The role of mechanical/traffic inspectors and safety counsellors is of considerable importance in the prevention of rail accidents and in the development of self-protective behaviour among the staff. Development of negative perceptions on their part is likely to lead the employees to poor work performance.

This article by DM Pestonjee and Aniruddh Pandey emphasizes the need for conducting role efficacy interventions to strengthen and reinforce positive behaviours and weaken negative behaviours.

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Manipulation of the work environment is often considered easier to prevent accidents. Therefore, Indian Railways has been continuously active in redesigning the work environment (e.g., redesigning of tracks, engines, coaches and signalling system, etc.). However, since the work environment on the Railways is innately hazardous, prevention of accidents by environmental manipulations alone has not been possible nor does it appear to be possible in future. In such situations, it is specially important that effective methods are used to influence the employee to comply with safe methods and safe work procedures and to develop self-protective behaviours.

Dejoy (1986) developed a model for obtaining diagnostic information about self-protective behaviour that can be translated into effective accident prevention strategies. This is presented in Figure 1.

Predisposing factors are those personal characteristics (beliefs, attitudes, values, and perceptions) of the individual that facilitate or hinder self-protective behaviour. They are similar to the Resenstock's Health Belief Model (Resenstock, 1974) which states that the likelihood of a person engaging in a preventive behaviour or complying with a medical regimen is a joint function of:

* The extent to which the person believes that he or she is personally susceptible to the particular accident outcome.

* Whether the person actually believes that the accident outcome in question is serious.

* Whether the person believes that the preventive action would be effective.

There is considerable support for the importance of the individuals' subjective beliefs in influencing health and safety behaviour (Janz and Becker, 1984). Under the enabling factors, skill, knowledge, availability and accessibility of resources, safety devices, pace of work, and adequacy of employee training are most important. Reinforcing factors include reward, punishment, various safety incentive programmes, and disciplinary action plans.
Incentives and disciplinary actions seek to promote self-protective behaviour by serving as reinforcing factors. Fear messages are intended to influence the predisposing factors. Behaviour modelling is a strategy for influencing the enabling factors. Employee survey might be capable of influencing all three diagnostic factors.

The strategies of accident prevention—whether intended to influence the reinforcing/enabling or the predisposing factors relating to sensitive safety categories of staff like station masters, drivers, cabin staff, etc., who are responsible for a majority of accidents—are administered through supervisors, i.e., traffic or mechanical inspectors and safety counsellors who contact each worker or who are the organizers of man-to-man contact and who have to ensure that proximate causes of accidents are prevented at the initial stage. Therefore, the role of mechanical/traffic inspectors and safety counsellors is of considerable importance in prevention of accidents. In recent years, Indian Railways has recognized the importance of personnel selection and has started adopting western techniques of personnel selection. Likewise, development of worker's job-skill through training has received priority. Whether a supervisor is recruited from the open market or promoted from within, efforts are made to select the best persons and nurture them by training to fulfill the expectations of the organization. However, the process of inculturation or socialization has not received adequate importance or research-oriented attention. Experience gained and experiments conducted in the work fields have revealed that when a new person joins an organization or when an existing employee is given charge of a new post on promotion (for instance, from a worker to the post of a supervisor), he picks up some cues in the organizational set up in reference to his needs, values, and expectations in the initial stage. He gives his own meaning to these cues based on his experience with the family, school, social or political environment. These meanings given by the individual to the organizational system, structure, and politics are termed as perceptions. These perceptions differ from individual to individual in the same organizational set up and go a long way in determining the individual's behaviour throughout his association with the organization (Dieterly and Schneider, 1974; Schneider, 1975; Zohar, 1980; Pandey and Mandal, 1990; Pandey, 1992 and 1993). Left to themselves, the new incumbents, whether drafted from the open market or from the departments, are seen to develop incoherent sets of perceptions (Pereira, 1993). This is reflected in public sector organizations in recent years where motivation and morale are deteriorating day by day.

