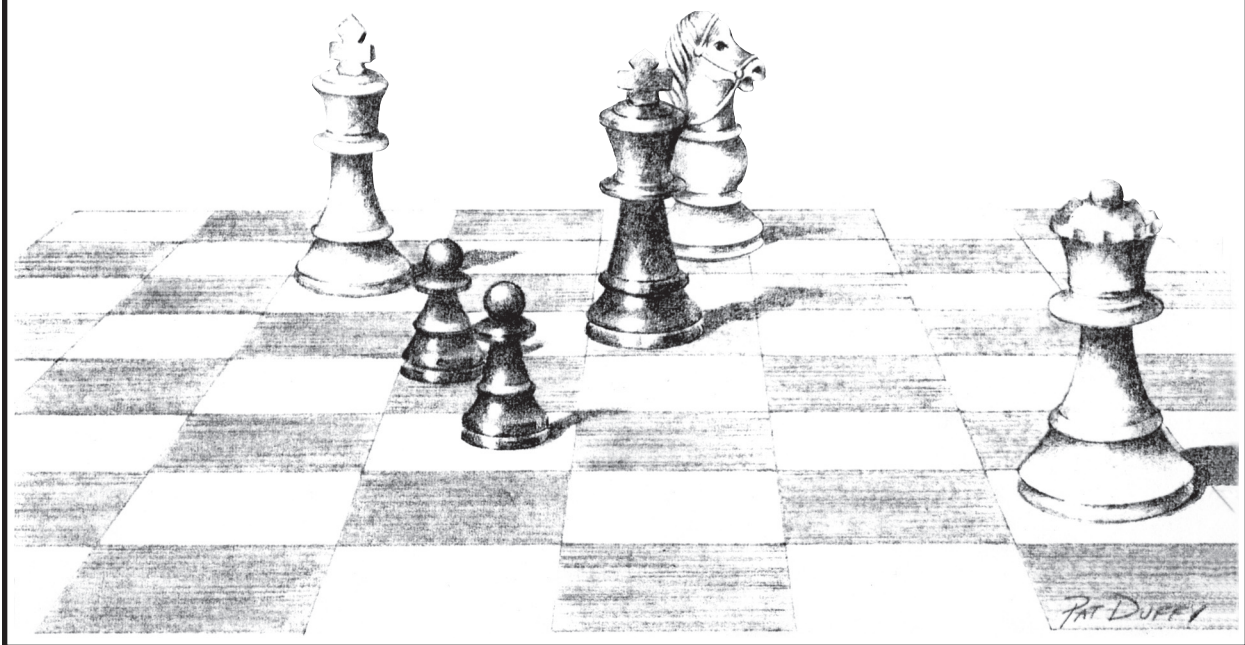


PROBLEM SOLVING STYLE



THEORETICAL BACKGROUND

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PROBLEM SOLVING STYLE INVENTORY

An Excerpt from the Facilitator Guide



Overview

The *Problem Solving Style Inventory* (PSSI) — *Self* and the *Problem Solving Style Inventory* — *Feedback from Others* are designed to help supervisors, managers, and team leaders identify their dominant and supportive styles of solving problems and making decisions in their work units or teams.

The two *Inventories* fulfill four objectives:

1. They enable supervisors, managers, and team leaders to understand what styles of problem solving and decision making they are predisposed to use or not use.
2. They help supervisors, managers, and team leaders determine whether their use of the five problem-solving and decision-making styles is appropriate for their work units or teams.
3. They acquaint supervisors, managers, and team leaders with the important factors to be considered when choosing one of the styles to solve a work unit problem or make a work unit decision.
4. They enable supervisors, managers, and team leaders to compare their use of the five problem-solving and decision-making styles with a norm group of 137 supervisors, managers, and college student leaders who previously completed the *PSSI – Self*.

Background

Employee participation in problem solving and decision making is a highly touted means of increasing productivity and enhancing job satisfaction. Indeed, it has been at the forefront of organizational behavior literature for decades. Prominent organization theorists like Chris Argyris (1964), Warren Bennis (1966), Ed Lawler (1986), Rensis Likert (1961), and William Ouchi (1981) have all argued the need for supervisors and managers to bring employees into the problem-solving and decision-making process. Another noted organization theorist, Marshall Sashkin (1984), has even suggested that not only is it important for managers to involve employees in problem solving and decision making, it is their “ethical imperative.”

