ABSTRACT

The purpose of this research is to determine if teams can successfully predict their readiness to perform a mission via non-invasive methods. In this paper, we present a method for assessing individual and team readiness in the form of a questionnaire designed to allow team members to predict the readiness of their team to perform a particular mission. To test the questionnaire’s utility, we conducted a field experiment using University of Virginia Army Reserve Officer Training Corps (ROTC) cadets as test subjects because of the fit between our research domain and their field training exercise needs. We use the questionnaire data and scores of actual performance to determine the accuracy of individual and team readiness predictions. The results of this experiment are inconclusive. We recommend further experimentation with experienced subjects to determine if this methodology can be developed into a reliable predictive tool.

1 INTRODUCTION

Being able to assess whether an individual or a team is ready to perform a given task provides valuable knowledge for estimating risk, allocating assets, and planning for contingencies. For example, military medical teams must be prepared to react quickly and work efficiently under any conditions, and accurate predictions as to individual and team readiness can help team members create effective and efficient plans of action.

We introduce a methodology for assessing individual and team readiness, the Self Team Assessment Tool (STAT), in this paper. We present context by briefly introducing the literature on teams. We then discuss the development of, STAT, a questionnaire that elicits individual assessment as to the readiness of the individual and his/her team to complete a mission. We end by, describing the results of an initial experiment aimed at determining the ability of Army ROTC cadets to use STAT to predict their readiness to perform simulated search and rescue missions.

2 LITERATURE REVIEW

A brief review of the literature on teams and questionnaire design is discussed below.

2.1 Teams

A team is a group of individuals who, while often having different roles and performing different activities, have a shared overall goal. Teams are evident in a variety of fields such as business, medicine, aviation, military, and athletics. Despite this significant dependence on teams for much of what is accomplished in society, there is limited knowledge about the processes that occur within a team that account for real differences in outcomes, such as why some teams succeed at a task whereas others fail (Brannick, Salas, and Prince, 1997).

A variety of characteristics have been shown to affect team performance. Successful teams communicate well by relaying relevant information in an organized manner, including providing feedback to one another. Effective teams establish goals, have a suitable plan, monitor progress, and adapt well to any deviations. Individual members support each another and possess a level of energy and enthusiasm. Strong leadership, role delineation among members, and an effective distribution of resources are also important factors in contributing to team success (Klein, Orasanu, Calderwood, and Zxambox, 1993).

However, “although literally thousands of studies of group performance have been conducted…we still know very little about why some groups are more effective than others. We know even less about what to do to improve the performance of a given group working on a specific task” (Brannick, Salas, and Prince, 1997). This lack of knowledge clearly illustrates the importance of and need to determine why some teams succeed at a particular task and
others fail. Further, we were unable to find methods for predicting the readiness of teams to perform an activity beyond tests in related activities.

2.2 Questionnaires

A questionnaire was chosen as the measurement instrument of choice; scale-item questionnaires have the capability to quantify subjective human judgment. The main elements to consider in questionnaire design are style, question wording, and response scale.

2.2.1 Open versus Closed Ended Questions

Open-ended questions do not place limits on how subjects can respond, often yielding richer information and better insight into how respondents feel about an issue. At the same time, answers to open-ended questions are difficult to understand or interpret, require a time-consuming method of standardization and coding for data analysis, and take more respondent time. Closed-ended questions make data analysis much simpler due to less subjective interpretation of responses on the part of the researcher. Despite the increased ease, these questions often introduce data integrity issues due to random selection or erroneous responses that result from a lack of understanding. They also limit the breadth of and ability to detect subtle differences between responses, as well as insight into why or how strongly respondents feel about a particular question (Rea and Parker, 1997). Closed-ended questions were ultimately chosen based on the importance of analytical convenience for STAT.

2.2.2 Wording

Question wording should never be generic or ambiguous (Labaw, 1937). Clear and precise phrasing of questions ensures that each respondent is presented the same stimulus with the same frame of reference (United States Statistical Policy Office, 1983). Clear wording also provides questionnaire ease of use.