Of late, there is an increasing awareness of the importance of such perceptions of the managers towards work in the private sector organizations. For example, in Mahindra and Mahindra, the new recruits are appraised of the ethos prevailing in the concerned department and in the organization at large. On the other hand, some other organizations organize personal growth laboratories by inviting outside consultants for monitoring the perceptions of their workers, supervisors, and managers towards the organization and also take immediate action in changing such perceptions. There

\[ \text{Figure 1: Process of Developing Self-protective Behaviour} \]

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Diagnostic Factors</th>
<th>Proximate Causes</th>
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<tbody>
<tr>
<td>Fear Messages</td>
<td>Predisposing Factors</td>
<td>Nonbehavioural Cues</td>
</tr>
<tr>
<td>Behaviour Modelling</td>
<td>Enabling Factors</td>
<td>Behavioural Cues</td>
</tr>
<tr>
<td>Employee Survey</td>
<td>Reinforcing Factors</td>
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<tr>
<td>Incentives</td>
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<tr>
<td>Disciplinary Action</td>
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are other organizations like Marico Industries, Hindustan Lever, Humphreys & Glasgow, and Union Carbide which are continuously engaged in embarking upon new strategies to eradicate and remove negative perceptions and help better their performance (Pereira, 1993).

**The Concept of Organizational Role-perception**

When an individual joins an organization, he is appraised of the duties he has to perform. At the same time, he projects his own expectations from the role. Therefore, the performance of an individual in an organization depends on the way the role which he performs is designed. If the individual lacks the requisite knowledge, technical competence, and skill for the role, he cannot be effective. Similarly, if the role does not allow him to utilize his potential and his technical skill, his effectiveness is likely to be low. Integration between the person and the role is possible only when the role is able to fulfill the needs of the individual and the individual is able to fulfill the demand or meet the expectations of the role. It is also important how the individual gives his personal meaning to the various sets of expectations from the organization and various sets of facilities/difficulties, authorities/duties given by the organization to him in the context of his personal potential, skill, competency, values, needs, and personal expectations. This mental process of giving meaning is called role-perception. If he gives positive meaning, it is called positive perception and if he gives negative meaning, it is called negative perception.

The potential of role-perception as a framework for understanding the interactions of the individual with his role and the resultant outcomes (behaviours) has attracted only scant attention. But it has been found to have an impact on role-behaviour. For example, in a study of 366 managers from six units of an organization on six functions and four levels, role-perception as an independent variable had important moderating impact on the dependent and purposeful role-behaviour of managers (Das, 1984). On the other hand, in a study conducted in Ireland on 131 police officers, variables such as stations of posting, and operational and administrative duties were found to have moderating impact on the dependent variable of role-efficacy (Moran, 1986). Pareek (1987) cites a number of examples where such an attempt was made to diagnose the inadequacies in each of the ten aspects of role in respect of each participant. The second phase was devoted to identifying areas which needed strengthening on the part of the participants. The third phase which is to be held will be devoted to utility analysis wherein it is proposed to seek the opinions of the controlling officers about changes in the attitude of the supervisors. This phase will also involve retesting of the participants through the same scale and through personal interviews in which feedback will be taken from the participants as well as their subordinates.

**Methodology**

Two role-efficacy development labs of one day duration each were organized at the Zonal Training School, Udaipur, and the divisional headquarters, Solapur.

**Participants**

In the programme conducted at Udaipur, there were 23 participants from Western Railways. The profile of the
Design

In each of the labs, the first unit of the programme focused on the psychological introduction of the participants among themselves. The group was divided into dyads (two persons). While forming the dyads, it was considered necessary to include persons from different places, branches, and disciplines. Each member of the dyad was asked to write his name, education, age, position, place of posting, and the name of the most liked person with reasons for his preference.

The second unit of the programme was devoted to writing an essay on "My Role" with the following instructions: "Think of your role, write about 2-5 pages on how you perceive your role, how you feel about it, and how you operate in this role. You may choose whatever aspects you think are relevant."

The third unit of the programme focused on filling up a questionnaire. It was a structured scale having 20 triad statements. The respondents checked one statement in each triad which most accurately described their role. Developed by Pareek (1980), the questionnaire had ten dimensions, namely: Centrality, Integration, Proactivity, Creativity, Inter-role linkage, Helping relationship, Superordination, Influence, Growth, and Confrontation. For each of the ten dimensions, there were two questions. A score of +2 was given for a positive statement, +1 for a useful statement, and -1 for a negative statement. Each of the triads had a preweighted score. Thus, a maximum score of +4 and a minimum score of -2 could be secured by an individual on each of the dimensions. The total scores on ten dimensions were taken as the role-efficacy score which could range between -20 and +40. Test-retest reliability of the test is reported to be 0.68, significant at 0.001 level (Sen, 1983). The validity of the scale for item total correlation for 20 Role-Efficacy Scale (RES) items for a total sample of 658 managers from 11 organizations individually ranged between 0.16 and 0.51. The mean correlated item total correlations for the 11 organizations ranged between 0.71 and 0.85 (Sayeed, 1983). Correlations between the role-efficacy and ten constituent factors ranged between 0.15 and 0.72 for various groups of railway officials. Validity correlations of RES score with personal interview ranged between 0.57 and 0.73 (Pandey, 1992).

