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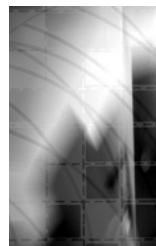
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Does training trigger turnover – or not?

The impact of formal training on graduates' job search behaviour

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ABSTRACT

This study advances on previous research training and turnover in two ways. First, insights from the human capital perspective are contrasted with insights from the commitment perspective. Second, several aspects of training are simultaneously studied in one model: training intensity (incidence and duration), specificity (type of training, location, and objectives), and funding (payment and timing). The results show, in line with the human capital perspective, that specific training decreases female graduates' probability to search for a new job. Other findings are more in favour of the commitment perspective. After controlling for training intensity and specificity, employer-funded training is associated with lower levels of job search for male graduates. In addition, female graduates who follow management training are less likely to search for a new job. Other aspects of training are not related to job search behaviour, however.

KEY WORDS

commitment / human capital / job search / training / turnover

Introduction

As the world is moving towards a knowledge economy, human capital is becoming increasingly important in comparison with traditional production factors. Since a significant amount of schooling occurs after labour market entry, training is of immense value for both employees and employers. This is particularly true for graduates, who are in the early stages of careers. Training helps them to settle in their job, and to move on in their careers. When evaluating the

costs and benefits of training, workers and firms keep in mind the expected investment horizon, i.e. employee's turnover probability (Royalty, 1996), which is why researchers in different disciplines have shown an interest in the relationship between training and turnover.

The vast majority of this research is done by economists, who adopt the human capital perspective. Training is seen as an investment that increases worker productivity. In the case of generating specific skills, training will lead to less job mobility, whereas general training usually will not affect employee's inclination to quit (cf. Becker, 1962). In this study, I contrast these human capital insights with a perspective closely related to human relations in organizations, which is mostly found in psychological and human resource management (HRM) literature. This commitment perspective refers to training as a way to increase the organizational commitment of workers (Smith and Hayton, 1999), thereby reducing their inclination to quit. By comparing both perspectives, a more comprehensive understanding of the relationship between training and turnover is gained. Moreover, this study advances on previous research by looking at several aspects of training. So far, researchers have typically focused on one aspect of training only, like training incidence (e.g. Gritz, 1993), or on-the-job versus off-the-job training (e.g. Lynch, 1991). I will provide a more complete account of training by studying training intensity (incidence and duration), training specificity (type of training, location, and objectives) and training funding (payment and timing).¹ As will become clear, the two theoretical perspectives often lead to opposing expectations regarding these different aspects of training.

In short, this study examines the impact of different aspects of formal training on job search behaviour of Dutch graduates in their early careers. I focus on this group of young, higher-educated workers, because workers often switch jobs when they are in the earlier years of their careers (Rosenfeld, 1992), and they receive more training during this period than later in their work lives (Green, 1993). Higher-educated workers also receive more training (Altonji and Spletzer, 1991) and are more mobile (Carroll and Mayer, 1986) than lower-educated workers. In addition, I pay attention to differences related to sex, since career patterns of women are quite different from those of men, although differences might be less pronounced for higher-educated graduates. Moreover, men and women display different training patterns. A vast body of research shows that female workers follow less training than male workers (for an overview, see Bishop, 1997). Finally, I focus on job search instead of actual turnover, because the latter is a composite of voluntary quits and involuntary layoffs (Zweimüller and Winter-Ebmer, 2000). Studying the relationship between training and turnover, my primary interest is in voluntary quits, which are more reflected in job search behaviour. Moreover, research generally finds a moderate relationship between job search and job mobility (e.g. for the Netherlands, De Graaf and Luijkx, 1997). Furthermore, determinants of the intention to change jobs are found to be prime determinants of actual turnover rates as well (Weisberg and Kirschenbaum, 1991).

