently, if application is an issue, establishing the value of self-paced stepladder groups over conventional groups is warranted.

Research Question 1 asks, How does the performance of self-pacing stepladder groups compare with that of conventional groups on a decision-making task? It is important to note that using experimenter-regulated stepladder groups for comparison purposes instead of conventional groups was considered. However, the original stepladder findings have not, to date, been replicated. Therefore, it cannot be taken as fact that stepladder groups (in any form) do indeed outperform conventional groups. The use of conventional groups as the comparison group works to provide additional evidence as to the replicability of the original stepladder findings (even though an adaptation was made). Furthermore, if experimenter-regulated stepladder groups served as the comparison group, our research aim would be to establish that self-pacing stepladder groups performed on par with the comparison groups. As a result, we would be attempting to find support for the null hypotheses. As discussed by Keppel (1991), attempting to prove the null hypothesis is statistically and methodologically a limited proposition.

Why the Stepladder Technique May Be Effective

Most models of group performance (e.g., Gladstein, 1984; Sundstrom, De Meuse, & Futrell, 1990) emphasize input factors and process factors as important determinants of group performance. One key input factor is the levels of task-related expertise members bring to the group (McGrath, 1984). One key process variable is the group's ability to recognize expertise and to weigh member inputs to the group accordingly (Bottger, 1984; Bottger & Yetton, 1988; Einhorn, Hogeath, & Klempner, 1977; Henry, 1995; Libby, Trotman, & Zimmer, 1987; Littlepage, Robison, & Reddington, 1997; Littlepage, Schmidt, Whisler, & Frost, 1995). In other words, members' influencing the group commensurate with their expertise positively affects group performance.

Rogelberg et al. (1992) explained stepladder group success by postulating that members with the best individual decisions in stepladder groups were able to exert the greatest amount of influence in their respective groups. Specifically, the stepladder structure creates an environment where individuals, to some extent, are "forced" to participate (a communication mandate). For example, it is difficult to avoid communication if you are in the initial interacting dyad, and it is nearly impossible to avoid communication when you are the group member who enters and is required to present your initial ideas to the core group. Furthermore, because the entering member presents his or her ideas before hearing the group's ideas, conformity pressures may be decreased. Taken together, member expertise may become more apparent in stepladder groups. As a result, a stepladder group may allow members with the best individual decisions (best members) to exert influence in the group, which, ultimately, positively impacts group performance.

Rogelberg et al. (1992) found some preliminary evidence supporting this contention. In a survey administered after the group task, best members across the stepladder group more strongly endorsed the statement "They had a chance to say what they wanted to say" than did other stepladder group members. The original research, however, did not directly assess whether best members actually exerted increased influence (instead it relied on post hoc assessment of one survey item). The present study directly assesses the amount of influence the best members exert.

Research Question 2 asks, Do best members in self-regulated stepladder groups exert a greater amount of influence on group decision quality than other less expert members? and Research Question 3 asks, Do best members in self-regulated stepladder groups have more influence, in general, on group decision quality than best members in conventional groups?

Overall, this study's research questions have both practical and theoretical implications. Together, they are an important step in extending and understanding the stepladder technique.

Method

Participants and Design

Students in undergraduate sociology and psychology courses at a large state university in the midwestern United States were recruited for the study (61 men and 147 women), by Matthew S. O'Connor, during class time. Interested individuals (they were offered extra credit by their instructor) provided their names, schedules, and phone numbers to the experimenters. The experimenters then created four-person groups by randomly sampling four individuals from each available time slot (individuals not chosen were moved to another time slot). After groups were formed, groups were randomly assigned to either the stepladder group condition (n = 26 groups) or to the conventional group condition (n = 26 groups). An equal proportion of men and women existed across each of the two conditions.