The fourth unit of the programme concentrated on concept-formation and scoring of RES and discussion about the values of the participants. The participants were asked to score their RES themselves and thereafter the papers were transferred to one another to check accuracy. In this session, groups of persons scoring 4,3,2,1, -1, and -2 were made to facilitate the discussions.

The fifth unit formed the counselling session. In this session, ideas were generated from the group itself on each aspect and, therefore, the participants did not face any difficulty in accepting them.

Results

Values of the Participants

To the question regarding the most liked person and why, 8 per cent of the participants opined that God was the most desired person because he was the source of support for all their actions in life. Thirty-two per cent of the participants liked Mahatma Gandhi, Dr B R Ambedkar, Lai Bahadur Shastri, and Veer Sawarkar for their sacrifice and upliftment of the poor. Eight per cent of the participants liked Morarji Desai for his administrative qualities. For 8 per cent of the participants, their DSTE or DME was the most like person. For the remaining 44 per cent, their wife, daughter, mother or father were the most liked persons. This indicated that for 40 per cent of the participants, religion and sacrifice were the most desired values, for 44 per cent, practicality or substantive value was most important, and only for 16 per cent, administrative was the most preferred value. The fact that they were all concerned with supervision of workers indicated that perceptions of at least 40 per cent regarding expectations from the roles were to be changed or modified.

Micro Analysis of Ten Aspects of Role-perception

Percentages of people having positive perception and percentages of people with 25,50, 75, and 100 per cent levels of distortion in each area of role-perception have
been presented in Table 1. Area-wise micro analysis is presented below for diagnosing the present state of perception and distortion among the participants.

* **Centrality:** This dimension measures the perception of the importance of the role. On this dimension, only 15.47 per cent of the participants had positive perception and the rest had distortions in their perception ranging from 25 to 100 per cent.

* **Integration:** This dimension measures the perception of the integration between self and the role. On this dimension, 73.21 per cent were found to have proper perception and 24.40 per cent had only 25 per cent level of distortion in perception. Only a small proportion of the participants (2.38%) had negative perception.

* **Proactivity:** This dimension measures the perception of taking initiative. Only 19.64 per cent had positive perception about proactivity and 51.78 per cent had only marginal distortion up to the level of 25 per cent. However, approximately, 28 per cent had distortion to the level of 50 to 100 per cent.

* **Creativity:** This dimension measures the perception that something new or innovative is being done by the individual. Only 22.31 per cent of the participants had positive perception and 43.82 per cent had marginal distortion up to the level of 25 per cent. Here also, approximately, 28 to 29 per cent of the participants had distortion ranging from 50 to 100 per cent.

* **Inter-role Linkage:** This dimension measures the perception of interdependence with other roles. It was found that 48.73 per cent had positive perception and 33.04 per cent had marginal distortion to the level of 25 per cent. The percentage having distortion from 50 to 100 per cent was 20 per cent lower than other dimensions.

* **Helping Relationship:** This dimension measures the feelings of participants with regard to helping others and taking help from others. It was found that 57.74 per cent of the subjects has positive perceptions and that 42.26 per cent of the subjects had distortion in their perception.

* **Superordination:** This dimension measures the perception that something beyond the regular call of duty is being contributed to the larger society and the nation. The percentage of persons having positive perception was 13.39 and the percentage of persons having marginal distortion to the extent of 25 per cent was 32.73. The remaining 54 per cent had distortion to the level of 50 to 100 per cent.

* **Influence:** This dimension measures the perception of the individual towards one's own capacity in making an impact on others. On this dimension, 18.15 per cent participants had positive perception and 45.25 per cent persons had distortion up to the level of 25, and 35 to 36 per cent of the participants had distortion to the levels of 50 to 100 per cent.

* **Growth:** This dimension measures the perception about opportunities to learn new things for personal growth. 33.62 per cent persons were found to have positive perception and 40.18 per cent had marginal distortion up to the level of 25 per cent. About 26 per cent of the participants had distortion to the level of 50 to 100 per cent.

