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THE SOCIOLOGY OF JOB TRAINING

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Editor

RESEARCH IN THE SOCIOLOGY OF WORK VOLUME 12

THE SOCIOLOGY OF JOB TRAINING

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CONTENTS

PART II: INDUCING EMPLOYERS TO PROVIDE SKILLS

PART III: TRAINING AND PERSISTENT INEQUALITIES

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REFERENCES

Acemoglu, D., & Pischke, J. (1998). Why do firms train? Theory and evidence. *Quarterly Journal of Economics*, *153*, 79–119.

American Association of Colleges of Nursing (December, 1997). Master's degree enrollments rise at nation's nursing schools: AACN survey findings (On-line). Available: http://www.aacn.nche.edu/media

American Association of Retired Persons (1986). *Work and retirement: Employees over forty and their views*. Washington, DC: American Association of Retired Persons.

American Association of Retired Persons (2001). *Update on the older worker: 2001*. Washington, DC: American Association of Retired Persons.

Andrisani, P., & Daymont, T. (1987). Age changes in productivity and earnings among managers and professionals. In: S. H. Sandell (Ed.), *The Problem Isn't Age: Work and Older Americans* (pp. 52–70). New York: Praeger Publishers.

Brewster, K. L., & Padavic, I. (2000). Change in gender ideology, 1977–1996: The contributions of intracohort change and population turnover. *Journal of Marriage and the Family*, *62*, 477–487.

Deloughery, G. (1998). *Issues and trends in nursing*. St. Louis: Mosby.

Duncan, G., & Hoffman, S. (1979). On the job training and earnings differences by race and sex. *The Review of Economics and Statistics*, *61*, 594–603.

Elman, C. (1998). Adult education: Bringing in a sociological perspective. *Research on Aging*, *20*, 379–388.

Elman, C., & O'Rand, A. (1998). Midlife entry into vocational training: A mobility model. *Social Science Research*, *27*, 128–158.

Frazis, H., Gittleman, M., & Joyce, M. (1998). *Determinants of training: An analysis using both employer and employee characteristics*. Washington, DC: U.S. Bureau of Labor Statistics.

Goldin, C. (1990). *Understanding the gender gap: An economic history of American women*. New York: Oxford University Press.

Green, F. (1993). The determinants of training of male and female employees in Britain. *Oxford Bulletin of Economics and Statistics*, *55*, 103–120.

Green, F., & Zanchi, L. (1997). Trends in the training of male and female workers in the United Kingdom. *British Journal of Industrial Relations*, *35*, 635–644.

Greenawalt, E. (1994). *Educational innovation: An agenda to frame the future*. Lanham, MD: Commonwealth Foundation, University Press of America.

Greenhalgh, C., & Mavrotas, G. (1994). Workforce training in the Thatcher era: Market forces and market failures. In: R. McNalb & K. Whitfield (Eds), *The Market for Training* (pp. 17–32). Aldershot: Avebury.

Greenhalgh, C., & Mavrotas, G. (1996). Job training, new technology, and labour turnover. *British Journal of Industrial Relations*, *34*, 131–150.

Hayghe, H. V. (1990). Family members in the work force. *Monthly Labor Review*, *113*, 14–19.

Hill, E. T. (1995). Labor market effects of women's post-school-age training. *Industrial and Labor Relations Review*, *49*, 138–149.

Katz, L. F., & Murphy, K. M. (1992). Changes in relative wages, 1963–1987: Supply and demand factors. *Quarterly Journal of Economics*, *107*, 35–78.

Kelley, M. R. (1990). New process technology, job design, and work organization. *American Sociological Review*, *55*, 191–208.

Kelly, L. Y., & Joel, L. A. (1999). *Dimensions of professional nursing*. New York: McGraw-Hill.

Knoke, D., & Kalleberg, A. (1994). Job training in U.S. organizations. *American Sociological Review*, *59*, 537–546.

Levitan, S., Mangum, M., & Mangum, S. (1992). *A training program for the 1990s: Reflecting on campaign proposals*. Washington, DC: Center for Social Policy Studies.

Liao, F. (1994). *Interpreting probability models: Logit, probit, and other generalized linear models*. Newbury Park, CA: Sage Publishing.

Light, A., & Ureta, M. (1990). Gender differences in wages and job turnover among continuously employed workers. *American Economic Review*, *80*, 293–297.

Light, A., & Ureta, M. (1992). Panel estimates of male and female job turnover behavior: Can female nonquitters be identified? *Journal of Labor Economics*, *10*, 156–179.

Lucas, C. J. (1997). *Teacher education in America*. New York: St. Martin's Press.

Lynch, L. (1991). The role of off-the-job and on-the-job training for the mobility of women workers. *American Economic Review*, *81*, 151–156.

Lynch, L. (1992). Private sector training and the earnings of young workers. *American Economic Review*, *82*, 299–312.