Two theoretical perspectives

Human capital perspective

The vast majority of studies on training and turnover take the human capital perspective as a starting point, in which training is seen as an investment that increases worker productivity. In his seminal article on human capital, Becker (1962) distinguishes between two types of training: general and specific.² General training is equally useful in many firms: it raises worker's productivity for other employers by the same amount as for the employer that provides the training. Because workers can take their acquired skills to other employers, general training is a risk for the employer providing it. As other firms may hire trained workers away (the poaching or 'cherry-picking' problem, see e.g. Lynch and Black, 1998), employers stimulate participation in general training only when they do not have to pay the associated costs. Specific training, on the other hand, is defined as training that only increases workers' productivity for the employer providing the training. Because workers cannot use the acquired skills in other firms to increase their future wages,³ they are not willing to pay for specific training costs, unless there is a contract between employers and employees to share the benefits (Green et al., 2000).

According to Becker (1962), turnover becomes an issue when costs are imposed on firms or workers, as is the case with specific training. Since the benefits to specific training are lost when workers leave the firm, employees would be rather reluctant to quit and employers would be rather reluctant to fire workers. This means that specific training is unambiguously associated with lower turnover rates (Loewenstein and Spletzer, 1999). However, in the case of general training, there is no reason to expect a consistent effect on the employees' inclination to quit (Stromback, 2002). This leads to the following hypothesis:

(1a) General training is not associated with job search behaviour, whereas specific training is associated with lower levels of job search.

In addition, the human capital perspective predicts that employers pay for specific training only. This holds for both the direct costs associated with training, such as training fees and materials, and for arising opportunity costs, such as forgone productivity, or leisure time of the employee participating in training (Forrier and Sels, 2003; Stevens, 1999). When training takes place during working hours, the employer bears the opportunity costs. As specific training is related to lower levels of turnover, employer-funded training reduces workers' likelihood to search for a new job. Self-financed training or training followed during leisure time is, on the other hand, associated with general training and is therefore assumed not to affect employees' inclination to quit. The following hypothesis specifies these relationships:

(1b) Employer-funded training is associated with lower levels of job search behaviour than self-financed training.

Finally, it is important to note that according to the human capital perspective, training as such does not have an impact on job search behaviour, as it is specific training only which makes workers less inclined to quit their job. Because longer lasting types of training are found to be no more specific than shorter programmes (Veum, 1997), training intensity is not related to turnover intentions. This is reflected in the following hypothesis:

(1c) Training intensity is not associated with job search behaviour.

Although the human capital perspective is dominant in research on training and turnover, it is not without flaws. Several authors have argued that the original human capital model is based on rather strong assumptions (e.g. Acemoglu and Pischke, 1999; Eckaus, 1963). In more realistic, imperfect labour markets – like markets with a limited number of firms (Booth, 1991) or with imperfect information on workers' skills (Katz and Ziderman, 1990) – employers would be willing to bear (part of) the costs for general training. A second, more fundamental criticism is that individuals are not rationalist egoists, but act upon group loyalties and obligations as well (Fevre et al., 1999). These arguments lead us to consider a second theoretical perspective, which is closely related to human relations in organizations: the commitment perspective.

Commitment perspective

Training that generates commitment of employees to their employer will reduce turnover, since more committed employees will be less inclined to quit (Smith and Hayton, 1999). In fact, the concept of organizational commitment is often defined in two dimensions: loyalty and intent to stay, representing affective and rational attachments (Mueller et al., 1992). I will use the term organizational commitment in a more neutral way, equivalent to the term 'allegiance' used by Rose (2005).

How does training generate organizational commitment? First of all, employers that train signal that they are 'investors in people'. Employees consider these employers attractive to work for, because training not only improves workers' employability and career opportunities (Groot and Maassen van den Brink, 2000), but also meets workers' intrinsic motivation to learn (Noe and Wilk, 1993). Thus, workers will be more inclined to stay employed in firms that offer attractive training opportunities. Taking this into account, it is interesting to note that some formal training indeed has the direct objective of raising organizational commitment (Green et al., 2000).

