

# Organizational, Job, and Individual Determinants of Workplace Training: Evidence from the National Organizations Survey\*

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*Objective.* The relative importance of establishment-level, job-level, and individual-level factors in shaping the distribution of workplace training is examined. *Methods.* The distribution of job training in U.S. establishments is examined with data from the National Organizations Study (NOS). *Results.* Large companies with formalized hierarchies and internal employment systems provide training to employees. By contrast, individual-level factors such as age, race, and gender and job-level factors such as a position's status are less predictive of formal job training once the establishment factors are taken into account. Employees generally rate training as more important for their jobs than do their employers. *Conclusions.* The policy task is to persuade more enterprises to invest in their employees. The evidence suggests that employees on average are more eager to acquire the training than their employers are ready to provide it.

Many employers invest in the training of their employees, and many workers seek further training from the workplace. Both employers and employees agree on training as a strategy for development, though they diverge on what is to be developed. For individual employees, training is an opportunity for enhancing their own performance in a present or future workplace. It can also be a way to discourage a layoff, prepare for reassignment, or anticipate new technologies. For employing organizations, training is a device for improving the basic, technical, and managerial skills of their current or future workforce. It can be a way to increase the employability of poorly educated prospective employees, enhance the productivity of existing employees, and improve the

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flexibility of all workers (Lusterman, 1985; Berenbeim, 1991; Johnson and Linden, 1992).

For a third party to the relationship—public policy makers—work-site training has often been seen as contributing to the larger goal of improving the quality of the workforce and national competitiveness. Many have viewed improved employee training as critical to workplace productivity and that in turn is seen as critical to restoring U.S. competitiveness in a globalized economy. Reports from the U.S. Office of Technology Assessment (1990), the Competitiveness Policy Council (1992), and the National Academy of Engineering (1992) all call as a national priority for more systematic efforts to upgrade skills of the U.S. labor force.

Observers have also noted that workplace training can be vital if the U.S. economy is to be built around a high-productivity, high-wage workforce. The alternative road of a low-wage, low-productivity workforce can be an appealing one to employers if they face a poorly trained applicant pool. However, advocates of the high-road alternative warn that the low road, while feasible, would also bring a host of unwanted by-products, including lowered living standards for much of the workforce, diminished expectations for future generations, and heightened societal tensions for all. The high-productivity/high-wage strategy is seen as avoiding such long-term downsides, but it brings a near-term price: costly investment in workplace training. Pursuing the high road is thus contingent upon the building of a well-trained workforce, one that receives extensive entry-level training and continuous retraining to stay abreast of changing technologies, work skills, and organizational requirements (Kochan, Katz, and McKersie, 1986; Lawler, 1992; Kochan and Osterman, 1994; Applebaum and Batt, 1994; Danzinger and Gottschalk, 1993).

In recent years the training and retraining of workers has also moved closer to the top of the national political agenda. In public policy discussions during the mid-1990s, employee education received substantial attention, although it was somewhat less visible than the three agenda-setting topics: crime, welfare, and health care. Moreover, proposed reforms in two of these higher priority areas also called for more adult education. President Clinton's proposal to enhance health care delivery, for instance, called for an increased number of physicians who could practice as generalists, best achieved through retraining the large oversupply of medical specialists (Christakis, Jacobs, and Messikomer, 1994). Similarly, President Clinton's welfare reform proposal envisioned moving recipients into paying jobs, best achieved through intensive job training (U.S. Department of Health and Human Services, 1994a, 1994b).

A foundation for thinking about such policy questions is to understand who presently receives workplace training. By exploring who

does and who does not obtain formal job training, one can point to potential policy levers for pursuing the high-productivity, high-wage approach.

Prior research on the question of who is trained has generally followed two paths. One focuses on cross sections of employers, the other on cross sections of employees. Studies of training programs provided by *employers* generally show that larger firms in more stable markets with lower employee turnover and stronger internal employment markets are more likely to provide training to their workers. Since they operate with longer time horizons and more stability in their workforce, they can afford to invest in programs whose returns may require years for realization (Knobe and Kalleberg, 1994; Knobe and Ishio, 1994; Bishop, 1994; Useem, 1993).

The other research path has focused on which *employees* have received education and training in their workplace. Such studies generally report that the social cleavages of American society also structure the allocation of workplace training. Younger male and female employees are about equally likely to benefit from company training, but men are more likely to receive on-the-job training, women to receive off-the-job training. Nonwhites are less likely to receive either. Managerial, professional, and technical occupations are more likely to provide both. Nonunionized employees tend to receive less of each. Older workers are on the short end as well (Altonji and Spletzer, 1991; Lynch, 1991, 1994; Center for Human Resource Research, 1993).