Lynch, L. (1993). Entry-level jobs: First rung on the employment ladder or economic dead end? *Journal of Labor Research, 14*, 248–263.
Milkman, R., & Townsley, E. (1994). Gender and the economy. In: N. J. Smleser & R. Swedberg (Eds), *The Handbook of Economic Sociology* (pp. 600–619). Princeton, NJ: Princeton University Press.
Mitter, S. (1995). Information technology and working women's demands. In: S. Mitter & S. Rowbotham (Eds), *Women Encounter Technology: Changing Patterns of Employment in the Third World* (pp. 19–43). London: Routledge.
Monk, D. H., & Brent, B. O. (1996). Financing teacher education and professional development. In: J. Sikula, T. J. Buttery & E. Guyton (Eds), *Handbook of Research on Teacher Education* (pp. 227–241). New York: Simon and Schuster Macmillan.
National Association of State Directors of Teacher Education and Certification (2000). *The NASDTEC manual, 2000*. Dubuque, IA: Kendall/Hunt Publishing Company.
National Education Association (1987). *The status of the American teacher, 1985–1986*. Washington, DC: National Education Association.
National League of Nursing Center for Research in Nursing Education and Community Health (1997). *Trends in contemporary RN nursing education, 1*. New York: National League of Nursing.
O'Connell, M., & Bachu, A. (1990). Who's minding the kids? Childcare arrangements, 1986–1987. U.S. Bureau of the Census, Current Population Report. Washington, DC: U.S. Government Printing Office.
Office of Technology Assessment (1986). *Technology and structural unemployment: Reemploying displaced adults*. Washington, DC: U.S. Government Printing Office.
Osterman, P. (1995). Skills, training, and work organization in American establishments. *Industrial Relations, 24*, 125–146.
Pencavel, J. (1998). The market behavior and wages of women, 1975–1994. *The Journal of Human Resources, 33*, 771–804.
Rosen, R. (2000). *The world split open: How the modern women's movement changed America*. New York: Penguin.
Rosenthal, N. H. (1995). The nature of occupational employment growth, 1983–1993. *Monthly Labor Review, 118*, 45–54.
Royalty, A. B. (1996). The effects of job turnover on the training of men and women. *Industrial and Labor Relations Review, 49*, 506–516.
Sexton, E. A., & Olsen, R. N. (1994). The returns to on-the-job training: Are they the same for blacks and whites? *Southern Economic Journal, 61*, 328–342.
Simpson, P. A., Greller, M. A., & Stroh, L. K. (2002). Variation in human capital investment activity by age. *Journal of Vocation Behavior, 60*, 1–30.
Simon, R. J., & Landis, J. M. (1989). The polls – a report: Women's and men's attitudes about women's place and role. *Public Opinion Quarterly, 53*, 265–276.
Simpson, P. A., & Stroh, L. K. (in press). Revisiting gender variation in training. *Feminist Economics*.
Spain, D., & Bianchi, S. M. (1996). *Balancing act: Motherhood, marriage, and employment among American women*. New York: Russell Sage Foundation.
Sprinthall, N. A., Reiman, A. J., & Theis-Sprinthall, L. (1996). Teacher professional development. In: J. Sikula, T. J. Buttery & E. Guyton (Eds), *Handbook of Research on Teacher Education* (pp. 666–703). New York: Simon and Schuster Macmillan.
Stern, D., Gerritz, W., & Little, J. W. (1989). Making the most of a school district's two (or five) cents: Accounting for investment in teachers' professional development. *Journal of Education Finance, 14*, 368–379.

Sterns, H. L. (1986). Training and re-training adults and older adult workers. In: J. E. Berren, P. K. Robinson & J. E. Livingston (Eds), *Age, Health, and Employment* (pp. 93–113). Englewood Cliffs, NJ: Prentice Hall.
Sterns, H. L., & Patchett, M. (1984). Technology and the aging adult: Career development and training. In: R. R. Robinson & J. E. Birren (Eds), *Aging and Technology* (pp. 261–277). Englewood Cliffs, NJ: Prentice Hall.
SYSAT (Version 7.0, Computer Software) (1997). Chicago, IL: SPSS.
U.S. Bureau of Economic Analysis (1997). *Survey of current business 1992, 77*(11). U.S. Bureau of Economic Analysis U.S. Department of Commerce. Washington, DC: U.S. Government Printing Office.
U.S. Bureau of Economic Analysis (2000). *Survey of Current Business 1996, 80*(1). U.S. Bureau of Economic Analysis, U.S. Department of Commerce. Washington, DC: U.S. Government Printing Office.
U.S. Bureau of the Census (1992). *An aging world*, 2. International Population Reports, 92–93, 95. Washington, DC: U.S. Government Printing Office.
U.S. Department of Education, National Center for Education Statistics. National household education survey of (1995) *Adult education data file user's manual*, NCES 96–826, by M. A. Collins, J. M. Brick, K. Kim & S. Gilmore. Peter Stowe, Project Officer. Washington, DC: 1996.
U.S. Department of Labor (1985). *How workers get their training*. Washington, DC: U.S. Government Printing Office.
U.S. Department of Labor (1992). *How workers get their training: A 1991 update*. Washington, DC: U.S. Bureau of Labor Statistics.
Weinberg, B. (2000). Computer use and the demand for female workers. *Industrial and Labor Relations Review, 53*, 290–308.
Wooden, M., & VandenHeuvel, A. (1997). Gender discrimination in training: A note. *British Journal of Industrial Relations, 35*, 627–632.

