Designing training interventions: human or technical skills training?

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Training is seen as the key instrument in the implementation of Human Resource Management policies and practices in both the private and public sector. The choice of the type of training, focused on human or technical skills, is crucial in designing the training process. This field study investigates the personal and occupational characteristics of 444 public managers, candidates for human and technical skills training. A classification model is proposed which allows the selection and weighting of the candidate trainees' personal and occupational differences in order to participate in one of the two types of training. By means of the stepwise logistic regression method, gender, age, education, attitudes towards training, managerial level and job tenure have been identified as the significant variables associated with type of training.

Introduction

Public service modernisation has been a recurrent theme in developed countries worldwide over the last two decades. Since the early 1980s, the efficiency and effectiveness of the public services in many countries have been damaged by unresponsive expenses, inability to deal with new challenges and deliberate resistance to change (Georgakopoulos, 1997; Peters and Savoie, 1994). Competitiveness in the public sector has been pursued by an 'efficiency strategy' strengthening the management capacity in government operations. Emphasis has been placed, on the one hand, on reorganising public management through new technologies and institutional reforms, and, on the other, on replacing the bureaucratic culture in government services by a manage-
ment culture which targets the satisfaction of customer expectations (Farnham, 1997; Skelcher, 1992). The development of a managerial performance-based approach in the public sector requires Human Resource Management reforms and a strategy which addresses the ‘empowering managers’ (Gore, 1994; Yntema, 1993). The cornerstone of this overall strategy is the ‘upgrading of managerial work’ by defining the role ambiguity of the public manager and by placing as much responsibility and authority as possible in their hands at every level. Public managers’ work, attitudes and skills have been particularly affected (Kufidu et al., 1997). Basic trends that will shape the future of working in public organisations are: the learning organisation; the more educated and diverse workforce; advances in technology; and the proliferation of integrated high-performance work systems (Bassi et al., 1996; Klinger and Lynn, 1997; Raper et al., 1997). Consequently, a greater professional role must be given to the human resource function. Public personnel management must be identified as a critical success factor with a process orientation, characterised by many alternative mechanisms and flexible employment relationships (Corby, 1997; Davies, 1997).

A wide variety of human resource options regarding working patterns and pay systems in the public sector have been adopted by most European countries since the 1980s, supported by training interventions (Corby, 1997; Farnham, 1997; Farnham and Horton, 1997; Loffer, 1997; Parodo-Diez, 1997). Training is seen as a key instrument in the implementation of HRM policies and practices looking to give equal importance to the fulfilment of the needs of both the organisation and the individual (Bartel, 1994). Training, in particular for public managers, is necessary in order to help them accomplish their upgraded role and adopt a more humanistic style of management, as they have often been criticised for being bureaucratic, impersonal and reactive. Furthermore, national training interventions have been undertaken by many countries to improve the performance of their workforce in both the private and public sectors, in order to be competitive in the global economy (Benson, 1997; Reid and Barrington, 1994; Robinson and Stern, 1995). Although researchers are very dubious about the ability of training to harmonise the individuals’ and the organisation’s needs to the mutual benefit of both (Jill and Neumark, 1996; Nelson et al., 1995), the importance of training in a rapidly changing world is crucial.

Designing the training process

A large number of equally important variables for effective training are suggested by many training professionals and academics offering a variety of generalised approaches to training interventions following the ‘System Approach to Training’ and the ‘Procedural Approach’ (Dalton, 1997; Montgomery, 1993). All these assume that the major elements of the training process have to be the creation of training plans and the task of systematising the identification of training needs (Gray et al., 1997). In implementing these features, the determination of training objectives, both behavioural and performance-related, is one of the more important issues. Although the classification is often not too clear (Kimberly et al., 1996), the choice of the type of training programme, designed to influence either technical or human skills, is a step in this direction (Axtell et al., 1997; Clark, 1997; Katz, 1974).

Research evidence suggests that during the 1980s emphasis was placed on training programmes aimed at maximising trainees’ human skills in both the private and public sectors (Holden, 1993). This shift towards human skills training, especially in public sector managers, is necessary to help them to accomplish their upgraded role, as described above. Many governments all over the world are giving their employees the chance to improve their interpersonal and social skills, to develop sensitivity towards others and to adopt a more humanistic style of management. Research studies have suggested that these efforts can translate into better leadership behaviour, strong team relations and a positive organisational climate (Farnham and Horton, 1997; Klinger and Lynn, 1997; Redman and Mathews, 1997). On the other hand, other training programmes teach managers how to develop new skills and competencies such as managing financial resources or information, and technology,
essential to producing performance effects. The use of advances in performance technology, their involvement with the newer information technology, and the efficient allocating of resources are some of the consequences of participation in these technical programmes (Selden, 1996).