Materials and Measures

Experimental task. The problem-solving task used was Johnson and Johnson's (1987, p. 110) winter survival exercise. To solve the winter survival task, participants read a vignette that had them imagine that the airplane in which they were traveling crashed in a remote northern area during the winter. The group members are the only survivors and are stranded at least 30 miles from any known habitation. Participants then rank ordered 12 items remaining from the crash (e.g., a hand ax) in terms of their order of importance for survival. There were multiple and subtle uses for each item alone and in combination with other items. Consistent with Rogelberg et al. (1992) and other research (e.g., Littlepage, Robison, & Reddington, 1997), performance on the winter survival task was defined as the sum of the absolute differences between the ranks assigned by participants for each item and those advocated by three wilderness experts (i.e., the criterion). By subtracting the calculated decision score (the sum) from 100, higher scores were made to reflect better quality decision than lower scores. The worst decision quality score was 28 and the best possible score was 100.

Identification of the best member. Individuals completed the winter survival task prior to the group's collectively completing the same task. At the conclusion of the study, decision quality scores were calculated for each group member. Consistent with past research, the individual with the highest decision quality score in each group was considered the best member (relatively speaking). It was never the case that a group contained two individuals who shared the designation of being the best member.

Influence. Influence was defined as the deviation of the individual rank ordering of items from his or her group's rank ordering of items, summed over the 12 items:

$$\text{Influence} = \sum_{12}^{1} |I_i - G_i|,$$

where I_i is the rank assigned to the ith item by an individual and G_i is the rank assigned to the ith item by the group in which the individual was a member. A low score indicates high influence. Past research has found this influence index positively related to participants' perceptions of influence, participation rates, and content of communications (Bottger, 1984; Littlepage & Mueller, 1997).

Time working on task. Total amount of time working as a group was calculated for stepladder and conventional groups in people minutes. People minutes reflect the sum of the amount of time each individual spent working in or presenting to the core group. In the case of conventional groups, people minutes would be the total elapsed time multiplied by four (all members work in the core group from start to finish).

Procedure

When a four-person group arrived at the experimental location, the numbers 1 through 4 (without replacement) were randomly assigned to participants. In stepladder groups these numbers served as the order of entry for participants.

Stepladder technique. The experimental procedure used was nearly identical to the original stepladder procedure conducted by Rogelberg et al. (1992), with one major exception: Group members were informed that time limits or restrictions did not exist and that they would proceed through the stepladder process at their own chosen pace. First, the stepladder process, requirements, logistics, and the self-regulation concept were explained to participants. Then, all four participants were given the pregroup packet (this packet contained two copies of the winter survival exercise) to complete individually. No communication among participants was permitted. After 7 min, Participants 1 and 2 turned in one copy of the task (participants kept the other copy for reference during their group meeting) and Participants 3 and 4 turned in both copies. Participants 1 and 2 were then taken to an adjoining room (3.048 m × 3.048 m, with a square table and four chairs) to work on the problem together. When ready for their next group member, they were instructed to inform the experimenter. While Participants 1 and 2 were discussing the task, Participants 3 and 4 watched a video documentary that was unrelated to the task. Participants 3 and 4 were also instructed not to discuss the task while waiting to enter the group. After Participants 1 and 2 notified the experimenter of their readiness for the next member, the amount of time they worked together was recorded. Prior to being taken to the group, Participant 3 was given 30 s to privately read his or her individual solution. Then, Participant 3 was brought to the group. When the group was ready for their next group member, they were instructed to inform the experimenter. After notification, the experimenter recorded the amount of time Participants 1, 2, and 3 worked together. Participant 4, who was watching the video, was given 30 s to privately review his or her individual solution prior to entering into the group. Groups were then instructed to use as much time as needed to create a final group solution. The amount of time that the entire group worked together was recorded.

Conventional approach. After summarizing the conventional approach (e.g., individuals would work together collectively to come up with the one best decision), participants completed the pregroup packet individually. After completing the experimental task, one of the two copies of their individual responses was given to the experimenter (participants kept the other copy for reference), and the entire group was taken to the experimental room that was used in the stepladder group condition. Participants in the conventional condition were instructed to work together to develop the one best solution for the task. The group was instructed that they could come up with their final solution any way they wanted and that they had as much time as needed to generate a final solution. Time working together was recorded.

It should be noted that in both experimental conditions participants were told that the goal was for the group to come up with a solution that was as close as possible to the solution that the winter survival experts developed for this same task. To increase motivation, participants were told they would be given feedback regarding how their group solution compared with their peers' and the experts' solutions. A detailed experimental protocol is available from Steven G. Rogelberg.