2.2.3 Scale

The Likert scale is commonly used in survey research because it is easy to interpret by both respondents and researchers. This scale usually contains five, seven, or nine levels of response, ranging from highly positive to highly negative (Rea and Parker, 1997). We chose to use the Likert scale for our questionnaire because of probable subject familiarity and its acceptability by practitioners.

3 METHODS: QUESTIONNAIRE DESIGN

Before beginning the initial draft of the questionnaire, two main design requirements were formulated. First, since the Self Team Assessment Tool (STAT) questionnaire is intended for use by military medical rescue teams in situations where time is critical, it is necessary that it require minimal completion time. Rescue teams are assembled immediately before attempting a mission and time spent completing a questionnaire could be used for mission preparation. Second, the questionnaire was composed of closed-ended questions, so it was important to include a variety in order to elicit each piece of information. This is because closed-ended questions are limited in scope and are easily misinterpreted by the user (Rea and Parker, 1997). These two issues, length and comprehensiveness, were the key design considerations.

A rough draft of the questionnaire containing ten questions was created. A seven point Likert scale was used with descriptive phrases at each end to give it meaning (e.g.: “not effective” versus “extremely effective”). Feedback was collected, yielding a second draft. The new version had fifteen questions distributed among three main categories: (1) Is there a suitable plan?, (2) Is there effective leadership?, and (3) Is there effective team communication? This version extracted more information from respondents by adding questions with increased specificity. The categories also helped group questions together, which made the flow of STAT more logical.

This questionnaire was re-evaluated and the result is the final document in the Appendix. This version also includes questions eliciting information pertaining to a fourth category, (4) Are the personnel/skill sets sufficient? This category addresses the importance of not only the leader, but other team members as well. The scale was also changed to a five point Likert scale. This change was a result of the cognitive difficulty in making meaningful differentiations between certain values in the seven point version. A descriptive phrase was also added to the middle of each scale to enhance the meaning (e.g.: “somewhat effective”). Finally, another response option was added called “No Basis For Judging,” or NBFJ. If respondents select this option, it indicates that they feel they do not have enough information to answer the given question. The NBFJ option is not considered part of the scale and if selected, data from that particular respondent is removed from subsequent analysis.

Four similar variations of the STAT questionnaire were created for use in the experiment. The first is a premission questionnaire, which was completed by team members prior to each mission. It asks questions about how the cadets evaluate their readiness and expected performance, and includes questions directed at both the individual and team. The evaluators, who objectively measured the performance of the cadets during the experiment,
had a slightly modified version of the pre-mission questionnaire that elicits their assessment of only the team’s readiness. A post-mission questionnaire was designed for the cadets to evaluate their team performance after the mission was completed. Post-mission data were collected in order to compare team evaluations of how they performed in the mission with the scores given by the evaluators and victims. It also provided a means to map responses back to the pre-mission questionnaire in order to facilitate data analysis and compare predicted and actual performance. The post-mission STAT questions were essentially the same as the pre-mission version except they were posed in the past tense. The evaluators also had a similar post-mission questionnaire.

4 METHODS: EXPERIMENTATION

We chose Army ROTC as a group of test subjects because they are a fairly large sample of participants (60) who often work in teams, and they fit the intended use of STAT. Developing mission scenarios required balancing the skill sets of the Army ROTC cadets with the data collection needs of the experiment. The Army ROTC is familiar with field training exercises as part of their basic training to become military officers. The missions, however, involved medical procedures and other complex tasks of which the cadets had little knowledge. Experimentation was staged in two sessions – classroom training and the field exercise at UVA’s football stadium on January 27 and February 3, 2004 respectively. Data were collected through audio recordings, evaluator and victim task completion checklists, and the STAT questionnaires.

4.1 Session 1

The first session was designed to prepare Army ROTC students for the actual field exercise. To begin, cadets were introduced to the study and given the required consent forms. Teams were randomly assigned and consisted of three or four cadets ranging in rank (1st through 3rd year) and an evaluator (4th year). The cadets were divided into two companies, Alpha and Bravo, and within each company into six teams. Teams were numbered A-1 through A-6 and B-1 through B-6.