Fine-grained analyses of the demographic skews in access to work-site training furnish insight into the underlying dynamics. One study based on the National Longitudinal Survey of Youth found, for instance, that women were less likely to receive job training than men, but it also found that much of the discrepancy could be traced to women's intermittent labor force participation. Even then, however, the same study indicated that among men and women receiving such training, men acquired about twice as much as women (U.S. Department of Labor, 1993).

Aside from compliance with contemporary equal-opportunity norms and statutes, the inequitable allocation of training opportunities across various subgroups in the U.S. population is of little direct concern to individual employers. In fact, it could not be since a given establishment typically draws on a tiny demographic slice of the workforce and one that is usually for good reason far askew from a national cross section. The specific composition of an employer's slice depends much on the local demography of the workforce and the technical requirements of the organization's work. In some instances, however, it may also reflect past or present employment practices that favor or discriminate against population subgroups.

The overall distribution of training opportunities, however, can be of considerable policy interest. If the high-productivity, high-wage strategy is to take hold, relatively widespread employee access to workplace training is an important foundation. Pursuit of the low-productivity, low-wage alternative, by contrast, would require no such foundation. The latter strategy could readily operate in an environment where a fraction of the labor force were well trained for a small number of lucrative managerial and professional positions—while the bulk of the labor force remained poorly trained, though suitably prepared, for the large number of poorly paying positions.

The sharply uneven distribution of workplace training thus presents a challenge but also an opportunity for policymakers concerned with the future of U.S. competitiveness. The research literature has suggested that the present distribution of workplace training is indeed uneven. Some establishments provide substantial training, others provide virtually none. Some subpopulations receive frequent job training, while others receive little. The organizational and demographic factors are themselves intertwined, since larger establishments with strong internal labor markets and extensive internal training have traditionally favored dominant social groups. These two factors are also linked to a third factor—the employees' positions within the organization. Large enterprises, for example, have more managerial positions, men more often occupy those positions, and managerial positions more often receive company training. To understand the dynamics of workplace training thus requires the simultaneous examination of personal, job, and organizational characteristics.

The purpose of this paper is to untangle the interplay of these three factors in accounting for the unevenness of worksite training. Personal characteristics such as gender and race affect the type of organization in which employment can be found. Organizational characteristics such as establishment size and promotion ladders in turn influence the extent to which employers invest in their workforce. Job characteristics such as supervisory status and occupational prestige also affect which employees are targeted for training. It is therefore important to look simultaneously at all three characteristics in seeking to understand the distribution of workplace training among individuals.

The goal of this research is to identify the relative importance of organizational, job, and individual determinants of training. Doing so is important for both practical and theoretical reasons. A finding that organizational factors are the crucial determinants of workplace training would lead to policies that promote training by offering incentives to firms. Alternatively, a finding that individual demography determines workplace training might lead to policies that promote training by offering vouchers, loans, or other incentives to individuals.

The results of this study should also be theoretically salient. The "new structuralism" in sociology has emphasized the role of establishments in shaping the rewards and benefits of work, above and beyond the attributes individuals themselves bring with them to the workplace. Evidence that workplace training is more closely associated with firm characteristics than with worker attributes will further affirm this perspective; evidence of the opposite would challenge the perspective.

Our analysis thus examines the role of individual, job, and organizational factors in shaping who receives workplace training among a cross section of the work-age public. Previous research has focused on one set of these factors, but has not systematically and simultaneously compared them all. This analysis is focused on a unique 1991 data set that includes extensive information on a representative national sample of 727 working adults, their employers, and the positions they hold within the organization. The basic question we address is this: To what extent is the distribution of worksite training driven by individual, job, and organizational factors, or a combination of some two or three? The integration of information in a single data set from both individuals and their employers enables us to ask whether it is quality establishments, quality jobs, or quality individuals that are most predictive of job training.

We also explore the importance assigned to workplace training by organizations and individuals. This analysis is useful for two reasons. First, it provides us with an additional measure of workplace training that allows for an independent check on the validity of our findings. Second, it speaks to the willingness of establishments and individuals to take advantage of workplace training programs. A finding that workers attach great importance to workplace training would suggest that workers might respond favorably to programs that facilitated access to such training.

### Information Source and General Procedure

As a follow-up to the 1991 General Social Survey (GSS), the National Organizations Survey (NOS) directly contacted the responding individual's employers. The 1991 General Social Survey asked respondents to identify their place of work or their spouse's place of work for a follow-up survey. GSS respondents and their spouses identified 1,127 employing establishments, and 727 responded to a follow-up request by the University of Illinois Survey Research Laboratory for an interview with "the head of the personnel department or the person responsible for hiring." The result is a data set on 727 individuals and their employing establishments (Kalleberg et al. [1994] and related articles in same issue of *American Behavioral Scientist*). An establishment is defined as a place of work, and a little over half (55 percent)

of the employing organizations are part of larger "parental" organizations.