In the midst of these adjustments, the formulation of the appropriate programme that will offer effective human or technical skills training must take into account the trainees’ personal and occupational differences, in the context of organisation, job and person analysis (Scott, 1997; Tharenou, 1997a). In the process of determining training needs, job analysis aims to identify needs at the level of individual performance and personnel demographic analysis helps to produce a training programme tailored to the particular needs of individuals, and organisation analysis focuses on linking strategic planning considerations with the results of training needs assessment (Gray et al., 1997). The involvement of training department experts and of the candidate trainees in the needs assessment helps builds commitment to the training effort. In the case of the Greek public sector, the initiative in designing such programmes is left entirely to the training departments or to the central authorities; potential trainees are merely required to participate in training courses. The problem then arising is how to ensure that the selection of participants in each programme will achieve benefits both for their organisation and for the trainees themselves.

In order to determine which employees would benefit most, and how the organisation will be more advantaged, more must be known about how their personal factors and their job factors could affect their participation in each type of training (Noe and Wilk, 1993; Tharenou, 1997b). Studies have been conducted to investigate what causes the employee to apply to attend training, using both a labour market approach (based on human capital theory) and a psychological approach (based on employee attitudes towards training and work environment) (Noe and Wilk, 1993; Tharenou, 1997b). The need to conduct a systematic examination of the links between various job and personal factors, on the one hand, and the training process, on the other (Tharenou, 1997b) is what led us to undertake this survey.

Our study sought to investigate the possibility of public employees’ participation in training being managed, in the sense of determining the appropriate type of human or technical skills training, according to their personal and occupational characteristics (Figure 1). The generally weak and indirect relationship between organisational factors such as size, work environment, and training process (Krogt and Warmedam, 1997; Mauer and Tarulli, 1994; Noe and Wilk, 1993; Tharenou, 1997a, 1997b) led to their exclusion from our study. Furthermore, given their proximity and direct influence, personal and occupational factors should constitute stronger predictors of participation in training than organisational factors (Tharenou, 1997b).

Therefore, we propose a model that can select and weight the candidate trainees’ personal differences (such as education, previous participation in training, age and gender) and their occupational differences (such as managerial level and job tenure) in order to classify the trainees for participation in one of the two types of training programme (human or technical skills training). The character of the proposed model

![Figure 1: Factors influencing the choice of type of training](image-url)
is basically classificatory but it is also selective and predictive, assisting candidate trainees’ selection in the training process.

**Methodology**

**Sample**

Our study was carried out with a sample of 444 public servants (managers and clerks employed in various departments of the Greek civil service) who had taken part in training programmes offered by the Institute of Permanent Management Training (I.P.T.) of the National Center for Public Management. At the time we held our survey, the I.P.T. was running two types of training programmes, one on ‘Interpersonal Skills’ and another on ‘Government Accounting and Auditing’ focusing on the development of either the trainees’ human or technical skills, respectively. The candidate trainees had applied to participate in the training courses initially and eventually they were selected by the I.T.P. to follow one of the programmes, taking into account the identification of training needs in the framework of the national training plan.

Thus, 107 had been selected to participate in the ‘Interpersonal Skills’ programme (group I – human skills) and 337 in the ‘Government Accounting and Auditing’ programme (group II – technical skills), on the basis of their personal and occupational characteristics according to institutional directions and practices. A model that would weight candidate trainees’ personal and occupational characteristics in order to classify them into group I or II was not used. This is where our proposed model would be helpful.

The context of each of the two training programmes included sessions referred to the relevant scientific area, and the duration of each was 70 hours. The trainees were split into 4 classes for the ‘Interpersonal Skills’ programme, with the same sessions and duration and 13 classes for the other programme under the same conditions.

Data were collected by means of self-report questionnaires that were completed by the trainees and which referred to both their personal and occupational characteristics.