Next, test subjects were provided with one of two historical scenarios based on the 1911-1912 polar expeditions of Robert Falcon Scott and Ronald Amundsen, who sought to be the first to reach the South Pole. The historical scenario was used as a training tool to familiarize cadets with reading a mission, judging the decision criteria, and then predicting the readiness of the individuals and team in its completion using the STAT tool. This analysis is not presented here.

Cadets were then given an operation order, the standard method of introducing a field exercise, of the simulated search and rescue exercise they would have to conduct the following week. After describing the mission location, the cadets were instructed on the nine possible types of medical injuries they would encounter and the treatment procedures they would be required to perform. They were also given a map indicating the probable locations of victims. After these instructions, cadets divided into their teams, discussed the mission, and devised a plan of execution. These planning sessions were audio recorded to provide other sources of data for analysis. Finally, all team members and evaluators completed a STAT pre-mission questionnaire to assess their team’s readiness for the first mission.

4.2 Session 2

The second session consisted of the actual field exercise. Teams had twenty minutes to perform the prescribed tasks of the first mission, which involved setting up base camp and searching for and rescuing three patients. The missions were run with one company going at a time. Each team was issued a medical bag with all of the required equipment to treat the victims and a team binder that contained all of the information necessary to complete the mission. The cadet team members were able to communicate with one another throughout the mission using two-way radios.

After mission 1, subjects completed a STAT post-mission questionnaire and were then given five minutes to plan for a second mission and fill out another pre-mission questionnaire. The second mission was similar to the first. They had to again rescue three victims, but with different injury types and within a fifteen minute time frame. They were also required to breakdown base camp. After the second mission, team members completed another STAT post-mission questionnaire to evaluate their performance.

During both missions, team evaluators and victims completed checklists to assess cadets. Evaluators assigned scores based on team member survival, base camp set up, the number of victims rescued, and completion of the 9-Line MEDEVAC, the standard means of providing a status update for injured personnel. Victims were responsible for evaluating the accuracy with which individuals diagnosed a particular medical injury and applied relevant remedying procedures. The maximum score a team could achieve was 100 – 15 possible points for each victim rescued and 55 possible points for base camp items.

5 DATA ANALYSIS

The Army ROTC simulated search and rescue missions provided a substantial amount of data to analyze. These data include pre- and post-mission team member and responses evaluator questionnaires for missions one and two, a victim checklist to evaluate each team’s ability to apply...
the appropriate medical procedures, and an evaluator checklist to assess metrics such as the number of completed tasks, the utilization of provided resources, and the overall quality of each team’s mission plan. For this analysis, we focused on the following data:

- Team member pre-mission STAT questionnaires (N = 46 for mission one, N = 43 for mission two)
- Team member post-mission STAT questionnaires (N = 44 for mission one, N = 42 for mission two)
- Evaluator pre-mission STAT questionnaires (12, one for each team)
- Evaluator post-mission STAT questionnaires (12, one for each team)
- Mission scores (12, one score for each team, with a maximum score of 100)

We divided questions from the team member STAT into groups of “individual questions” (questions 5, 10, 12, and 26) and “team questions” (all remaining questions).

There are differences in the sample sizes for pre-mission and post-mission questionnaires for both missions. These differences are partially a result of injuries during the experiment; three of the cadets fell and injured themselves, and could not participate further. Other questionnaires were returned incomplete.

We started by identifying the distribution of the data in order to decide on the types of tests to use for analysis. We concluded that the distributions of team scores for the first and second missions are not normal (Gaussian) based on a review of histograms and the results of normality tests. We did try some non-parametrical tests, but the results were inconclusive. We decided to proceed using correlation analysis with Pearson’s correlation coefficient (r), which is robust enough to overcome non-normality of data.