Management training also has reflected this trend. For nearly as long as organization theorists have been extolling the virtues of participation, trainers have been teaching the value of involving employees in problem solving and decision making. More recently, advocacy of participation in these two key processes has reached even greater heights with the development of employee empowerment programs, such as quality circles, total quality management, and self-directed work groups.

Despite all these efforts, little headway has been made in getting supervisors and managers to include their employees in problem solving and decision making. At least that was the opinion of the nearly 80 participants at the March 1986 Work in America Institute Conference. The probable reason, they say, is that participation threatens a manager's authority, salary, perquisites, and image. Consequently, managers balk at sharing their power. One need only look at the all too common disappointment experienced by organizations implementing quality improvement programs to see this threat in action. For example, a 1989 study by the British Quality Association and the Institute of Personnel Management found that of 1,700 organizations implementing quality programs, 91 percent encountered managerial resistance as a major roadblock to including employees in decision making. Moreover, in a 1992 survey, when more than 1,000 chief executives were asked to identify the greatest challenge of managing a corporation during the past few years, the need for more participative management was the most frequently cited area.

Given these disappointing results, one might conclude that getting supervisors and managers to include employees in problem solving and decision making is mission impossible. But there is an alternative explanation. Consultant Stanley Hinckley, Jr. (1985) suggests that participation in problem solving and decision making should be based on the skills and knowledge needed for a specific task and should not be considered a permanent situation. Along this same line, organization theorists Edwin Locke, David Schweiger, and Gary Latham (1986) argue that employee participation in problem solving and decision making is simply a managerial technique that works well in some situations, while in other situations it is both inappropriate and ineffective.

Though perhaps not quite heretical, the ideas presented in these articles run counter to the popular message on participation advocated for years by most organization theorists and their management training disciples. Nevertheless, their arguments may help explain why managers have not more vigorously brought employees into the problem-solving and decision-making process, and so it deserves further consideration. Assuming that the arguments presented by Hinkley and Locke, et al., are valid, two important questions are raised. First, what is meant by the term *participation*? For example, one manager might ask for staff input into a decision but reserve the right to make the final choice by him/herself. Another manager might present a problem to his or her staff and then as a group solve the problem together. Are both of these examples of participation? Second, when is it appropriate or not appropriate for supervisors and managers to ask for employee participation?

The model in figure 1 illustrates the various styles available to a supervisor or manager for solving problems and making decisions. A manager's problem-solving or decision-making behavior can be plotted along two axes:

1. *Ego-Centered Behavior*: The extent to which a manager attempts to solve all problems or make all decisions by him/herself with little or no input from others.
2. *Other-Centered Behavior*: The extent to which a manager includes other people in the problem-solving or decision-making process.

The degree to which a manager uses these two behaviors to solve problems and make decisions gives rise to the five styles shown in the model.

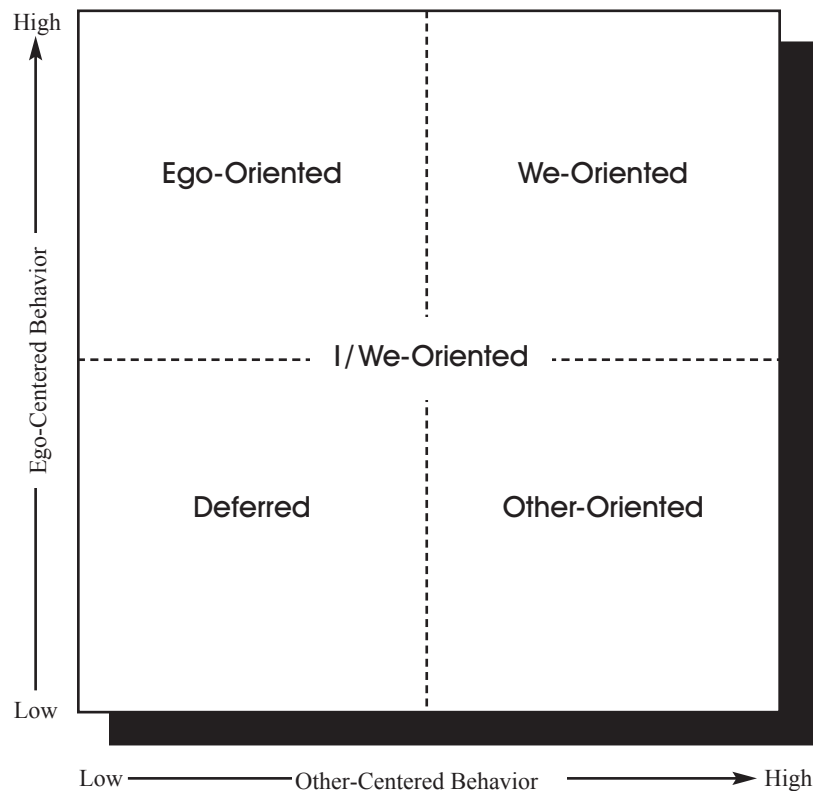


Fig. 1. Problem Solving Styles Model.