Results

Time Spent

Before examining decision quality, the time self-pacing stepladder groups spent at each of the three steps that included the stepladder process (see Figure 1) was examined. In Step 1, the initial two-person core group discussion lasted, on average, 5.02 min ($SD = 1.42$). Step 2 lasted, on average, 6.40 min ($SD = 1.90$). Step 3, on average, was completed in 14.81 min ($SD = 8.49$). Time spent at Step 1 was positively correlated with time spent at Step 2, $r(24) = .49, p < .05$, and at Step 3, $r(24) = .42$, $p < .05$. Time spent at Step 2, however, was not significantly correlated with the time spent at Step 3, $r(24) = .37, p > .05$.

Examination of total time spent working on the task reveals that, on average, stepladder groups ($M = 87.76$ people minutes, $SD = 37.95$) worked significantly longer, $t(50) = -4.62, p < .05$, $\eta^2 = .29$, than conventional groups ($M = 49.50$ people minutes, $SD = 18.38$).

Group Decision Quality

With regard to Research Question 1, stepladder groups' decisions ($M = 59.07, SD = 10.25$) were of significantly higher quality, $t(50) = -2.33$, $p < .05$, $\eta^2 = .10$, than conventional groups ($M = 53.65$, $SD = 5.83$). Furthermore, decisions provided by stepladder groups surpassed the quality, $\chi^2(1, N = 52) = 7.89$, $p < .05$, of their best member's individual solution more often (62%) than did the conventional groups (23%).

It is important to note that conventional groups and stepladder groups did not differ with regard to member expertise. Specifically, best member decision quality scores across the stepladder groups ($M = 58.00$, $SD = 7.85$) did not differ significantly, $t(50) = .06$, $p > .05$, from the best member scores across conventional groups ($M = 57.85$, $SD = 8.35$). In addition, an index of group resources (the average of the four individual scores in the group) was created. Group resources for the stepladder groups ($M = 50.12$, $SD = 3.83$) did not differ, $t(50) = -.54, p > .05$, from the group resources of the conventional groups ($M = 50.85$, $SD = 6.06$). Overall, groups in the two conditions appeared equivalent with regard to prior individual resources. In fact, stepladder groups still produced significantly higher quality decisions ($R^2 = .10$, $p < .05$) than conventional groups after controlling for group resources and best member scores by way of a hierarchical multiple regression.

Time working on the task was not controlled for in the aforementioned decision quality analyses. However, time in and of itself cannot be credited solely for stepladder success. If time were the causal agent, then longer working conventional groups would outperform shorter working conventional groups. This was not the case. Instead, time working on the task and group performance were unrelated in conventional groups, $r(24) = .07$, $p > .05$. Furthermore, time spent in Step 1, Step 2, and Step 3 in the stepladder groups was not significantly correlated ($p > .05$) with group decision quality, $rs(24) = .04$, .36, and .35, respectively. Finally, total amount of time (across all three steps) was not significantly related to group decision quality for stepladder groups, $r(24) = .37$, $p > .05$. It is worth noting that although these correlations were not statistically significant using our decision rule ($\alpha = .05$), those correlations greater than .33 would have been deemed significant using a more liberal decision rule ($\alpha = .10$).

Before concluding the decision quality analysis section, an exploratory analysis was conducted whereby a solution diversity score was calculated for each group and subsequently related to decision quality. Solution diversity refers to variation (i.e., the standard deviation) across team members' pregroup individual decision quality scores (Wanous & Youtz, 1986). A high-solution diversity score suggests that individuals in a group were very heterogeneous with regard to how they approached the decision-making task. Conversely, a small-solution diversity score suggests that individuals were very homogeneous with regard to how they approached the task. Solution diversity in stepladder groups ($M = 6.83$, $SD = 3.70$) was found to be strongly related to group performance, $r(24) = .64$, $p < .05$. Solution diversity in conventional groups ($M = 7.09$, $SD = 3.72$) was unrelated to group performance, $r(24) = .14$, $p > .05$.