We equated consistency with accuracy, and defined successful prediction in general as significant positive correlation between the sets of data being compared. The “acceptance levels” of the correlation coefficients, the r-values that indicate that the results did not occur by chance and are therefore significant at the listed alpha value, were developed using alpha = 0.05 and N-2 degrees of freedom where N = the number of questions. We compared different sets of responses to pre- and post-mission questionnaires, and questionnaire responses to mission scores in our analysis.

5.1 Distribution of STAT Responses

We first investigated the frequency distribution of STAT pre-mission team member response scores for missions one and two. As shown in Figure 1, it is clear that individual cadets, in general, had a very optimistic outlook about readiness for a mission; they most often chose the more positive responses (indicated by the scores of four or five). Additionally, the number of positive responses moderately decreased for the second mission, which indicates a degree of learning on the part of the cadets.

![Figure 1. Frequency of team member response scores for missions one and two, summed across all pre-mission questions.](image)

5.2 Pre-Mission versus Post-Mission Correlation Analysis

We started our analysis by exploring the relationship between different sets of responses to pre- and post-mission questionnaires. We first compared team member responses to determine how well individual team members predict their own readiness as well as their team’s readiness. We then compared evaluator responses to determine how well evaluators can predict the readiness of others. We ended this phase of analysis by comparing team member pre-mission questionnaire responses to evaluator post-mission questionnaire responses to determine how objective individual predictions of team readiness were.

5.2.1 Team Member Pre-Mission versus Team Member Post-Mission Correlation Analysis

For this analysis, the ability to predict individual and team performance is defined as a statistically significant positive correlation between the two sets of pre-mission and post-mission questions (individual and team) that meets or exceeds the listed r-values.

Using the set of four questions we believe will predict individual readiness (questions 5, 10, 12, and 26) and an r \( \geq 0.95 \), we identified 6 out of 44 individuals (14%) as successfully predicting their readiness to perform mission one and 10 out of 42 individuals (24%) successfully predicting their readiness to perform mission two. Two individuals were successful predictors for both missions.

Using the remaining 26 questions we believe will predict team readiness and an r \( \geq 0.388 \), we identified 19 out of 44 participants (43%) as successfully predicting team readiness to perform mission one, and 29 out of 42 participants (69%) successfully predicting team readiness to perform mission two. The increase in the number of participants successfully predicting team readiness to perform
mission two indicated that some amount of learning on what it takes to be successful in the search and rescue missions may have occurred during mission one. Sixteen individuals were successful predictors for both missions.

5.2.2 Evaluator Pre-Mission versus Evaluator Post-Mission Correlation Analysis

For this analysis, the ability to predict team performance is defined as a statistically significant positive correlation between the responses to evaluator pre-mission and post-mission questions that meets or exceeds an r-value ≥ 0.396. We identified 6 out of 12 evaluators (50%) as successfully predicting team readiness to perform mission one, and 8 out of 12 evaluators (67%) successfully predicting team readiness to perform mission two. These success rates are similar to the results from individual pre- versus post-mission correlation analysis. Five evaluators were successful predictors for both missions.

5.2.3 Team Member Pre-Mission versus Evaluator Post-Mission Correlation Analysis

Questions from team member pre-mission STAT questionnaires were mapped to those of evaluator post-mission questionnaires as another means to investigate an individual’s ability to predict team performance. The use of evaluator post-mission scores provided a more objective judgment and therefore a measure of validation for individual predictions. An individual team member with a correlation value of $r \geq 0.396$ between pre-mission “team” questions and evaluator post-mission “team” questions is considered to have the ability to successfully predict team performance. Using this method, we identified 5 out of 46 individuals (11%) as successful in predicting team performance for mission one, and 9 out of 43 participants (21%) as successful in mission two.

5.3 Distribution of Mission Scores

Scores from victim and evaluator checklists were summed together to form an overall mission score. The histogram in Figure 2 identifies the mission scores for each team. Scores ranged from a low of 23 (team A-5, mission two) to a high of 95 (team B-4, mission two). The average scores across missions increased, from a mean of 52 (standard deviation = 20.6) for mission one to a mean of 58 (standard deviation = 18.3) for mission two.