It should be noted that all five styles are useful managerial approaches to solving problems and making decisions in certain situations. A description of the five styles follows.

Descriptions of the Five Styles

Ego-Oriented

The *Ego-Oriented* style is high Ego-Centered, low Other-Centered. With this style the manager performs all problem-solving tasks or makes decisions by him/herself with no input from others. He/she alone determines what is or is not a problem, gathers background information about any situation identified as a problem, generates possible solutions to solve the problem, chooses the final solution, implements the solution, and conducts an evaluation to determine whether the solution actually solved the problem.

Deferred

The *Deferred* style is low Ego-Centered, low Other-Centered. With this style the manager holds off solving the problem or making the decision. The manager is aware that a problem exists or a decision must be made but chooses not to deal with it at the moment. Deferred problem solving might take the form of looking for a more perfect solution, waiting to see if the problem will resolve itself, or waiting for the right moment to make or implement a decision.

Other-Oriented

The *Other-Oriented* style is low Ego-Centered, high Other-Centered, the opposite of Ego-Oriented. With this style the manager has others perform all problem-solving or decision-making tasks. The manager recognizes that a problem exists or a decision must be made but delegates the responsibility for correcting the situation to others (e.g., staff members, co-workers, boss).

I/We-Oriented

The *I/We-Oriented* style is intermediate in both Ego-Centered and Other-Centered behavior. With this style the manager includes others in the initial steps of the problem-solving process. He/she will seek the help of others in identifying the problem, gathering background information about the problem, and in identifying and weighing possible alternative solutions. The final solution or decision choice, however, remains with the manager.

We-Oriented

The *We-Oriented* style is high Ego-Centered, high Other-Centered — the opposite of Deferred. With this style the manager shares equally with his/her employees in the problem-solving/decision-making process. The manager's input, including choice of the final solution or decision, carries no more weight and holds no more significance than input offered by other people involved in the process.

Four Key Factors in Choosing a Style

There is no universal best way to solve problems or make decisions. All five styles are useful in certain problem or decision situations. Supervisors and managers should consider the following four key factors in choosing the best style for a particular situation.

1. *The maturity level of the employees involved in the problem or decision situation.*

Maturity level refers to the employees' job experiences and willingness to assume responsibility for solving a problem or making a decision if it is given to them. For example, the manager of a mature staff may need to use an Other-Oriented or We-Oriented style to avoid losing the staff's support and cooperation. On the other hand, a manager may find an Ego-Oriented style necessary with employees who are unfamiliar with their jobs or unwilling to take responsibility for the solution or decision.

2. *The difficulty level of the problem or decision encountered.*

Relatively simple problems or decisions in which all the available information is known by the manager may best be resolved with an Ego-Oriented style. On the other hand, difficult decisions and problems or those in which the best solution is not evident might call for an I/We- or We-Oriented style. Gathering a variety of inputs and perspectives on how to resolve a difficult problem or decision often enhances the quality of the solution.

3. *The constraints in a given problem or decision situation.*

Time constraints, as an example, may necessitate the use of an Ego-Oriented style, because a participative approach would make the process overly time-consuming.

4. *The need for acceptance of the final solution or decision.*

In situations in which acceptance of a decision or problem solution is essential to smooth operation of the work unit or successful implementation of a solution or decision, an I/We-, We-, or Other-Oriented style is most appropriate. Giving people an opportunity to influence the final solution or decision is an effective means of getting their commitment to and acceptance of that solution.

Practice Cases

Five mini-cases are provided at the back of this Guide, which may be used by the participants to practice their understanding of when to use each of the five problem-solving/decision-making styles. Each case illustrates how a manager might use the four key factors to analyze a situation and choose the style best suited to that situation. The pages have been perforated to allow for easy reproduction for participant use. The solution analyses for the five cases appear on a single page.