Two of the survey's principals have already completed an analysis of the establishment-level training data (Knoke and Kalleberg, 1994). They focused on the attributes of the establishments and the context in which they operated, but they did not extend the analysis to which workers and jobs received the training. Using that analysis as a starting point, we first explore the establishment, job, and individual predictors of training. Here we ask what kinds of establishments are most likely to give training, and which workers and jobs are most likely to receive it. Second, we explore whether establishment-level predictors such as size and stability persist when individual and job attributes are taken into account, and, conversely, we examine whether individual and job attributes still count when enterprise characteristics are taken into account. Finally, we combine organizational, job, and individual factors into a single model for the determinants of training.

#### Data and Methods

The NOS data include 667 cases with no missing data for the analysis of organization-level factors. For the comparison of individual and organizational factors, fewer cases are available. Of the 727 cases with both GSS and organizational respondents, 483 are GSS respondents and 244 are their spouses. In 39 instances more than one GSS respondent worked for the same establishment. Focusing only on the original GSS respondents and on only one respondent per establishment, the effective size of our data base is 483 individuals and their establishments. While this remains large enough for our multivariate analysis, the case reduction does reduce its inferential powers. Despite these limitations, the NOS data remain the best nationally representative data source for comparing organizational and individual determinants of training.

Our research strategy of comparing individual, job, and establishment predictors of training would ideally call for identical or closely parallel questions in the separate surveys of the individuals and their employers. Not all of the relevant NOS measures, however, met this criterion. The survey of employers, for instance, asked if they had offered training during the past two years, and elicited information on the location and cost of training provided. In contrast, the GSS survey of individuals simply asked the importance of training to one's job. Despite these shortcomings, the data provide a unique opportunity to analyze simultaneously the distribution of training opportunities across establishments, jobs, and employees.

The survey staff asked the organizational informants if they provided

job training: "Apart from on-the-job training, in the past two years did (organization name) provide any employees with formal job training, either on or off the premises?" A dichotomous variable, termed *organizational training*, is coded 1 if training was offered and 0 if no training was offered. If training were offered, the survey staff then asked organizational informants which job categories received the training ("Did [job category] receive formal training?"). The job categories identified were core job, manager, or the job of the GSS respondent if the latter was neither a core worker nor a manager. A core job was defined as that job category that is central to the production of the main product or service at the establishment ("What is the job title for the employees who are most directly involved with the main product produced or service provided?"). The NOS survey solicited information about each of these job categories. To build an indicator of training at the job level, we combined responses to the three questions into a single measure that we term *job training*. This measure is coded 1 if a GSS respondent were in a job category that received formal training at his or her organization, and 0 otherwise. If no training were offered by the organization, the measure of job-level training is coded 0.

For the two dichotomous dependent variables of organizational training and job training we conducted a logistic regression analysis with a set of predictors described below. We began by replicating Knoke and Kalleberg's analysis of the determinants of organizational training. We then substituted the job-level training measure to see if the same factors predicted training for particular jobs. Finally, we added individual-level explanatory variables to see if the organizational and job factors still carried predictive force once personal factors were controlled. We present weighted means, to reflect the stratified sample design. However, the regression results are based on unweighted counts (Winship and Radbill, 1994).

We also conducted a second comparison between establishments and individuals, contrasting the importance assigned to training by employers and their employees. The purpose of this analysis was to identify whether establishments or individuals were more likely to be advocates of additional workplace training. Again, the questions were not identical in the two surveys. The survey asked organizational informants to rate the importance of training for promotion chances. "Apart from formal education, how important is formal training as a factor in employees' promotion chances?" Responses are coded on a scale from 1 for unimportant to 5 for very important. General Social Survey respondents were also asked to rate the importance of worksite training for their own job: "How important is formal on-the-job training as a source of skills that you use in your job?" Responses are coded

from 1 for unimportant to 4 for very important. We reversed the direction of these two measures in the multivariate analysis so that a positive coefficient would indicate that a factor was positively associated with a more favorable assessment of training.

### The Predictors of Training

Knoke and Kalleberg (1994) developed a comprehensive set of organizational predictors of training, and we begin with that set here. We focused on those factors previously found to predict organizational training practices. Our analysis included three attributes of each establishment: its size, subsidiary status, and parental size (further details on these measures are available from the authors). We selected two measures of the internal structure of the organization as well: the establishment's degree of formalization, and the presence of an internal labor market. We also employed two measures of the establishment's environment: complexity and market competition. We added to this list two variables on the establishment's work force: the average wage in the establishment and the average weekly hours worked in establishment. We added these measures to see if training is generally associated with firms that provide quality jobs. Two important attributes of quality jobs are whether they are high-wage and full-time.