The mission scores for seven of the twelve teams increased after the first mission, illustrating an improved performance for a simple majority of teams.

We then performed correlation analysis between pre-mission questionnaire scores (summing the responses to all questions) and mission scores in order to validate subjective predictive ability against a less subjective measure. The results are summarized in Table 1. These correlations show significant amounts of poor estimation. Negative correlations increased for the second mission. None of the correlation values are very strong, which means that the correlations do not reveal any evidence that the cadets successfully used the STAT questionnaire to predict their team’s performance accurately as measured by the victim and evaluator checklists. Interestingly, we found that individual team members were better than evaluators at predicting performance.

Table 1. Results of correlation analysis investigating the relationship between individual and evaluator pre-mission responses and mission scores.

<table>
<thead>
<tr>
<th></th>
<th>Mission 1</th>
<th>Mission 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Team Readiness Prediction versus Mission Score</td>
<td>0.015</td>
<td>-0.230</td>
</tr>
<tr>
<td>Evaluator Team Readiness Prediction versus Mission Score</td>
<td>-0.079</td>
<td>-0.522</td>
</tr>
</tbody>
</table>

5.4 Factors Contributing to Successful Predictions

We sought to identify which of the major factors – plan suitability, sufficient personnel, adequate leadership, and effective communication – led to successful predictions of team readiness in order to streamline STAT and focus our analysis. Applying principal component analysis (PCA) to the data indicated that suitable plan and effective leadership are the strongest contributing factors to successful predictions; the eleven questions identified as contributing the most to successfully predicting team readiness fall...
mostly under the categories of suitable plan and effective leadership. These questions are identified in Table 2.

Table 2. Most predictive questions (PCA).

<table>
<thead>
<tr>
<th>Category</th>
<th>Contributing Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable Plan</td>
<td>1, 7, 8, 9</td>
</tr>
<tr>
<td>Personnel/Skill Sets</td>
<td>11, 16</td>
</tr>
<tr>
<td>Leadership</td>
<td>21, 22, 23</td>
</tr>
<tr>
<td>Communication</td>
<td>29, 31</td>
</tr>
</tbody>
</table>

The histogram in Figure 3 shows that there was no major readjustment for mission two for those questions.

Figure 3. Histogram of mode response scores for the eleven questions that most contribute to the prediction of performance.

We performed correlation analysis between team member pre-mission and team member post-mission questionnaire responses, using only the eleven questions that contribute significantly to successful predictions as determined by PCA. We used an $r \geq 0.602$ in this analysis. The results show that 11 out of 44 individuals (25%) successfully predicted their readiness to perform mission one and 25 out of 42 individuals (60%) successfully predict their readiness to perform mission two. Eight individuals were successful predictors for both missions. Examining the correlation between team member pre-mission and evaluator post-mission questionnaires, we found that 5 out of 46 individuals (11%) were successful predictors in mission one and 8 out of 43 participants (19%) for mission two. Four individuals were successful predictors for both missions.

We also performed correlation analysis between pre-mission responses to the eleven PCA questions and mission scores. Again, these correlations show significant amounts of poor estimation. Negative correlations increased for the second mission. These correlation values show that although PCA identified eleven questions as the most predictive, it made no assertions that these questions were significant in predicting mission performance. They are simply the best relative to all the STAT questions. Since none of the correlations are very strong, this analysis does not reveal any evidence that the cadets successfully used the STAT questionnaire to predict their team’s performance accurately. The results are in Table 3.

Table 3. Results of correlation analysis investigating the relationship between individual and evaluator pre-mission responses to PCA questions and mission scores.

<table>
<thead>
<tr>
<th></th>
<th>Mission 1</th>
<th>Mission 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Team</td>
<td>-0.030</td>
<td>-0.218</td>
</tr>
<tr>
<td>Readiness Prediction versus Mission Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluator Team</td>
<td>-0.098</td>
<td>-0.634</td>
</tr>
<tr>
<td>Readiness Prediction versus Mission Score</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.5 Demographics

We wanted to determine if certain demographic characteristics in cadets are linked to predictive accuracy. The results of non-parametric tests indicate that there is not enough evidence to accept the hypotheses that gender, years in ROTC, service as a team and/or squad leader, and membership in either the drill team or Mosby’s Rangers can be used to identify an accurate predictor.