Table 1: Micro Analysis of Role-perceptions of Rail Supervisors

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Positive Perception Score: 4</th>
<th>25% Distortion Score: 3</th>
<th>50% Distortion Score: 2</th>
<th>75% Distortion Score: !</th>
<th>100% Distortion Score: 0 and below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centrality</td>
<td>15.47</td>
<td>31.84</td>
<td>37.79</td>
<td>8.33</td>
<td>6.54</td>
</tr>
<tr>
<td>Integration</td>
<td>73.21</td>
<td>24.40</td>
<td>-</td>
<td>-</td>
<td>2.38</td>
</tr>
<tr>
<td>Proactivity</td>
<td>19.64</td>
<td>51.78</td>
<td>11.01</td>
<td>6.55</td>
<td>11.01</td>
</tr>
<tr>
<td>Creativity</td>
<td>22.32</td>
<td>48.82</td>
<td>19.94</td>
<td>-</td>
<td>8.93</td>
</tr>
<tr>
<td>Inter-role Linkage</td>
<td>46.72</td>
<td>33.04</td>
<td>2.08</td>
<td>18.15</td>
<td>-</td>
</tr>
<tr>
<td>Helping Relationship</td>
<td>57.74</td>
<td>18.15</td>
<td>2.38</td>
<td>21.72</td>
<td>-</td>
</tr>
<tr>
<td>Superordination</td>
<td>13.39</td>
<td>32.73</td>
<td>11.01</td>
<td>29.71</td>
<td>13.68</td>
</tr>
<tr>
<td>Influence</td>
<td>18.15</td>
<td>45.24</td>
<td>21.72</td>
<td>10.71</td>
<td>4.17</td>
</tr>
<tr>
<td>Growth</td>
<td>33.62</td>
<td>40.18</td>
<td>21.72</td>
<td>4.46</td>
<td>-</td>
</tr>
<tr>
<td>Confrontation</td>
<td>67.26</td>
<td>22.32</td>
<td>-</td>
<td>8.33</td>
<td>2.08</td>
</tr>
</tbody>
</table>
Confrontation: This dimension measures the perception about the capacity of the individual to solve problems. On this dimension, 67.26 per cent had positive perception and 22.06 per cent had marginal distortion up to the level of 25 per cent. The smallest percentage, i.e., 12.41 per cent of the participants had distortion in perception to the extent of 50 to 100 per cent.

Discussion

Action Phase

As stated earlier, ideas were generated from the participants in group settings for increasing their role-efficacy. On each of the ten dimensions, group counselling sessions were organized, goals were mutually set, and action plans were prepared to substitute the negative perceptions by positive perceptions. Actions to be taken by the role-occupants were decided. The summaries of such decisions are given here under each dimension.

The participants having distortion in their perceptions were suggested to take the following steps:

Centrality: The reason for a larger percentage of people having distortion was due to lack of power and inexperience in some cases. Duties connected with train passing are considered most important. Therefore, in order to inculcate such a feeling, supervisors had to change their perceptions. Some of the supervisors were asked to deliver talks on centrality and the following suggestions emerged on the issue of the job having unique importance in the organizational context:

- Developing experience and learn the best possible skill to perform the job effectively.
- Developing awareness and consciousness about the basic contribution being made by one's category to achieve the organizational objectives.
- Keeping oneself on the look out for occasions where one could feel proud of doing some outstanding work.

Integration: The largest percentage of participants (73%) had full integration which was due to the matching of the education requirements with the status of the jobs in the organizational hierarchy. Those having perceptual deficit level of 25 per cent or even 100 per cent either had higher qualifications like a post-graduate degree or were less qualified. For them, the change was to be brought through SWOT analysis.

Proactivity and Creativity: Only a small percentage, i.e., 20 to 22 per cent were found to have proper perception of role on these two dimensions, and hence the participants were asked the reasons. Most of the participants stated that they were not empowered to take decisions and that they did not see any opportunity for utilization of their creativity. Almost 50 per cent of the individuals were found to have only the first level of distortion and hence their perceptions about proactivity could be changed by utilization of their initiative and creative ideas. On both these characteristics, approximately 27 to 28 per cent of the participants had distortion to the levels of 50 to 100 per cent and their answers were again verified and the reasons for the same ascertained. In almost all the cases, factors such as impending retirement and inadequate level of education were found to have contributed to such distortions. In one case, lack of experience and not having a diploma while working as a Signal Inspector were found to have contributed to such distortions. The participants were counselled to:

- Develop awareness about others' expectations and anticipate what is going to happen next.
- Analyse one's role and identify constructive elements.
- Maintain and review past record and create new ideas which could be useful for the organization.
- Introspect after trying out new ideas and modify them to suit the requirements of the organization.