APPENDIX A

LOGIT MODELS AND THEIR INTERPRETATION

Where our dependent variables were two-category nominal variables, we performed a binary logit analysis, using the SYSTAT Statistical Package 7.0 (1997). The binary logit model estimates the effects of explanatory variables on an unordered binary outcome variable. One of the outcomes is designated the response category and the other outcome is the reference category. This probability model can be expressed as:

$$\text{Prob}(y = 1) = \frac{e^{\sum_{k=1}^{K} \beta_k x_k}}{1 + e^{\sum_{k=1}^{K} \beta_k x_k}}$$

where e denotes the base of the natural logarithm, 1 is the response category exclusive of the reference category, the k's are the coefficients associated with each independent variable for the response category, and the x's are the independent variables (Liao, 1994).

Where our dependent variables were multi-category nominal variables, we performed a multinomial logit analysis, using the SYSTAT Statistical Package 7.0 (1997). The multinomial logit model estimates the effects of explanatory variables on an outcome variable with more than two possible responses. The last possible response is designated the reference category, while all other possible responses become distinguishable response categories. This probability model can be expressed as:

$$\text{Prob}(y = j) = \frac{e^{\sum_{k=1}^{K} \beta_{jk} x_k}}{1 + \sum_{j=1}^{J-1} e^{\sum_{k=1}^{K} \beta_{jk} x_k}}$$

where e denotes the base of the natural logarithm, j is the response category exclusive of the last reference category, the jk's are the coefficients associated with each independent variable for each distinguishable response category, and the x's are the independent variables (Liao, 1994).

An odds ratio value can be derived by calculating the antilog of the parameter estimates. An odds ratio represents the odds of an event occurring (e.g. participation in work-related adult education) versus the odds of it not occurring (e.g. non-participation) per unit change in an explanatory variable, holding other variables constant. For example, let's assume we performed a binary regression on participation in which one of the independent variables was coded one for forty to sixty-five year olds and zero otherwise. The specific parameter estimate for age was 0.192, its odds ratio value was 1.212, and the associated t-test indicated significance. This would mean that older individuals were estimated to be 1.212 times more likely to have participated than younger individuals.

In multinomial regressions, each response category is associated with a separate odds ratio for each explanatory variable. The interpretation of the odds ratio involves comparing the marginal effects of the explanatory variable on the specific response category in comparison to the reference category.

Finally, the formulas identified above can be used to calculate probabilities – namely the probability of an event occurring given a set of particular values for the explanatory variables. These particular values and corresponding coefficients are simply "plugged into" the formulas. To understand the unique effects of one particular explanatory variable, other explanatory variables are held in these calculations at either their mean levels or in the case of dummy variables, at a substantively meaningful value.

APPENDIX B

Variable Roster

Variable Name	Explanation
Vietnam	1 = 24–34 years old; 0 = other.
Boomers	1 = 35–49 years old; 0 = other.
WWII	1 = 50–65 years old; 0 = other.
Race	1 = non-white; 0= other.
Income 1	1 = $0–$25,000; 0 = other ($75,001 and above reference).
Income 2	1 = $25,001–$50,000; 0 = other ($75,001 and above reference).
Income 3	1= $50,001–75,000; 0 = other ($75,001 and above reference).
Hsless	1 = high school graduate or less; 0 = other (some college and above reference).
Highvoc	1 = technical training beyond high school; 0 = other. (some college and above reference).
Layoff	1 = probability of layoff; 0 = no probability of layoff.
Marital	1 = married; 0 = other.
Hhundr18	number of children under 18.
Continue	1 = includes the occupational categories of teachers, except postsecondary institution; registered nurses, pharmacists, dieticians, therapists, and physician's assistant; health technologists and technicians; 0 = other.
Clerical	1 = includes the occupational category of administrative support occupations, including clerical; 0 = other.
Computer	1 = industries in which the average expenditures on computer and related technologies for 1992 and 1996 was above the industry average; 0 = industries in which expenditures of this type for below the industry average.

The Sociology of Job Training

How workers learn how to do their jobs is central to an understanding of the changing nature of work in post-industrial society. The role of job or worker training has, however, been underdeveloped in sociological theories of work and the labor market. By most accounts, the ongoing penetration of information technology into the workplace, a transformed socioeconomic lifecourse, managerial preferences for high performance organizations, and the globalization of labor markets have collectively rendered traditional models of skill acquisition badly outmoded. This volume offers sophisticated sociological analyses of job training that go well beyond standard accounts of general versus specific skills and overly simple assumptions about employer and worker behavior. The chapters examine such topics as the incentives available to employers to provide training, socially structured inequalities in access to training, and cross-societal differences in training institutions. They break new ground in investigating the content of job training as well as its incidence and duration. The contributors to the volume bring to bear both qualitative case study and quantitative research to explore the emerging role of training in post-industrial labor markets.

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