To these organizational measures we added four individual characteristics: age, education (years of schooling completed), race (black, white), and gender. We also added four job characteristics: full-time or part-time employment status (less than 35 hours per week), occupational prestige, supervisory role, and subordinate status. (The means and standard deviations for all variables in the analysis are available from the authors.)

The first column of Table 1 displays the results reported in Knoke et al. (1993) and discussed in Knoke and Kalleberg (1994), and the second column reports our replication. Our coefficients are slightly different, mainly because of a slight difference in case number (11), but the substantive conclusions are the same. Organizational attributes are seen to be powerful drivers of training policies: large companies with many layers of formal organization and internal employment systems are significantly more likely to offer employee training.

The third model we present in Table 1 extends the organizational analysis to the determinants of job-level training. Here we shift the question from what types of establishments provide training to what types of jobs within them receive training. The outcome variable is now whether the GSS respondent is in a job for which the establishment reports training.

The conclusion we draw from model 3 is that the same

TABLE 1  
Comparison of Organizational Models with Those of Knoke and Kalleberg

	Organizational Training		Job Training	
	Model 1: Knoke and Kalleberg <sup>a</sup>	Model 2: Replication	Model 3: Substitution of Job Training as Dependent Variable	Model 4: Additional Variables
Constant	-3.31***	-3.46***	-4.13***	-9.23*
Establishment size	0.29***	0.33***	0.14***	0.13*
Parent size	-0.07	-0.08	0.11*	0.14*
Parent dummy	-0.70	0.23	0.44*	0.42*
Formalization	0.32***	0.34***	0.24***	0.25***
Internal labor market	0.56***	0.51*	-0.02	0.07
Environmental complexity	0.26*	0.95+	0.87*	0.73+
Market competition	0.34*	0.29+	0.11	0.13
Average wage in establishment		(0.15)	(0.12)	(0.12)
Average weekly hours worked in establishment				0.72+
				(0.48)
				-0.07+
				(0.04)
Log-likelihood	-248.5	-297.2	-149.0	-130.4
Degrees of freedom	8	8	8	10
Concordant pairs	82.0%	87.6%	74.6%	74.9%

<sup>a</sup>These are the coefficients in Knoke et al. (1993: table 3, model 6). The betas published in Knoke and Kalleberg (1994) differ somewhat, but the substantive conclusions are the same.

+  $p < .10$ .

\*  $p < .05$ .

\*\*\*  $p < .001$ .

establishment-level factors that predict increased establishment-level training also predict training in particular jobs within the organization. In other words, shifting the analysis from which establishments provide training to which jobs received training does not change the organizational predictors of training. In model 4 we add two other organizational predictors of training not in the original Knoke and Kalleberg model: high salary structure and a long work week. Both are

close to being statistically significant, but neither quite attains the .05 level.

We turn now to job-level and individual-level determinants of training of individual employees. The analyses presented in Table 2 compare the attributes of individuals and jobs for those employees in jobs that receive training with those in jobs that do not. The results indicate that individuals who receive training are similar in many important respects to those who do not. In particular, age, race, and gender do not differ between the groups. Those with more education and those working full-time, however, are more likely to receive training than those with less education or working part-time. Job factors also distinguish those in jobs receiving training from those in jobs that do not. High-status jobs offer more training than lower-status jobs. Subordinates receive more training than those without supervisors (which, as we will see, is mainly due to the fact that those who have no supervisors tend to work in small establishments that offer little or no training).

A regression analysis of job training as a function of job and individual characteristics is presented in Table 3. The first model includes individual attributes only, the second job characteristics only, and the final model combines the two. The individual analysis again indicates

TABLE 2  
Comparison of Jobs with and without Training

	1. Job Provides Formal Training Mean (SE)	2. Job Provides No Formal Training Mean (SE)
Age	39.1 (0.76)	42.6 (0.83)
Black	2.6% (1.2)	7.2% (1.4)
Male	52.7% (2.8)	53.5% (2.7)
Education	13.7*** (0.14)	13.4 (0.15)
Part-time job	25.6%*** (2.1)	46.9% (2.5)
Supervises	31.1% (4.2)	35.1% (3.8)
Has a boss	57.7%*** (2.1)	42.4 (3.0)
Occupational prestige	44.3*** (0.76)	43.0 (0.71)
	(n = 322)	(n = 345)

\*\*\*Difference is statistically significant,  $p < .001$ .