In addition, employees may interpret training as a signal from the employer about the nature of their relationship (Tannenbaum et al., 1991). Trained workers get the impression that their employer sees them as important members of the organization, and this generates loyalty to the firm. Or, put in other words, employees may view training as an indication that the firm is willing to invest in them and cares about them. Since they feel valued, they will be less inclined to quit. The more intensive training is, the stronger this relationship will be, which is reflected in the following hypothesis:

(2a) Training intensity is associated with lower levels of job search behaviour.

Moreover, training will particularly generate organizational commitment when workers perceive it as a gift. This is obviously the case for employer-funded training:

(2b) Employer-funded training is associated with lower levels of job search behaviour than self-financed training.

In addition, employees perceive general training more as an investment by the firm than specific training, because they realize that general training is useful outside the firm as well (Barrett and O'Connell, 2001). This holds even more for management training, as this type of training can be interpreted as a clear signal that employers value their workers and are prepared to invest in them. General training thus makes workers more committed to the firm and less inclined to quit:

(2c) General training is associated with lower levels of job search behaviour than specific training.

Different aspects of training

As mentioned before, a major drawback of studies on training and turnover to date is that they usually consider one aspect of training only, such as training incidence (e.g. Gritz, 1993; Krueger and Rouse, 1998), on-the-job versus off-the-job training (e.g. Lynch, 1991; Royalty, 1996), or employer-provided versus self-financed training (e.g. Zweimüller and Winter-Ebmer, 2000). Exceptions are the study by Green et al. (2000), which brings in training sponsorship, skill transferability, as well as training objectives, and the study by De Wolff et al. (2003) in which training location, funding, and type of training are included. In this study, I will provide a more complete account of the relationship between training and job search behaviour by studying aspects of training intensity, specificity, and funding. As shown above, the two theoretical perspectives often lead to opposing hypotheses regarding these training aspects, which makes it important to include them in one model simultaneously.

Training intensity is first of all indicated by training incidence. Earlier studies on the relationship between training incidence and turnover show mixed results. Green et al. (2000) find that training, on average, has no impact on job search, whereas De Wolff et al. (2003) observe that training leads to more job search. Elias (1994) shows that women who have followed formal training have a lower probability of quitting their jobs, but no effect is found for men. A second proxy for training intensity is the number of hours spent on training. Previous research shows that an increase in the number of training days increases the probability of staying in the same job (Dolton and Kidd, 1998). De Wolff et al. (2003), however, do not find an effect of training duration on either job search or mobility.

Empirical research with direct measures on *training specificity* is very scarce. An exception is the study by Green et al. (2000), which looks at the transferability of skills developed by training. In line with the predictions of the human capital perspective, they find that specific training, compared to general training, substantially reduces job search. In the absence of direct measures on the specificity of training, researchers often look at the distinction between on-the-job and off-the-job training. On-the-job or in-company training is considered to be more specific in nature than off-the-job training (Lynch, 1991). On-the-job training is found to be associated with lower levels of turnover (Loewenstein and Spletzer, 1997, 1999; Stromback, 2002), whereas off-the-job training increases the probability of leaving (Veum, 1997), a finding that appears to be even stronger for women (Lynch, 1991, 1993). Another way to determine training specificity is to look at its objectives. Bartel (1995), for example, distinguishes between core training and employee development training. The first kind of training has the objective to improve qualifications and skills for the current occupation (occupational updating) and often is specific in its nature. Employee development training, on the other hand, is more general, for it prepares workers for the next steps in their careers. I distinguish a third training objective: retraining for a new occupation. This is a very specific kind of general training as it increases workers' productivity for other employers to a larger extent than for the current employer. Previous research shows that retraining positively affects mobility, but for women only (Li et al., 2000). Career training is also positively associated with job mobility (Dekker et al., 2002), whereas occupational updating has no significant effect (Dekker et al., 2002; Li et al., 2000).