Best Member Influence

An influence score was calculated for each member in each respective group. Lower scores reflected greater influence on the group's performance. Complete individual influence on the group would be reflected by a score of zero (i.e., a group member's item rankings were identical to the group's final decision).

The first set of analyses focused exclusively on stepladder groups. Influence scores of individuals in the initial two-person core group ($M = 32.25$, $SD = 10.40$), group members entering in Step 2 ($M = 29.57$, $SD = 12.50$), and group members entering in Step 3 ($M = 31.65$, $SD = 10.65$) were not significantly different from one another, $F(3, 99) = .50$, $p > .05$. With regard to Research Question 2, average influence scores for best members were calculated and compared with average influence scores for the other three members in the group. Across the 26 groups, best members in stepladder groups exerted significantly greater influence ($M = 23.03$, $SD = 8.11$) on the group than the three other stepladder group members ($M = 34.27$, $SD = 8.45$), $t(50) = 4.87$, $p < .05$, $\eta^2 = .32$. Conversely, best members in conventional groups did not exert significantly more influence ($M = 31.61$, $SD = 9.10$) on the group than the other conventional group members ($M = 31.79$, $SD = 6.73$), $t(50) = .08$, $p > .05$.

In response to Research Question 3, average influence scores of best members in stepladder groups ($M = 23.03$, $SD = 8.11$) were compared with average influence scores of best members in conventional groups ($M = 31.61$, $SD = 9.10$). On average, best members in stepladder groups exerted more influence on the group than best members in conventional groups, $t(50) = 3.58$, $p < .05$, $\eta^2 = .20$.

Finally, the relationship between best member individual performance and group performance in stepladder groups was examined and compared with the corresponding observed relationship in conventional groups. A strong relationship between individual performance and group performance would be another indication that the individual positively influenced the group with regard to decision quality. In stepladder groups, best member individual scores and group scores were highly correlated, $r(24) = .75$, $p < .05$. Conversely, in conventional groups best member individual scores and group scores were unrelated, $r(24) = .02$, $p < .05$.

Discussion

The present study examined the quality of decisions produced by self-pacing stepladder groups in comparison to conventional groups and why they were effective. Despite the concern that self-pacing stepladder groups would advance hastily through the steps to achieve the look and feel of a conventional group, the technique's effectiveness for facilitating group performance was found to generalize beyond the setting of specific time limits at each step.

By embracing the stepladder technique it appears that the potential process benefits of the experimenter-regulated technique, as discussed by Rogelberg et al. (1992), may have occurred in self-paced stepladder groups. Specifically, data strongly suggest (i.e., large effect sizes) that best members in stepladder groups not only exerted the greatest amount of influence in their respective groups but also had more influence, in general, on group decision quality than their best member counterparts in conventional groups. Therefore, it appears that Rogelberg and colleagues' (1992) initial postulation concerning the role of the best member and stepladder success was correct. The "forced" participation (e.g., having an entering member present his or her ideas before hearing those of the group) associated with the stepladder technique may indeed facilitate the recognition of expertise, which subsequently results in best members exerting increased influence.

Despite the influence the best members were able to exert, 62% of the stepladder groups still surpassed the quality of their best members' individual decisions. A number of potential interrelated explanations exist to explain why stepladder groups accomplished this rare feat (e.g., Hill, 1982). Moreland, Argote, and Krishnam (1996) argued that groups possessing transactive memory systems (a memory of what knowledge is possessed by various group members; who knows what) are primed to perform more effectively than groups not possessing such a memory system. Although it was suggested that these systems develop over time and interactions, we suggest that based on the fact that stepladder group members systematically enter and present ideas, member inputs are made salient to the group. As a result of these salient member inputs, transactive memory systems may readily develop in stepladder groups (even in short amounts of time), which, in turn, leads to enhanced group performance. Furthermore, when member inputs are made salient to the group, stepladder groups may be less subject to the common knowledge effect (Gigone & Hastie, 1997). A common knowledge effect occurs when a group weighs information, when making a decision, on the basis of how well-known the information is across group members (Gigone & Hastie, 1997). Because member inputs are highly salient, and the group cannot make a final decision until all members have entered the group, stepladder group members may be more willing to weigh unshared information (information not commonly known) when making a final decision; this in turn may lead to superior group decisions. Finally, a number of the reasons suggested by Rogelberg et al. (1992) on why stepladder groups outperform conventional groups may also be relevant in explaining why stepladder group decisions surpass the quality of their best members. Specifically, Rogelberg and colleagues (1992) suggested that the communication mandate created by the stepladder process increases the range of ideas expressed and reduces social loafing, both of which may enable stepladder group decisions to surpass the quality of their best members. Furthermore, three forces may be working to increase critical decision making in stepladder groups. Critical decision making, in turn, leads to superior group performance (e.g., Janis, 1982). First, entering members present ideas prior to hearing the groups' ideas and, as a result, blind conformity may be prevented. Second, task-related conflict may be imposed on the stepladder groups when the entering member presents ideas counter to what the group has already discussed, thus increasing the groups' propensity to evaluate different courses of action. Finally, because the group is not formed in its entirety until the last member joins, pressure to reach a premature solution may be delayed.