Uses for the *Problem Solving Style Inventory*

Both the *Self* and *Feedback* forms of the PSSI are appropriate for use with individual supervisors or managers, a group of supervisors or managers in a department or work unit, all the supervisors or managers in an entire organization, team members under consideration as possible team leaders, or newly appointed managers, supervisors, and team leaders. The value of using both forms of the PSSI is that it will help supervisors and managers gain insight into their use of the five problem-solving and decision-making styles by providing a basis for comparison of their perceptions versus the perceptions of their associates. Using only the *PSSI – Self*, a manager can compare his/her scores to other supervisors and managers who have completed the *Inventory* previously. Using both forms, a manager can compare his/her scores on the *PSSI – Self* with an *average* of the ratings from respondents to the *PSSI – Feedback*. Providing managers with both their *Self* and *Feedback* results and directly comparing the two offers maximum insight into their use of the five styles.

Both forms of the PSSI may be administered by any internal or external human resources consultant, organization development consultant, management trainer, or individual manager. The *Inventories* can be administered and interpreted easily and do not require special knowledge or training to use.

The PSSI may be used in a variety of ways including:

- As part of a basic supervisory or management training program.
- As part of a leadership training program.
- As part of a team leader training program.

- As a development tool used by a higher-level manager to coach lower-level managers or supervisors in when and how to ask for participation in problem solving and decision making.
- As an individual self-assessment tool to help a manager identify his/her own use of the five problem-solving and decision-making styles as seen through the manager's eyes and the eyes of his/her employees.
- As a diagnostic tool with dysfunctional teams or work units to assess whether the team leader's or manager's over-use or under-use of any of the five styles might be a contributing factor to the ineffectiveness of the team or work unit.

Common Reactions to the PSSI

The *PSSI — Self* produces awareness and introspection. Managers who complete the *Self* version are able to see clearly their use of the five problem-solving and decision-making styles. The results also motivate managers to reflect on their use of these styles and assess whether the pattern of scores is ideal for their situation. In addition, when scores from the *PSSI — Feedback* are combined with *PSSI — Self* scores, both the level of awareness and degree of introspection produced increase dramatically.

If the *PSSI — Self* is administered in a group setting, managers frequently like to compare their scores with those of the other group members. To the extent that time permits, comparison should be encouraged, because it further increases the level of awareness and introspection. Moreover, it may be helpful to develop a training group norm in addition to the generic norm included in the *Inventory* so that these participants (and future participants) can compare their individual scores with those of people from the same work environment.

If the *Inventory* is collected and scored prior to the training, you could prepare a chart of norms in advance. If the *Inventory* is completed during the training session, ask each person to copy his/her scores onto a blank sheet of paper and turn them in to you. Give the group a break while you calculate the averages for each of the five problem-solving/decision-making styles. These results can then be plotted on a flip chart (prepared in advance) and shown to the group after the break. Another alternative is to administer the *Inventory* at the end of the first or second day of a multi-day training program, collect the scores as people leave, and compute the norms during the evening. Participants then can compare their scores first thing the next morning.

When both the *PSSI — Self* and — *Feedback* are used, managers may be more reluctant to share their results, especially from the *Feedback*. If this is the case, an alternative that has been used successfully is to ask each participant to find someone in the group with whom he/she is comfortable sharing his/her scores and to meet with that person. If participants are not uncomfortable sharing their *Feedback* scores, you also could calculate a training group norm for the *PSSI — Feedback*.

About Overhead Transparencies

The set of overhead transparency masters at the back of this Guide may be used to facilitate your presentation of the PSSI. These pages can be removed by tearing carefully along the perforated lines. Overhead transparencies can be made by photocopying the pages onto transparency film, which is available from most office supply stores. Refer to the directions for your photocopier for exact details.

Technical Information

Social desirability is a key problem inherent in any self-diagnostic instrument designed to measure a subject's disposition toward certain types of behavior. In other words, a subject selects responses to an instrument based on what he or she thinks is the most socially desirable behavior rather than how he or she actually behaves. Obviously, whenever this happens, the results from the instrument are subject to alternative explanations.

In designing and developing the *Problem Solving Style Inventory*, major emphasis was given to controlling for social desirability. To achieve this control a strategy was used that was developed by Ralph Kilmann and Kenneth Thomas (1974) in designing their *Conflict Mode Instrument*.

The first step in the design involved generating lists of items that would reflect the actual behavior of people using the five problem-solving or decision-making styles. Specifically, "Ego-Oriented" items were generated that reflect someone who solves problems and makes decisions by him/herself with little or no input from others; "Deferred" items relate to someone who postpones or puts off solving problems or making decisions; "Other-Oriented" items depict someone who delegates the solving of problems and the making of decisions to others; "I/We-Oriented" items characterize one who asks others for input into solving a problem or making a decision but reserves the right to choose the final solution or make the final decision by him/herself; "We-Oriented" items refer to someone participating as an equal with others in solving problems and making decisions.