Finally, regarding *training funding*, Veum (1997) finds that training paid for by the employer decreases the worker's job search activities, whereas non-employer financed training increases the probability of job search. De Wolff et al. (2003), however, find no effect of employer-provided training on search behaviour. The relationship between opportunity costs of training and turnover is hardly studied at all. Green et al. (2000) are the only ones to take into account when the training is followed (timing). They, however, combine training during working hours with information on who paid for training fees and on whether or not wages were reduced during training. They observe that when training is entirely sponsored by the employer, the likelihood of job search decreases. Training entirely sponsored by the employee significantly increases the probability to quit.

Data and methods

To test the hypotheses of the two theoretical perspectives, I employ Dutch data collected for the project *Higher Education and Graduate Employment in Europe*,⁴ consisting of a representative sample of Dutch men and women graduating from tertiary education (i.e. colleges for higher vocational education or universities) in the academic year 1990–91. They are interviewed seven years after graduation, which means that they are in their early careers.

The response rate was 45 percent, which is quite typical for Dutch survey research.⁵ The analyses are restricted to graduates who at the time of the survey were between 27 and 40 years of age and in paid employment for at least 12 hours per week. These selections leave me with 658 men and 621 women for the analyses.

The dependent variable, job search behaviour, is measured by asking graduates, 'Have you actively looked for another paid job in the past four weeks?' Table 1 shows that 19 percent of male and female graduates in the dataset answered 'yes' to this question. This table also provides an overview of the training variables. First, graduates could indicate whether or not they followed job training (training incidence). In line with the findings of previous research, more male than female workers participated in training: 54 percent and 49 percent respectively. They could then mention up to three courses followed, and were subsequently asked to select the most important course in terms of their work and career. All other training variables pertain to this selected training event. Training duration is measured by multiplying the number of training weeks by the (average) number of training hours per week. Job training on average lasted 138 hours for male graduates and 106 hours for female graduates (excluding those who had not followed training), confirming the rather short duration of training (Lynch, 1993).

Type of training is constructed by combining the responses to two questions. First, graduates were asked which topics the training dealt with. Training in oral and written communication and training in computer skills is considered to be overall general training, whereas training in understanding management practices and training in supervising skills is viewed as management training. In a second question, graduates were asked to provide descriptions of the training followed. These were coded into ten official educational categories representing field of study: general, agriculture, education, engineering, economics, health, social sciences, humanities, law, and natural sciences. Training in the same field as the graduate's tertiary education is labelled specific training in own field of study; otherwise it is called specific training in another field. Specific training in own field of study can be considered to be more specific than specific training in another field, as it is of less value outside the firm than the latter. Female graduates participate somewhat more in overall general training and in specific training in own field, whereas male graduates more often follow management training. In addition, most graduates (42% of the men and 38% of the women) participate in off-the-job training, i.e. in training at a location outside the firm. Graduates were also asked to provide the most important reason for following training. They could choose between three training objectives: improving qualifications and skills for the current occupation (occupational updating), advancing in one's career (career training),⁶ and preparing for a new occupation (retraining). Male graduates participate more in career training, whereas female graduates more often follow training related to occupational updating.

Table 1 Descriptives of dependent and training variables

	Men (n = 658) %	Women (n = 621) %
<i>Dependent variable</i>		
Search behaviour	19.0	18.5
<i>Training intensity</i>		
Incidence	54.3	49.1
<i>Duration</i>		
1–16 hours	6.7	10.0
17–40 hours	17.2	16.3
41–80 hours	11.1	9.5
81–200 hours	9.9	7.1
More than 200 hours	9.4	6.3
<i>Training specificity</i>		
<i>Type of training</i>		
Overall general training	6.1	8.4
Management training	25.7	15.9
Specific training in own field	6.5	8.9
Specific training in other field	16.0	15.9
<i>Location</i>		
On-the-job training	12.0	10.8
Off-the-job training	42.3	38.3
<i>Objectives</i>		
Occupational updating	22.3	25.8
Career training	28.6	19.7
Retraining	3.3	3.7
<i>Training funding</i>		
<i>Payment</i>		
Entirely paid by employer	47.0	42.2
Partly paid by employer	1.8	2.1
Not paid by employer	5.5	4.8
<i>Timing</i>		
Entirely during working hours	29.6	25.8
Partly during working hours	14.4	11.4
Not during working hours	10.2	11.9

Finally, Table 1 shows that employers usually completely pay the direct costs of training. Only 5 percent of graduates follow training whose payment is covered by themselves, the government, or in another way. In addition, 30 percent of men and 26 percent of women followed their training entirely during working hours, which means that in those cases, employers also bear the opportunity costs of training. About 10 percent of graduates follow training during leisure time (timing).