**Variables and measurements**

**Types of training**

Human skills development was the objective of one type of training (Interpersonal Skills programme) that the Greek I.P.T. offered public servants. Some of the expected results in terms of public sector managers’ behavioural changes referred to leadership style, effective motivation, communication ability, reduction of conflict, harmonious interpersonal relations, personality integration and comprehension of their social role. Equivalent programmes were also offered in technical training (Governmental Accounting and Auditing programme) focusing on the acquisition of knowledge and skills in handling Accounting and Auditing techniques and methods, in the use of appropriate Financial Decision-Making techniques, and in the use of Accounting Information Systems. The type of training programmes offered determines the dependent variable in the logistic regression analysis that was adopted in the present survey. We gave the code 0 for human skills training (Interpersonal Skills programme) and 1 for technical skills training (Government Accounting and Auditing programme).

**Trainee characteristics**

According to relevant studies, participation in training is influenced by work environment and employee attitude factors (Kalaitzidakis, 1997; Noe and Wilk, 1993; Scott, 1997; Tharenou, 1997a). In addition, they note that there is the need to investi-
gate the personal attributes and job and organisational features to reveal their link with different types of training (Gray et al., 1997; Tharenou, 1997b). In the present study, the trainees’ personal characteristics, such as gender, age, education and attitudes towards training as well as occupational ones, such as managerial level and job tenure, are taken as the independent variables of our analysis:

- **Gender** Women and men have tended to opt for different types of training (Altonji and Spletzer, 1991; Veum, 1996) and our survey tried to assess the weight of this option (male = 1, female = 2).
- **Age** A number of converging workforce issues have improved our understanding of how age affects the upgrading of skills needed to work effectively (Paul and Townsend, 1993; Schwoerer and May, 1996). Age was taken as given by the trainee in the questionnaire.
- **Education** Those with a higher level of education are thought to be more willing to receive training than those less educated (Altonji and Spletzer, 1991; Veum, 1996) and our contribution underlines which type of training is more appropriate. Trainees have been coded according to their educational level as follows: 1 = postgraduate (MA, MSc, MBA), 2 = graduate (bachelor’s degree), 3 = high-school graduate.
- **Previous participation in training** Psychological explanations look at the nature of the relationships between attitudes towards training and participation in courses. High motivation to learn and to transfer training to the job, high development needs, high career exploration and insight, are some attitudes that appear relevant to career development but not to training (Noe and Wilk, 1993; Tharenou, 1997a, 1997b). Past participation in training courses may be an indicator of attitudes towards training but has been little researched (Tharenou, 1997b). The number of hours of previous training that an employee has undergone indicates their direct involvement in the training process because it is taken to be dependent on their own desire. Positive attitudes towards training in different degrees could be shown by the number of past training hours as reported by the trainees themselves in the questionnaires, under the above-mentioned limitations.
- **Job tenure** This was measured, in our survey, as the number of years that the trainee had worked in their current position in the organisation. The training needed to perform a job is influenced by the trainee’s experience and skills according to the duties of the job and job tenure (Schwoerer and May, 1996; Sparrow and Davies, 1988).
- **Managerial level** This is taken to be related to participation in human or technical skills training. The higher the managerial level, the higher the level of skills managers are required to possess to handle their various and complex duties. As a result, managerial level directly influences the need for, and therefore the choice of the type of, training (Bartol and Martin, 1994; Tharenou, 1997a). Trainees have been coded according to their managerial level as follows: 1 = top level, 2 = middle level, 3 = low level, 4 = clerical level.

**Statistical method**

The statistical method selected was stepwise logistic regression analysis with forward inclusion of independent variables. This approach was adopted because of the predictive and exploratory character of this research and the lack of previous research on the causality between the types of training and the trainees’ characteristics. The independent variables as categorical predictors were deviate coded because the effect of each one is compared with the overall effect of all of them. Furthermore, the deviation coding measures give more information and sensitive calculations (Demaris, 1992; Scott, 1995). We proceeded to estimate the following logit model (Mendenhall and Sincish, 1993; Scott, 1995):

\[
E(y) = \frac{\exp(b_0 + b_1x_1 + b_2x_2 + \ldots + b_kx_k)}{1 + \exp(b_0 + b_1x_1 + b_2x_2 + \ldots + b_kx_k)}
\]
Where: \( y = 1 \) if technical training occurs
\( y = 0 \) if human training occurs
\( \bar{E}(y) = \pi \) (technical training occurs)
\( \pi = \) denotes the probability that \( y = 1 \)
\( x_1, x_2, \ldots, x_k = \) independent variables

To predict type of training probability using the explanatory variables the model is estimated by the logistic regression in the S.P.S.S. statistical package (Norusis, 1998).