Initially, seven statements were generated to describe each of the five problem-solving/decision-making styles. The 35 statements were then rated on social desirability using a nine-point scale developed by A. L. Edwards. As noted by C. J. Klett and D. W. Yaukey, perceptions of social desirability appear to be very similar across American subcultures, so selecting a sample for these ratings was not considered crucial. Approximately 40 adults attending two adult education programs were selected to rate the items.

An initial version of the *Inventory* was developed by pairing statements with nearly identical mean ratings of social desirability, i.e., within a few hundredths of a scale unit of one another. Each style was paired with each other style three times, for a total of 30 distinct pairs. Items describing each style were evenly distributed between the "A" or "B" choice, and the pairs were distributed at random throughout the *Inventory*.

Next, the paired items were tested for a 50-50 response distribution. The rationale for this approach, as described by Kilmann and Thomas, is twofold. "First . . . this procedure would pick up significant shifts in social desirability which stemmed from pairing, since the resulting differential in social desirability

between statements would tend to be reflected in the predominant endorsement of one statement over the other. Second, having attended to social desirability, it was reasoned that a further contribution to eliminating the correlation between social desirability and response frequencies could be made by making the response frequencies on all pairs of statements approximately the same, i.e. 50-50.”

The initial version of the *Inventory* was administered to a sample of 36 middle-level managers and first-line supervisors. Their responses indicated that 12 of the 30 pairs deviated significantly from the 50-50 split (at $p < .05$). Revised pairs were formed by adding modifiers such as “usually” and “frequently” to the original statements to adjust the response distributions. The revised pairs were administered to a sample of 23 middle-level managers and first-line supervisors. Replacement pairs were then selected that did not deviate from a 50-50 split for this sample. The resulting *Inventory* became the *Problem Solving Style Inventory — Self*.

A manager’s score on each of the five problem-solving/decision-making styles is simply the number of times statements representing that style are selected over other statements. Because each style is paired with each other style three times, the score for each style can range from 0 to 12.

Research to verify the external validity (investigating the expected relationships between the five problem-solving and decision-making styles and actual managerial problem-solving/decision-making behavior) of the *Problem Solving Style Inventory* is ongoing. Anyone interested in participating in the study is invited to contact the author.

Norms

Tables 1 – 3 show the averages for each scale, the minimum and maximum scores, and the standard deviations. The data presented here is for the *PSSI — Self* only.

Table 1

Means, Minimum and Maximum Scores, & Standard Deviations — Managers and College Student Leaders Combined

<u>PSSI Scale</u>	<u>Mean</u>	<u>Max</u>	<u>Min</u>	<u>SD</u>	<u>N</u>
Ego-Oriented	4.3	12	1	2.26	137
Deferred	5.3	12	0	2.61	137
Other-Oriented	6.6	12	0	2.91	137
I/We-Oriented	5.7	12	0	3.13	137
We-Oriented	8.3	12	1	2.80	137

Table 2

Means, Minimum and Maximum Scores, & Standard Deviations — Managers Only

<u>PSSI Scale</u>	<u>Mean</u>	<u>Max</u>	<u>Min</u>	<u>SD</u>	<u>N</u>
Ego-Oriented	4.2	10	1	2.22	64
Deferred	4.6	11	0	2.59	64
Other-Oriented	7.6	12	0	2.93	64
I/We-Oriented	5.7	11	0	3.10	64
We-Oriented	8.0	12	1	2.79	64

Table 3

Means, Minimum and Maximum Scores, & Standard Deviations — College Student Leaders Only

<u>PSSI Scale</u>	<u>Mean</u>	<u>Max</u>	<u>Min</u>	<u>SD</u>	<u>N</u>
Ego-Oriented	4.2	12	1	2.23	73
Deferred	5.9	12	1	2.48	73
Other-Oriented	5.7	10	0	2.63	73
I/We-Oriented	5.7	12	0	3.17	73
We-Oriented	8.6	12	1	2.80	73

ABOUT HRDQ

HRDQ is a trusted developer of soft-skills learning solutions that help to improve the performance of individuals, teams, and organizations. We offer a wide range of resources and services, from ready-to-train assessments and hands-on games, to facilitator certification, custom development, and more. Our primary audience includes corporate trainers, human resource professionals, educational institutions, and independent consultants who look to us for research-based solutions to develop key skills such as leadership, communication, coaching, and team building.

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