Self-selection

It should be noted that the relationship between training and turnover is more complex than the framework given so far. First of all, training is not followed at random. Participants are a selective group of employees who may have a higher probability of job search to begin with. For example, workers who are more competent or more educated tend to receive more training (Altonji and Spletzer, 1991; Green, 1993), but they also are more mobile (Carroll and Mayer, 1986). At the firm level, selectivity occurs when firms offering training have a low personnel turnover because they tend to invest in other fields, such as management quality or employee relations, as well (cf. Zwick, 2002). Or, the other way around, when firms with a low training participation also have poor working conditions and, thus, a high turnover. Since characteristics associated with trainees, their jobs, and the firms they work in are important determinants of job search too, lack of control of these characteristics would lead to an upward bias in the estimates of training effects on job search. Therefore, I will include a number of individual characteristics (age, family status, education, work experience, and number of jobs since graduation), job characteristics (tenure, temporary contract, working hours, income, and education-job mismatches), and firm characteristics (firm size, industry, and public sector) in the analyses.

Controlling for observed self-selectivity may, however, not be enough, since selectivity could also be based on heterogeneity that is unobserved (Heckman et al., 1987). Factors on which I have no information, like aspirations, motivations, and ambitions, may influence both training participation and job search. I controlled for this unobserved heterogeneity by applying Heckman's two steps method (Heckman, 1979).⁷ For male graduates, the results show that there is no significant self-selection present.⁸ For female graduates, the same set of explanatory variables affects both training and search behaviour, which makes it impossible to adjust for self-selection. Based on these outcomes, I decided to estimate the effects of different aspects of training on job search using logistic regression analyses without specific controls for unobserved heterogeneity.

Results

As most studies on the relationship between training and turnover consider one aspect of training only, this is how I start my analyses as well. I assess the estimates of each aspect of training separately in seven logistic regression analyses on job search. In all regressions, I control for the individual, job, and firm characteristics mentioned above. Table 2 shows that male graduates who participate in training have a higher probability to search for a new job. In addition, men who participate longer in training (40 hours or more) are more likely to search for a new job than men who do not participate in training. However, this association is not found for very long training courses of 200 hours or more. These findings

are not in line with the commitment perspective, which predicts a negative relationship between training intensity and job search (hypothesis 2a). The human capital perspective hypothesis of no effect of training intensity (hypothesis 1c) has to be rejected too. However, for female workers, training incidence and training duration show no significant relationship with job search behaviour, which can be seen as corroboration for the human capital hypothesis.

With respect to training specificity, the human capital perspective predicts no relationship between general training and job search, and a negative relationship for specific training (hypothesis 1a). The only finding in line with these predictions is the negative relationship between specific training in one's own field of study and job search behaviour for female graduates. Specific training in another field is, however, associated with more job search, especially for men. In addition, training followed because of occupational updating – which can also be considered as being rather specific in its nature – has a positive effect on job search behaviour as well. With respect to general training, female graduates who participate in overall general training such as training on communication skills or computer skills are more likely to search for a new job. The same holds for men who participate in management training and in training followed for career objectives. Moreover, male graduates who follow off-the-job training display more job search behaviour than graduates who are not trained at all. None of these findings are in line with the above-mentioned human capital hypothesis, and all also contradict predictions of the commitment perspective, which state that general training is associated with lower levels of job search behaviour than specific training (hypothesis 2c).