**Results**

A summary of the data obtained is presented in Table 1. An overview reveals a number of points. With regard to personal characteristics, overall mean age is 44 years and it would seem that older employees tend to participate more in human training programmes (mean = 49 years) and younger ones in technical training programmes (mean = 43 years).

Men tend to participate more than women do with 56 per cent compared to 44 per cent. Postgraduate trainees made up 6 per cent of the total, graduates 82 per cent and high school level 12 per cent. Almost half of the participants had no previous training experience (200 persons, i.e. 45 per cent), a considerable number (166 persons, 37 per cent) had followed 20–60 hours of training and a small proportion (18 per cent) had followed training courses totalling over 60 hours. With regard to occupational characteristics, 84 of the 138 top managers (who represented 31 per cent of the sample) had participated in human training programmes and 54 in technical training programmes. For the other managerial levels, the proportion in technical programmes was higher. The job tenure of 71 per cent of the trainees was up to 5 years, while for the rest (29 per cent) it varied from 6 to 25 years. Overall, the mean job tenure of the trainees was 4 years, the equivalent mean job tenure being 3 years for trainees on the human training programme and 5 years for technical trainees.

The stepwise method showed that trainees’ personal and occupational characteristics, which influence participation in one of the two types of training significantly, are the following: managerial level, gender, education, age, and job tenure. The variable that refers to attitudes towards training was not selected by the method, because its contribution to the logistic regression equation was not significant.

The overall percentage of correct training classification, as indicated by the proposed model, attained 86.04 per cent (Table 2). Of the 107 participants in human training programmes and 337 participants in the technical programmes, 70 (65.4 per cent) and the 312 (92.6 per cent) respectively were classified correctly.

Once the stepwise method had selected the most significant variables for inclusion in the model, the final logistic model was formulated with those variables to give the following equation:

\[
\text{logit (type of training)} = -2.032 \text{ (top management)} + 0.528 \text{ (middle management)} + 0.916 \text{ (low management)} - 0.080 \text{ (age)} - 0.945 \text{ (graduate)} - 0.038 \text{ (postgraduate)} + 0.099 \text{ (job tenure)} - 0.372 \text{ (male)} + 5.924
\]

An overview of the coefficient estimate and associated statistics is provided in Table 3. The relationship between the dependent and independent variables is statistically significant \( G = 188.14 \) with 8 degrees of freedom, \( p = 0.000 \). Measures of the strength of association between the dependent and the independent variables \( R^2 = 0.384 \) indicate a moderately strong relationship between the dependent and its predictors.

If we evaluate the strength of the relationships of the independent variables to the type of training based on the unstandardised logistic regression coefficients, managerial level appears to have a strong effect. In particular, the top-level managers show an increased probability to be classified as participating in human skills train-
Table 1: Trainees’ characteristics according to human or technical skills training