Future Research and Limitations

Additional conditions under which the stepladder technique may be appropriate still need to be identified. For example, the optimal number of people to include in the stepladder process, after which the process is no longer effective and time efficient, must be determined. Although the student groups studied here are perhaps analogous to many temporary ad hoc groups (e.g., project teams) found in industry, a need exists to replicate these findings using established groups, preferably in an organizational setting. At the same time, research should examine the willingness of organizational members to use the stepladder technique instead of the conventional approach in certain circumstances and over time. The types of tasks most conducive to being completed effectively by stepladder groups (e.g., problem-solving tasks) and the types of tasks least conducive to being completed effectively by stepladder groups (e.g., less defined tasks or tasks that require multiple group meetings) should also be identified. Finally, research should examine the effectiveness of the stepladder technique in facilitating the performance of nontraditional groups. One such group is one asked to "interact" by means of the telephone (i.e., teleconferencing). The stepladder process may be very appropriate and natural (e.g., when the core group is ready for their next member, they can telephone him or her) for facilitating and improving teleconferencing groups' performance.

In addition to these generalizibility types of research questions, future work should address how to optimize stepladder success. Past research and this research randomly assigned individuals to the various entry positions in stepladder groups (e.g., an individual is randomly assigned to be the first entering member). It is possible, however, that certain individuals may be better suited for different "spots" in the process, given their personality and ability. For example, a creative type of person may be better positioned in the initial interacting core group, whereas a person who pays attention to detail may be better suited as the final entering member. Additional research should examine whether stepladder success can be optimized by assigning individuals to various spots in the stepladder process based on a personality and ability profile.

An additional research question of interest concerns the value of the stepladder technique in facilitating the performance of diverse work teams. For diverse work groups to be successful, they must use their diversity as a valuable resource as opposed to a hindrance. Exploratory data from this study indicates that stepladder groups dealt effectively with one type of team member heterogeneity: causing solution diversity. Specifically, the strong positive correlation between solution diversity and group performance in stepladder groups suggests that the stepladder technique may be able to facilitate the performance of groups containing team members with diverse perspectives on the group task. Future work should examine the stepladder technique's effectiveness in facilitating the performance of demographically diverse (e.g., age), psychologically diverse (e.g., values), and organizationally diverse (e.g., occupation) work groups.

Conclusions

Group decisions that do not incorporate the knowledge and resources of the group members, and that are made prematurely in a noncritical manner, can result in negative consequences for individuals, projects, and organizations. Typically, groups operate under the assumption that the conventional approach to group decision making is the only tool for decision making. Although the conventional approach certainly has its place in organizational decision making, group members should think critically about the task at hand to determine the most appropriate tool for decision making. Data from this study suggest that the self-paced stepladder technique is one such tool that demonstrates promise for increasing the quality of group decision making.

Overall, the self-pacing findings represent an important step in assessing the flexibility of the stepladder technique. If the technique was not accommodating to self-pacing, the technique's future for organizational decision making may have been suspect. Self-regulation of the stepladder technique offers additional control to groups and is more natural and generalizable to organizations.

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