Finally, training funding is not associated with women's job search behaviour, as both the estimates for training payment and training timing are not significant. For male graduates, significant relationships are found, but these are in conflict with the hypotheses of both the human capital and the commitment perspective. Employer-funded training, or training followed during working hours, does not decrease the probability to search for a new job (hypotheses 1b and 2b). On the contrary, training not paid for by the employer and which is followed during leisure time induces more job search for male graduates in their early careers.

To sum up, I find little support for hypotheses derived from either the human capital or the commitment perspective. For female graduates, job search behaviour is not very much associated with formal job training at all, although we do observe a significantly negative relationship with specific training in own field, corroborating the human capital perspective. For male graduates, training is related to job search behaviour, but not in the way the two perspectives predict. On the contrary, more intense training, more specific (but also more general) training, and self-financed training even increase the probability to search for a new job. I will come back to possible explanations for these findings in the conclusions section, but first turn to a model in which all aspects of formal job training are incorporated simultaneously. Only in this way are we able to put the hypotheses on training intensity, specificity, or funding to a strict test.

Table 2 Estimates of seven separate logistic regression analyses of several aspects of job training^a on job search behaviour for men and women, with control variables^b

	Men (n = 658)		Women (n = 621)	
	B	(s.e.)	B	(s.e.)
<i>Training intensity</i>				
Regression A: Incidence				
Training	.433*	(.225)	.076	(.228)
Regression B: Duration				
1–16 hours	.446	(.432)	–.570	(.445)
17–40 hours	.216	(.313)	.164	(.317)
41–80 hours	.662*	(.357)	.303	(.386)
81–200 hours	1.008**	(.350)	.390	(.424)
More than 200 hours	–.142	(.430)	.087	(.485)
<i>Training specificity</i>				
Regression C: Type of training				
Overall general training	.217	(.352)	.731**	(.325)
Management training	.491*	(.274)	–.139	(.351)
Specific training in own field	–.285	(.580)	–1.075*	(.563)
Specific training in other field	.754**	(.336)	.120	(.345)
Regression D: Location				
On-the-job training	.049	(.372)	.441	(.359)
Off-the-job training	.533**	(.236)	–.027	(.244)
Regression E: Objectives				
Occupational updating	.514*	(.264)	–.150	(.292)
Career training	.513*	(.282)	.379	(.283)
Retraining	–.692	(.701)	–.036	(.583)
<i>Training funding</i>				
Regression F: Payment				
Entirely paid by employer	.335	(.237)	.162	(.239)
Partly paid by employer	–.781	(1.111)	–.063	(.738)
Not paid by employer	1.149**	(.426)	–.566	(.593)
Regression G: Timing				
Entirely during working hours	.416	(.259)	.040	(.279)
Partly during working hours	.102	(.352)	.160	(.365)
Not during working hours	.819**	(.350)	.072	(.353)

* $p < 0.100$; ** $p < 0.050$; *** $p < 0.010$ ^aThe reference category in all logistic regressions is no training; estimates should be interpreted as effects on log-odds.^bControls include individual (age, partner, children, educational level, field of study, work experience, number of jobs since graduation), job (tenure, temporary job, working hours, own gross income, work below educational level, work in different field of study), and firm characteristics (firm size, sector of industry, public sector). Estimates are available on request.

Results of a simultaneous model

Table 3 shows the estimates of logistic regression models in which all aspects of training are included simultaneously, together with the same controls as

mentioned above. It turns out that training incidence and duration no longer have a significant impact on male graduates' job search. In line with the human capital hypothesis, training intensity is thus not related to job search behaviour (hypothesis 1c). For female graduates, the effect of training incidence is insignificant as well, corroborating this hypothesis too. Training duration, however, has a positive influence on their job search behaviour. Female graduates who follow 40 to 200 hours of training are more likely to search for a new job. This finding not only contradicts predictions of the human capital perspective, but also is in contrast to the commitment perspective which states that training intensity is associated with lower levels of job search (hypothesis 2a).