<table>
<thead>
<tr>
<th>Trainees’ characteristics</th>
<th>Total trainees</th>
<th>Group I (n = 107) human skills</th>
<th>Group II (n = 337) technical skills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no (%)</td>
<td>no (%)</td>
<td>no (%)</td>
</tr>
<tr>
<td>A. Personal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1. Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27–35</td>
<td>47 (11)</td>
<td>4 (4)</td>
<td>43 (13)</td>
</tr>
<tr>
<td>36–40</td>
<td>93 (21)</td>
<td>11 (10)</td>
<td>82 (24)</td>
</tr>
<tr>
<td>41–45</td>
<td>114 (26)</td>
<td>15 (14)</td>
<td>99 (29)</td>
</tr>
<tr>
<td>46–50</td>
<td>101 (22)</td>
<td>31 (29)</td>
<td>70 (21)</td>
</tr>
<tr>
<td>51–55</td>
<td>52 (12)</td>
<td>21 (20)</td>
<td>31 (9)</td>
</tr>
<tr>
<td>56–65</td>
<td>37 (8)</td>
<td>25 (23)</td>
<td>12 (4)</td>
</tr>
<tr>
<td>Mean</td>
<td>44</td>
<td>49</td>
<td>43</td>
</tr>
<tr>
<td>A2. Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>248 (56)</td>
<td>82 (77)</td>
<td>166 (49)</td>
</tr>
<tr>
<td>Female</td>
<td>196 (44)</td>
<td>25 (23)</td>
<td>171 (51)</td>
</tr>
<tr>
<td>A3. Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate</td>
<td>25 (6)</td>
<td>6 (6)</td>
<td>19 (6)</td>
</tr>
<tr>
<td>Graduate</td>
<td>364 (82)</td>
<td>99 (92)</td>
<td>265 (78)</td>
</tr>
<tr>
<td>High level</td>
<td>55 (12)</td>
<td>2 (2)</td>
<td>53 (16)</td>
</tr>
<tr>
<td>A4. Training previous participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 hours</td>
<td>200 (45)</td>
<td>45 (42)</td>
<td>155 (46)</td>
</tr>
<tr>
<td>20–60 hours</td>
<td>166 (37)</td>
<td>37 (35)</td>
<td>129 (38)</td>
</tr>
<tr>
<td>61–100</td>
<td>39 (9)</td>
<td>13 (12)</td>
<td>26 (8)</td>
</tr>
<tr>
<td>101–140</td>
<td>30 (7)</td>
<td>10 (9)</td>
<td>20 (6)</td>
</tr>
<tr>
<td>141–180</td>
<td>5 (1)</td>
<td>2 (2)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>&gt;181</td>
<td>4 (1)</td>
<td>0 (0)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>B. Occupational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1. Managerial Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top</td>
<td>138 (31)</td>
<td>84 (78)</td>
<td>54 (16)</td>
</tr>
<tr>
<td>Middle</td>
<td>140 (32)</td>
<td>14 (13)</td>
<td>126 (37)</td>
</tr>
<tr>
<td>Low</td>
<td>38 (8)</td>
<td>2 (2)</td>
<td>36 (11)</td>
</tr>
<tr>
<td>Clerical</td>
<td>128 (29)</td>
<td>7 (7)</td>
<td>121 (36)</td>
</tr>
<tr>
<td>B2. Job Tenure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–5 years</td>
<td>316 (71)</td>
<td>91 (85)</td>
<td>225 (67)</td>
</tr>
<tr>
<td>6–10</td>
<td>84 (19)</td>
<td>9 (8)</td>
<td>75 (22)</td>
</tr>
<tr>
<td>11–15</td>
<td>29 (7)</td>
<td>5 (5)</td>
<td>24 (7)</td>
</tr>
<tr>
<td>16–20</td>
<td>13 (3)</td>
<td>2 (2)</td>
<td>11 (3)</td>
</tr>
<tr>
<td>21–25</td>
<td>2 (0)</td>
<td>0 (0)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Mean</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Designing training interventions

Reinforcing the importance of human skills for higher managerial level trainees, as our study shows, many researchers agree that their behavioural job characteristics, such as variety, complexity and autonomy, require high level human skills (Campion and Berger, 1990; Cusimano, 1995; Gabris and King, 1989).

Trainee age seems to have the same strong effect on participation in training pro-

Table 2: Classification table for human and technical training

<table>
<thead>
<tr>
<th>Observed type of training</th>
<th>No.</th>
<th>Predicted type of training</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Human’</td>
<td>107</td>
<td>‘human’</td>
<td>65.4</td>
</tr>
<tr>
<td>‘Technical’</td>
<td>337</td>
<td>‘technical’</td>
<td>92.6</td>
</tr>
<tr>
<td>Total</td>
<td>86.0</td>
<td></td>
<td>86.0</td>
</tr>
</tbody>
</table>

Table 3: Logistic regression analysis results for human and technical training

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Association/predictive efficiency</th>
<th>Independent variable</th>
<th>Unstandardised coefficient</th>
<th>S.E.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of training</td>
<td>Managerial level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G_M = 188.14</td>
<td>(top)</td>
<td>-2.032</td>
<td>.274</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>(p = .000)</td>
<td>(middle)</td>
<td>.528</td>
<td>.312</td>
<td>.091</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(low)</td>
<td>.916</td>
<td>.579</td>
<td>.114</td>
<td></td>
</tr>
<tr>
<td>R^2_c = .384</td>
<td>age</td>
<td>-.080</td>
<td>.023</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(postgraduate)</td>
<td>-.038</td>
<td>.457</td>
<td>.933</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(graduate)</td>
<td>-.945</td>
<td>.341</td>
<td>.006</td>
<td></td>
</tr>
<tr>
<td></td>
<td>job tenure</td>
<td>.099</td>
<td>.041</td>
<td>.016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>gender (male)</td>
<td>-.372</td>
<td>.168</td>
<td>.027</td>
<td></td>
</tr>
<tr>
<td></td>
<td>intercept</td>
<td>5.924</td>
<td>1.113</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

grammes (b = -0.080, p < 0.000). Older employees are associated with increased probability of being classified to human skills training programmes, while younger ones tend to be classified to technical programmes. It is common sense that employees of all ages continuously upgrade their skills in order to work effectively (Schwoerer and May, 1996), and that training moderated the relationship between age and technical performance (Kalaitzidakis, 1997; Sparrow and Davies, 1988). Furthermore, a lot of studies stress that the necessary adjustments for dealing with the gap between the skills of younger and older employees in the run-up to the twenty-first century must be credited to the successful choice of training activities (Halachmi, 1995; Rhebergen and Wognum, 1997).