Inter-role Linkage: On this dimension, only 20 per cent had problem in proper perception of their role and approximately 46 per cent had no problems, and 33 per cent had minor problems to the extent of 25 per cent. Rechecking of their responses revealed that lack of adequate education and lack of sufficient experience had contributed for such a state of affairs. In this context, some of the participants who had scored 4 were asked to deliver lectures about interdependence of roles in the Railway department. Based on these lectures, the following points emerged:

- Utilize one's potential in requisitioning information and giving information.
- Identify each participant's departmental needs from others.
- Identify what help can be given by one's department to other departments.

Helping Relationship: On this variable, 57.74 per cent of the subjects were found to have positive perception and 18.75 per cent were found to have only marginal distortion to the level of 25 per cent. This is due perhaps to the cultural ethos prevailing in our country. However, on this dimension also, about 24 per cent of the subjects had either 75 per cent distortion or 50 per cent distortion. On enquiring, they revealed that they had got such experiences in this organizational set up as their expectations were too high from other role occupants. It
is also pertinent to mention here that most of them were below 40 years which might also have contributed to such a perception. In order to correct their perceptions, the following suggestions were brought up in the group discussion:

* Identify when, what kind of help, and how much another role occupant needs from you.
* Identify what help you need from others.
* Reciprocate the help rendered to you.
* Disseminate information about things available with you and collect information as to what things are available with others.
* Do not hesitate to seek help from others. At the same time, listen to others who are seeking your help.

**Superordination:** It is most surprising to note that the smallest percentage of supervisors (13.39%) had positive perception. However, 32.73 per cent had marginal distortion up to 25 per cent. This indicated that they could be brought to the desired state only by counselling. However, approximately 55 per cent had distortion in perception ranging from 50 to 100 per cent, considering that they had to inculcate safety consciousness through developing such perceptions among the staff, this was an alarming finding. Further, an analysis at the micro level revealed that excepting one Safety Counsellor (Traffic), all the participants scoring 0 or 1, or -1 or -2 belonged to Signal and Mechanical Departments. Enquiries revealed that lack of promotion and lack of power were the main contributors to such perceptions. They were, therefore, advised to:

* Read about the history of the Railways and contribution of the Railways in the upliftment of the poor.
* Read about the importance of the Railways in industrial growth.
* Read about the achievement of the Railways and contemplate on how one could raise the image of the Railways by one's sincere services.

**Influence:** Although a supervisor has to influence his subordinates and superiors, surprisingly, the percentage of persons having positive perceptions about their influencing power was only 18.15. On the other hand, 45.24 per cent participants had distortions only to the marginal level. This showed that by a small exercise on the process, this could be easily changed. Approximately, 35 per cent individuals had distortions to the levels of 50 to 100 per cent. For them, qualities such as assertiveness and leadership were considered necessary. Counselling for the supervisors included a lecture on how one could influence the people around through one's own performance in the assigned role in the department, in the organization, and beyond the organization. Styles of leadership, i.e., listening, inviting suggestions, accepting suggestions, inviting participation, and delegating were also discussed. It was left to the supervisor to decide which style he would adopt depending on the situation.

**Growth:** On this dimension, 33.62 per cent participants were found to have positive perceptions and 40.18 per cent had marginal distortion of 25 per cent. Excepting a few, most of the participants had come from lower posts. All the participants who had distortions in the range of 50 to 100 per cent belonged to Signal or Engineering Departments and had joined the Railways as Assistant--PWI or TXR in the Mechanical Departments. Individual counselling was offered to such participants for changing their perceptions.

**Confrontation:** This dimension is somewhat similar to assertiveness. It can be seen from Table 1 that the highest percentage (67.26%) had positive perceptions and 22.06 per cent had marginal distortions. This is due to the fact that they had to deal with the staff always and confrontation was always required. Approximately, 10 per cent had difficulties and they were offered individual counselling.

**Conclusions and Suggestions**

The analysis of data in this paper throws up some pertinent issues for practitioners. The study, as is evident, deals with the larger issue of role-efficacy. The assumption is that role-efficacy has linkages with organizational performance. Hence, enhancing the efficacy will lead to improvement in performance; in this context, it implies better 'track' record.

The paper includes suggestions for improving the role-perceptions in terms of the ten dimensions of role-efficacy. These suggestions are separately spelt out for each dimension. Through training and counselling, it is possible to bring about the required change in role-perceptions. Improvement in the quality of performance is not merely a function of the 'hardware' improvement but depends to a large extent on the human-side of organizations. It is believed that role-efficacy improvement interventions will strengthen and reinforce the positive behaviours and minimize and weaken negative behaviours.

**References**