TABLE 3  
Job-Level and Individual-Level Determinants of Job Training

	Model 1: Individual Measures	Job Training	
		Model 2: Job Measures	Model 3: Individual and Job Measures
Constant	-1.37*** (0.55)	-2.42*** (0.38)	-2.98 (0.65)
Age · 100	0.03 (0.08)		0.04 (0.09)
Black	-0.27 (0.33)		-0.35 (0.34)
Male	-0.13 (0.16)		-0.01 (0.17)
Education	0.11*** (0.03)		0.08* (0.04)
Part-time job	-0.66*** (0.19)		-0.48* (0.20)
Supervises		0.03 (0.26)	-0.04 (0.27)
Has a boss		1.41*** (0.27)	1.40*** (0.28)
Occupational prestige		0.03*** (0.006)	0.02** (0.008)
Log-likelihood	-28.7	-50.7	-62.3
Degrees of freedom	6	4	9
Concordant pairs	60.0%	65.1%	67.5

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

that few personal attributes are associated with job training. In particular, age, race, and gender are not related to the likelihood of being in a job linked to training opportunities. We examined the relationship between age and training to detect possible curvilinear associations, but found none. Few individual attributes matter, even before controls are imposed in the analysis. These results differ from some other surveys that show that women, blacks, and older workers are less likely to receive job training than their male, white, and younger counterparts. Consistent with prior literature, however, the results show that those with higher levels of education and working full-time are more likely to receive training (Altonji and Spletzer, 1991; Tilly, 1990).

The results regarding job characteristics reveal that job attributes do matter. As seen in the second model of Table 2, holding a position that is high in prestige or has a boss increases the likelihood of receiving

training. The final model presented in Table 3 combines the individual and job characteristics. Job-level measures tend to persist as determinants of training, while the individual-level factors generally diminish in size. Specifically, the effect of education on training is reduced but not eliminated once the occupational status of the job is taken into account. Part-time employment continues to depress the level of training offered, though its effect is also somewhat reduced in the final model.

In Table 4 we present results based on a model that combines individual, job-level, and organizational predictors of job training. Organizational characteristics continue to be important, but the other factors

TABLE 4  
Combined Determinants of Job Training

	Combined Model
Constant	-5.15*** (0.79)
<i>Establishment attributes</i>	
Establishment size	0.12* (0.05)
Parent size	0.13* (0.06)
Parent dummy	0.44* (0.20)
Formalization	0.23*** (0.05)
Internal labor market	-0.03 (0.22)
Environmental complexity	0.79+ (0.42)
<i>Individual and job attributes</i>	
Education	0.07+ (0.04)
Part-time job	-0.27 (0.21)
Has a boss	0.11 (0.33)
Occupational prestige	0.01 (0.008)
Log-likelihood	-159.1
Degrees of freedom	10
Concordant pairs	76.3%

\* $p < .10$ .

\* $p < .05$ .

\*\*\* $p < .001$ .

have lost much of their salience. Neither having a boss nor a high-status position matters much any more; neither education nor part-time status matters much either. In sum, characteristics of the establishment are good predictors of whether a person holds a position that receives training. Characteristics of the person and the job itself, by contrast, have relatively little bearing once the establishment features are taken into account.

### The Perceived Importance of Training

Another way of examining the personal and organizational dimensions in training is to compare the individual and organizational respondents' assessment of the importance of job training. The survey interviewers asked establishments how important training was for promotion within, and they asked individuals how important training was as a source of skills for doing their job.

Table 5 presents the distribution of the perceived importance of training for both the establishment and the individual. The first conclusion we draw from Table 5 is that individuals overwhelmingly rate training as important to their jobs. Nearly three-quarters of the GSS respondents rated training as important or very important for their work. Second, employees are more likely to rank training as very important than are their establishments. Less than a fifth of the establishments rated training as very important, while nearly half of their employees did so. A case-by-case comparison of individual and enterprise assessments yields the same conclusion. In 53.2 percent of the comparisons, the GSS respondent rated training as more important than did their establishment respondent, while the reverse pattern held in only 20.6 percent of the cases.

To identify where support for job training was strongest, we completed analyses using the same models developed for the distribution

TABLE 5  
The Importance Assigned to Training by Organizations and Individuals

	Organizations	Individuals
1. Very important	17.4%	48.7%
2. Somewhat important	37.1	25.5
3. Not very important	32.6	11.6
4. Unimportant	12.9	14.2
Mean	2.4***	1.9
N, cases	310	310

\*\*\*Differences in means are statistically significant,  $p < .001$ .

of job training. We examined the impact of individual characteristics, job factors, and establishment features separately and then in combination.