6 CONCLUSIONS

Our analysis reveals that the experiment data does not support the hypothesis that the STAT questionnaire can be used to accurately predict the performance of military medical rescue teams. Initial development of the STAT questionnaire and this subsequent preliminary evaluation of it comprised the initial phase of a larger project researched in collaboration with Barron Associates. In the following two sections, we outline conclusions and recommendations that can be made in regards to assessing team readiness and more specifically the future of STAT.

6.1 Interpretation

Three main causes contributed to the limitations associated with the experimental data and subsequent analysis. First, the data was extremely subjective as expected with any human study. Despite the objective measures of performance outlined in the evaluator and victim checklists, there was significant variation in the observed responses. Second, cadets may have felt rushed completing STAT and arbitrarily responded with erroneous answers. Finally, we have non-normal data, thus eliminating a large number of statistical options from the outset.

In order for STAT to be used effectively, users must have a sufficient understanding of the task itself. This
point makes intuitive sense. The ROTC cadets, however, did not have a strong idea of the challenges involved in a rescue mission. They are far more familiar with combat tactics and assault maneuvers. Their training focuses on missions where cadets attack and destroy, not locate and retrieve. In general, they also lacked experience treating medical emergencies and only received one hour of training on the information needed to complete the missions successfully. Their lack of training in this area is likely to have negatively affected their abilities to make accurate predictions of their own performance.

Army ROTC cadets are trained in a setting where success is the ultimate goal and failure is not an option. As such, it can be reasonably expected that these cadets will be inclined to rate themselves optimistically in terms of their potential performance in tasks that the military may require of them. This culture is likely to have been a significant confounding factor in the experiment.

6.2 Recommendations

As with any preliminary phase of research, there are always ways to improve and many recommendations for future work. The next step in our analysis will be to transcribe the audio recordings. This task is important in investigating the role of planning and how much it influenced team success. Regarding the questionnaire itself, it is imperative to further investigate the relevancy of each question. The initial project proposal also called for STAT to be an interactive computer-based tool. This design will automate the administration of STAT, allowing judgments to be evaluated more readily and easily by team members. Presently, Barron Associates is developing a JAVA based computer program that can be incorporated into future versions of STAT.

While STAT did not accurately assess team readiness for Army ROTC cadets, this does not invalidate it as a predictive method. We recommend further testing, using different subjects who are more skilled and knowledgeable in the intended mission tasks. This is based on our finding that experience seems to create a climate for more accurate predictions. Future experiments should also involve subjects with varying skill levels or mission tasks that range in difficulty. Another suggestion is to reward subjects for accuracy in outcome predictions. This compensation might lead to more accurate and reliable results.

Future possible test subjects include emergency room trauma teams, athletic teams, and actual search and rescue groups. Such groups will have experience with the required tasks as well as knowledge of their teammates’ skills.

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APPENDIX

| ID number: ____________________ |
| **Part One: Time to Complete*** |
| Instructions: Please fill in the time at which you start this questionnaire so we may calculate how long it takes to fill it out. |
| 0. What time is it now? _________(HH:MM:SS) | **FILL THIS IN FIRST!!** |

**Part Two: Questionnaire**

Instructions: Please circle the number that best characterizes your response for the mission your team will perform.