With regard to level of education, graduate trainees appear to have a strong association with human training programmes (b = -0.945, p < 0.006). The effects of postgraduate variables are not the most statistically significant (p = 0.933). A large number of researchers have found that the higher educated are thought to have more aptitude and willingness to be trained than those with less education (Altonji and Spletzer, 1991; Veum, 1996). Our study supported this expectation, because the majority of the trainees who initially declared their interest in participating in the training courses were higher educated (82 per cent graduates and 6 per cent post-graduates). Our supplement findings associate the high level of education with the behavioural aspect of training programmes.

Job tenure is another variable that gave a high association with type of training (b = 0.099, p < 0.016). The results of our survey show that working in one position for many years seems to lead to an increased probability of participation in technical skills training. There is also a positive relation between short-term tenure and human
skills training. If we assume that long-term occupation in the same position denotes a certain stagnation, it becomes obvious that we need technical training to bring new technology to that employee. Job tenure, however, is a factor frequently confounded with other factors, such as managerial level, age, education and gender (Schwoerer and May, 1996; Sparrow and Davies, 1988; Tharenou, 1997b), and consequently there is need for a more systematic examination in the future, as there is a lack of research in this area.

To continue with the gender variable, men seem to demonstrate a significant probability ($p < 0.027$, $b = -0.372$) of being classified as participating in human skills training. In contrast, female trainees are associated with increased probability of participating in technical skills training. These results, indicated by our study, seem to agree with others researchers, who noticed that men require more behavioural training than women and also that women need more frequent, short technical training courses (Altonji and Spletzer, 1991; Gibbins, 1994; Green, 1993; Lewis, 1992).

The variable linking attitude to training was not selected for inclusion in the equation by the stepwise method because it showed no significant association with type of training. The time spent on previous training, as an indicator, denotes trainees’ attitudes towards training, but, as researchers have observed, the data show a lack of correspondence between those hours and the desire to continue the training process (Tharenou, 1997b; Veum, 1996).

Evaluating the predictive efficiency of the proposed equation, given different values on the independent variables, the corresponding classification probabilities accompany each type of training. Thus we can give the example of an employee with the following personal and occupational characteristics: age, 49 years old, gender: male, education: graduate, managerial level: top and job tenure: 3 years, whereby the probability of being classified as participating in human skills training is 74 per cent. As a contrasting example, technical training would propose the probability of 97 per cent for a woman, non-graduate, 43 years old, who has worked for 6 years as middle level manager in the same position.

To generalise the preceding discussion, in accordance with the proposed equation, the human skills training courses may be more associated with older graduate men with short tenure in top level managerial positions, while technical training courses are more associated with the younger non-graduate women with long-term tenure in middle-level managerial positions. In short, in planning training policies, the appropriate type of training can be proposed for candidate trainees depending on their special personal and occupational characteristics.

**Conclusion**

The purpose of this study was to attempt to propose a classification model referring to candidate trainees’ participation in human skills or technical training programmes. We explored this issue using the stepwise logistic regression method by analysing their personal and occupational differences. We conclude that age, gender, education, managerial level and job tenure are the significant variables associated with each type of training. An equation declaring this relationship is the product of the logistic model we propose.

In view of the crucial role of training type chosen in the implementation of HRM policies and practices in public organisations, the predictable and classificatory character of the proposed logistic model could prove useful. It is important, however, to consider the limitations of our study. It should be noted that the results are only valid for public sector training efforts. Further research could lead to a logistic model concerning training in the private sector. Another interesting topic for further research would also be the investigation of the influence of other organisational characteristics, such as current and optimal level of performance, perceived career benefits and organisational climate factors, on the choice of appropriate training.

Overall, our article can be regarded as an attempt to facilitate designing training interventions.
interventions in the public sector, regarding the type of human or technical skills training.

**References**


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