For the sake of consistency, we began with individual determinants of the importance that organizations place on training. We estimated a series of models, following the sequence presented in Tables 2 and 3 (results available from authors). Given the limited effect of individual attributes on training, it is not surprising that workforce attributes are poor predictors of the value that the enterprise places on training. So too for the job-level measures. Enterprise attributes, however, do predict the importance placed on training. In general, the same factors that predicted the presence of training policies also predict whether establishments place a premium on training. In other words, establishments that provide substantial training for employees tend to rate training as important for promotion.

We estimated a similar series of models that predicted the premium individuals place on training (results available from authors). In this analysis, none of the background attributes of individuals—age, race, and gender—predict the importance assigned to training by employees. Educational background is slightly negatively related to the importance that employees place on training, perhaps because the better their prior education, the less additional training is needed now. Part-time workers believe that training is less important than do their full-time counterparts. Job-level factors once again are not significant in this analysis. Only two establishment-level measures influence the importance that individuals assign to training: employees in establishments with higher wages and longer work weeks attach more importance to training than do others.

The final model is presented in Table 6, which compares the determinants of the importance placed on training by organizations and individuals. For organizations, only organization-level measures such as formalization, the presence of an internal labor market, and environmental complexity affect the importance attributed to training. For individuals, the salient factors are education, full-time employment, and the establishment's average wage level.

Perceptions of the importance of job training—whether for the individual or the enterprise for which he or she works—thus vary more with enterprise characteristics than with individual or job characteristics. Once again, then, the establishment is much the shaper of job training, the personal playing less of a role.

## Conclusion

Our results provide strong support for the view that establishments are critical to the distribution of training. We showed that the attributes of establishments continued to matter after individual-level and

TABLE 6  
Determinants of Importance of Training to Organizations

	Model 1: Importance of Training to Organizations	Model 2: Importance of Training to Individuals
Constant	-5.43* (1.92)	-8.05* (2.10)
<i>Individual and job attributes</i>		
Education	-0.02 (0.02)	-0.08** (0.02)
<i>Job attributes</i>		
Part-time job	-0.06 (0.12)	-0.35** (0.13)
Has a boss	0.20 (0.19)	-0.08 (0.16)
Occupational prestige	0.001 (0.004)	0.004 (0.005)
<i>Establishment attributes</i>		
Establishment size	-0.04 (0.03)	-0.04 (0.03)
Parent size	-0.03 (0.03)	0.02 (0.04)
Parent dummy	0.10 (0.11)	0.21 (0.13)
Formalization	0.15** (0.03)	0.02 (0.03)
Internal labor market	0.25* (0.12)	-0.15 (0.14)
Environmental complexity	0.62** (0.22)	0.01 (0.25)
Average wage in establishment	0.32 (0.24)	0.94*** (0.27)
Average weekly hours worked in establishment	-0.03 (0.02)	-0.07* (0.02)
<i>R</i> <sup>2</sup>	.11	.08

\**p* < .05.

\*\**p* < .01.

\*\*\**p* < .001.



job-level attributes were controlled. Indeed, the coefficients on establishment-level measures are hardly affected when individual-level variables are included in the analysis. The organizational measures are the most robust and consistent determinants of training in this analysis.

Being in a good job is also a good predictor of whether an employee receives training. Jobs with higher occupational status and, especially, full-time jobs are more likely to provide training. Job-level measures are also responsible for much of the effect of individual attributes. Once job attributes are controlled, the predictive powers of individuals' educational backgrounds and other personal characteristics diminish (although for key measures such as race and sex, zero-order relationships with training are not evident).

The relatively powerful importance of establishment and job factors in structuring opportunities to receive worksite training and the relatively modest importance of individual factors suggest that organizational decisions will be key to whether the United States follows the high or low road for international competitiveness. The uneven distribution of workplace training is far more a product of uneven organizational commitments to such efforts than to the uneven distribution of demographic and educational qualities of the workforce across establishments.

The policy task for those who advocate the high-productivity/high-wage course, then, is to persuade more enterprises to invest in their employees. Employees appear more than ready to participate in such programs. Our evidence suggests that employees on average would be more eager to acquire the training than their employers would be ready to provide it.

The evidence presented here also reveals that establishment size is not a good discriminator among which establishments offer employee training. Nor does it matter whether the establishment is part of a large enterprise. Rather, what is critical is the internal organization of the establishment: the extent to which the operation has evolved an internal employment market, has established more formalized rules, and has responded to a changing environment.

One policy implication is that it is better to target incentives on establishments than individuals, for it is the former that drive workplace education agendas far more than the latter. Another policy implication is that incentive programs to encourage workplace education and training should not worry about whether the targeted establishments are large or small, subsidiaries or independent. They should focus, rather, on encouraging training among establishments with less formalized structures and less readiness to face a changing environment. If the high-productivity, high-wage course is a preferred policy direction, then targeting training incentives on those enterprises identified here as least likely to offer them now should be a national priority.