1. Is there a suitable plan?

   1. No plan
   2. Adequate plan
   3. Strong plan

2. How adaptable is your team’s plan to unforeseen problems that could arise?

   1. Not adaptable at all
   2. Somewhat adaptable
   3. Adequate adaptable
   4. Very adaptable

3. How adaptable is your team’s plan to unforeseen problems that could arise?

   1. Not adaptable at all
   2. Somewhat adaptable
   3. Adequate adaptable
   4. Very adaptable

4. Did your team effectively prioritize parts of the overall task to be completed in order of importance?

   1. No prioritization
   2. Some prioritization
   3. Excellent prioritization

5. Do you understand what defines success?

   1. Not at all
   2. Somewhat
   3. Definitely

255
6. Does your team agree on what defines success?
1 completely disagree 2 somewhat disagree 3 agree 4 strongly agree NBFJ

7. Is there sufficient time in which to complete the task?
1 not at all 2 just the right amount of time 3 plenty of extra time NBFJ

8. Does your team possess enough manpower to complete the task?
1 manpower is severely lacking 2 adequate manpower 3 plenty of manpower NBFJ

9. Are the other resources available (besides time and manpower) sufficient to accomplish the task?
1 not sufficient at all 2 fairly sufficient 3 perfectly sufficient NBFJ

10. Please rate how well you understand your role(s) and required activities:
1 weak understanding 2 fair understanding 3 strong understanding NBFJ

11. Please rate how well your team members understand their role(s) and required activities:
1 weak understanding 2 fair understanding 3 strong understanding NBFJ

12. Do you have the necessary knowledge, skills and abilities to fulfill your role(s) and required activities?
1 not at all 2 somewhat 3 definitely NBFJ

13. Do the rest of your team members have the necessary knowledge, skills and abilities to fulfill their role(s) and required activities?
1 not at all 2 somewhat 3 definitely NBFJ

14. Are the members of your team willing to utilize the skill sets of other team members as the task requires?
1 not willing at all 2 somewhat willing 3 definitely willing NBFJ

15. How motivated are the members of your team to complete the task?
1 not motivated at all 2 somewhat motivated 3 extremely motivated NBFJ

16. How well do the members of your team work together as a unit?
1 not well at all 2 somewhat well 3 extremely well NBFJ

17. How well do the members of your team cope and tolerate stress?
1 very poorly 2 adequately 3 very well NBFJ

18. How likely will your team succeed?
1 very unlikely 2 somewhat likely 3 very likely NBFJ

19. How important to accomplishing this task is it to have a single clear leader?
1 not important at all 2 somewhat important 3 extremely important NBFJ

20. How confident are you in the leadership ability of your team leader?
1 not confident at all 2 fairly confident 3 extremely confident NBFJ

21. How knowledgeable is your team leader in the areas required to complete the task?
1 barely knowledgeable 2 fairly knowledgeable 3 extremely knowledgeable NBFJ

22. How well does your team leader provide direction for your team?
1 very poorly 2 adequately 3 very well NBFJ

23. How would you characterize your team leader’s motivational skills?
1 disenchanting 2 adequate 3 inspiring NBFJ

24. How well does your team leader cope and tolerate stress?
1 very poorly 2 adequately 3 very well NBFJ

25. How strong is the communication among the members of your team in terms of effective information exchange?
1 extremely ineffective 2 somewhat effective 3 extremely effective NBFJ

26. Do you know when, why and how you should communicate with your team members?
1 not at all 2 somewhat 3 definitely NBFJ

27. Do the rest of your team members know when, why and how they should communicate with you?
1 not at all 2 somewhat 3 definitely NBFJ

28. On average, how comfortable would you be approaching one of your teammates with a concern?
1 not comfortable at all 2 somewhat comfortable 3 extremely comfortable NBFJ

29. Would you feel comfortable expressing an idea that differs from the sentiment of the group?
1 not comfortable at all 2 somewhat comfortable 3 extremely comfortable NBFJ

30. How comfortable do you feel your teammates would be approaching you with a concern?
1 not comfortable at all 2 somewhat comfortable 3 extremely comfortable NBFJ

31. How much does your team discuss a suggestion before choosing to discard or implement it?
1 no discussion 2 some discussion 3 thorough discussion NBFJ

III. Is there effective leadership?

Are you the team leader for this exercise? Yes No

REFERENCES


Chang, Clark, Donohue, Gibson, Guerlain, Lander, and O’Hargan


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