The wave of corporate reorganization that has flattened hierarchies and tightened budgets could undermine any policy efforts to encourage more workplace education and training. The expanded job responsibilities and greater work flexibility that have accompanied the restructuring, however, are likely to increase the need for employees to have a broader set of skills. This should make employers more, not less, ready to enlarge their investment in workforce preparation, and it should make employees even more ready to embrace it.

Our results also raise questions of equity in workplace training. The equitable allocation of training opportunities is of concern for national policy making. If public schooling has long been premised on equal access, public-supported private training could be viewed from much the same premise. In expanding incentives and subsidies for employer-directed training programs, the question thus becomes one of whether government programs to foster workplace training should be structured in a way that fosters training in accord with widely accepted principles of equity in public policy—end in a way that also fosters the high-road alternative for American employment.

Finally, our findings also reaffirm the importance of looking at American society more as a constellation of organizations than as an aggregation of individuals. In the distribution of workplace training and the employee belief in training, we have found that social structure prevails over individual demography. SSQ

#### REFERENCES

- Altonji, Joseph G., and James R. Spletzer. 1991. "Worker Characteristics, Job Characteristics, and Receipt of On-the-Job Training." *Industrial and Labor Relations Review* 45: 58-79.
- Applebaum, Eileen, and Rose Batt. 1994. *Transforming Work Systems in the United States*. Ithaca, N.Y.: ILR Press.
- Berenbeim, Robert E. 1991. *Corporate Support of National Education Goals*. New York: Conference Board.
- Bishop, John. 1994. *The Incidence and Payoff to Employer Training: A Review of the Literature*. Report for the National Center on the Educational Quality of the Workforce, University of Pennsylvania.
- Center for Human Resource Research. 1993. *1993 NLS Update*, no. 75. Ohio State University.
- Christakis, Nicholas A., Jerry A. Jacobs, and Carla M. Messikomer. 1994. "Change in Self-Definition from Specialist to Generalist in a National Sample of Physicians." *Annals of Internal Medicine* 121: 669-75.
- Competitiveness Policy Council. 1992. *Building a Competitive America: First Annual Report to the President & Congress*. Washington, D.C.: Competitiveness Policy Council.
- Danzinger, Sheldon, and Peter Gottschalk, eds. 1993. *Uneven Tides: Rising Inequality in America*. New York: Russell Sage Foundation.

- Johnson, Arlene S., and Fabian Linden. 1992. *Availability of a Quality Workforce*. New York: Conference Board.
- Kalleberg, Arne L., David Knoke, Peter V. Marsden, and Joe L. Spaeth. 1994. "The National Organizations Study: An Introduction and Overview." *American Behavioral Scientist* 37:860-71.
- Knoke, David, and Yoshito Ishio. 1994. "Occupational Training, Unions, and Internal Labor Markets." *American Behavioral Scientist* 37:992-1016.
- Knoke, David, and Arne L. Kalleberg. 1994. "Job Training in U.S. Organizations." *American Sociological Review* 59:537-46.
- Knoke, David, Arne L. Kalleberg, Peter V. Marsden, and Joe L. Spaeth. 1993. "Job Training in U.S. Organizations." Draft paper, University of Minnesota, Department of Sociology.
- Kochan, Thomas, Harry C. Katz, and Robert B. McKersie. 1986. *The Transformation of American Industrial Relations*. New York: Basic Books.
- Kochan, Thomas A., and Paul Osterman. 1994. *The Mutual Gains Enterprise: Forging a Winning Partnership among Labor, Management and Government*. Boston: Harvard Business School Press.
- Lawler, Edward E., III. 1992. *The Ultimate Advantage: Creating the High-Involvement Organization*. San Francisco: Jossey-Bass.
- Lusterman, Seymour. 1985. *Trends in Corporate Education and Training*. New York: Conference Board.
- Lynch, Lisa M. 1991. "The Private Sector and Skill Formation in the United States." *Advances in the Study of Entrepreneurship, Innovation, and Economic Growth* 5:115-44.
- Lynch, Lisa M., ed. 1994. *Training and the Private Sector: International Comparisons*. Chicago: University of Chicago Press.
- National Academy of Engineering, Committee on Time Horizons and Technology Investments. 1992. *Time Horizons and Technology Investments*. Washington, D.C.: National Academy of Engineering.
- Tilly, Chris. 1990. *Short Hours, Short Shift: Causes and Consequences of Part-Time Work*. Washington, D.C.: Economic Policy Institute.
- U.S. Department of Health and Human Services. 1994a. *The National Health Security Act of 1994*. Washington, D.C.: U.S. Government Printing Office.
- . 1994b. *The Work and Responsibility Act of 1994*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Department of Labor. 1993. "Work and Family: Employer-Provided Training among Young Adults." Washington, D.C.: U.S. Department of Labor.
- U.S. Office of Technology Assessment. 1990. *Worker Training: Competing in the New International Economy*. Washington, D.C.: U.S. Government Printing Office.
- Useem, Michael. 1993. "Management Commitment and Company Policies on Education and Training." *Human Resource Management Journal* 32:411-34.
- Winship, Christopher, and Larry Radbill. 1994. "Sampling Weights and Regression Analysis." *Sociological Methods and Research* 23:230-57.

# Organizational, Job, and Individual Determinants of Workplace Training: Evidence from the National Organizations Survey\*

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*Objective.* The relative importance of establishment-level, job-level, and individual-level factors in shaping the distribution of workplace training is examined. *Methods.* The distribution of job training in U.S. establishments is examined with data from the National Organizations Study (NOS). *Results.* Large companies with formalized hierarchies and internal employment systems provide training to employees. By contrast, individual-level factors such as age, race, and gender and job-level factors such as a position's status are less predictive of formal job training once the establishment factors are taken into account. Employees generally rate training as more important for their jobs than do their employers. *Conclusions.* The policy task is to persuade more enterprises to invest in their employees. The evidence suggests that employees on average are more eager to acquire the training than their employers are ready to provide it.

Many employers invest in the training of their employees, and many workers seek further training from the workplace. Both employers and employees agree on training as a strategy for development, though they diverge on what is to be developed. For individual employees, training is an opportunity for enhancing their own performance in a present or future workplace. It can also be a way to discourage a layoff, prepare for reassignment, or anticipate new technologies. For employing organizations, training is a device for improving the basic, technical, and managerial skills of their current or future workforce. It can be a way to increase the employability of poorly educated prospective employees, enhance the productivity of existing employees, and improve the

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- Johnson, Arlene S., and Fabian Linden. 1992. *Availability of a Quality Workforce*. New York: Conference Board.
- Kalleberg, Arne L., David Knoke, Peter V. Marsden, and Joe L. Spaeth. 1994. "The National Organizations Study: An Introduction and Overview." *American Behavioral Scientist* 37:860-71.
- Knoke, David, and Yoshito Ishio. 1994. "Occupational Training, Unions, and Internal Labor Markets." *American Behavioral Scientist* 37:992-1016.
- Knoke, David, and Arne L. Kalleberg. 1994. "Job Training in U.S. Organizations." *American Sociological Review* 59:537-46.
- Knoke, David, Arne L. Kalleberg, Peter V. Marsden, and Joe L. Spaeth. 1993. "Job Training in U.S. Organizations." Draft paper, University of Minnesota, Department of Sociology.
- Kochan, Thomas, Harry C. Katz, and Robert B. McKersie. 1986. *The Transformation of American Industrial Relations*. New York: Basic Books.
- Kochan, Thomas A., and Paul Osterman. 1994. *The Mutual Gains Enterprise: Forging a Winning Partnership among Labor, Management and Government*. Boston: Harvard Business School Press.
- Lawler, Edward E., III. 1992. *The Ultimate Advantage: Creating the High-Involvement Organization*. San Francisco: Jossey-Bass.
- Lusterman, Seymour. 1985. *Trends in Corporate Education and Training*. New York: Conference Board.
- Lynch, Lisa M. 1991. "The Private Sector and Skill Formation in the United States." *Advances in the Study of Entrepreneurship, Innovation, and Economic Growth* 5:115-44.
- Lynch, Lisa M., ed. 1994. *Training and the Private Sector: International Comparisons*. Chicago: University of Chicago Press.
- National Academy of Engineering, Committee on Time Horizons and Technology Investments. 1992. *Time Horizons and Technology Investments*. Washington, D.C.: National Academy of Engineering.
- Tilly, Chris. 1990. *Short Hours, Short Shift: Causes and Consequences of Part-Time Work*. Washington, D.C.: Economic Policy Institute.
- U.S. Department of Health and Human Services. 1994a. *The National Health Security Act of 1994*. Washington, D.C.: U.S. Government Printing Office.
- . 1994b. *The Work and Responsibility Act of 1994*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Department of Labor. 1993. "Work and Family: Employer-Provided Training among Young Adults." Washington, D.C.: U.S. Department of Labor.
- U.S. Office of Technology Assessment. 1990. *Worker Training: Competing in the New International Economy*. Washington, D.C.: U.S. Government Printing Office.
- Useem, Michael. 1993. "Management Commitment and Company Policies on Education and Training." *Human Resource Management Journal* 32:411-34.
- Winship, Christopher, and Larry Radbill. 1994. "Sampling Weights and Regression Analysis." *Sociological Methods and Research* 23:230-57.