Including all aspects of training in one model also indicates that training specificity is no longer related to male graduates' job search. Only estimates of training followed for occupational updating or career objectives are significant: similar to the findings in Table 2, this training is associated with higher – and not lower – levels of job search, which contradicts the predictions of both the human capital and the commitment perspective (hypotheses 1a and 2c). For female graduates, specific training in one's own field again has a negative relationship with job search, which is in line with the human capital perspective (hypothesis 1a). On the other hand, management training is associated with lower levels of job search, corroborating hypothesis 2c of the commitment perspective. The other indicators of training specificity – location and objectives – do not show significant relationships with job search, however.

After controlling for training intensity and specificity, training funding is no longer related to job search. There is one exception: male graduates who participate in training entirely paid for by the employer are less likely to search for a new job. This corroborates hypotheses of both the human capital perspective (hypothesis 1b) and the commitment perspective (hypothesis 2b).⁹ These results again show that it is important to include many aspects of training in one model simultaneously. Without controlling for training specificity, conclusions about training funding are preliminary and do not tell the whole story.

Finally, Table 3 presents significant estimates of control variables, which clearly show that determinants of job search behaviour are different for male and female graduates. Male graduates who are older, have a temporary contract, or spend more years in their current job are more likely to search for a new job, although this latter effect levels off given the negative estimate of the quadratic term. In addition, male graduates who earn more are less likely to search for a new job,¹⁰ and so are graduates who work in small firms. For female graduates, having a non-working partner or a temporary contract increases their probability to search for a new job, whereas female graduates with more work experience display lower levels of job search.

Table 3 Estimates of simultaneous logistic regression analyses on job search behaviour for men and women, with control variables^a

	Men (n = 658)		Women (n = 621)	
	B	(s.e.)	B	(s.e.)
<i>Training intensity</i>				
Incidence	.038	(.934)	-1.001	(.978)
Duration (ref. 1–16 hours)				
17–40 hours	-.220	(.499)	.824	(.530)
41–80 hours	.242	(.527)	1.290**	(.594)
81–200 hours	.610	(.537)	1.295**	(.613)
More than 200 hours	-.387	(.623)	1.057	(.699)
<i>Training specificity</i>				
Type of training (ref. overall general training)				
Management training	.195	(.413)	-1.180***	(.448)
Specific training in own field	-.724	(.657)	-2.016***	(.649)
Specific training in other field	.317	(.456)	-.739	(.460)
Location (ref. off-the-job training)				
On-the-job training	-.256	(.397)	.458	(.399)
Objectives (ref. retraining)				
Occupational updating	1.462*	(.836)	.383	(.666)
Career training	1.607*	(.850)	.083	(.678)
<i>Training funding</i>				
Payment (ref. not paid by employer)				
Entirely paid by employer	-1.033*	(.535)	1.054	(.703)
Partly paid by employer	-1.952	(1.220)	.802	(.985)
Timing (ref. not during working hours)				
Entirely during working hours	-.150	(.426)	-.363	(.458)
Partly during working hours	-.669	(.476)	-.122	(.497)
<i>Significant control variables</i>				
Age in years	.112**	(.050)	.071	(.053)
Partner (ref. no partner)				
Working partner	-.092	(.299)	-.172	(.271)
Non-working partner	-.305	(.437)	1.126**	(.572)
Temporary contract	.731*	(.386)	.744**	(.345)
Work experience in years	.034	(.271)	-.374*	(.214)
Work experience in years squared	.008	(.749)	.040*	(.021)
Number of years in current job	.336*	(.172)	.135	(.185)
Number of years in current job squared	-.042*	(.022)	-.021	(.022)

(continued)

Table 3 (continued)

	Men (<i>n</i> = 658)		Women (<i>n</i> = 621)	
	B	(s.e.)	B	(s.e.)
Own gross yearly income	-.013 *	(.007)	-.003	.008
Work in different field of study	.625	(.331)	-.614	.447
Firm size (ref. 500 or more employees)				
0–15 employees	-.808 *	(.430)	.269	(.524)
15–50 employees	-.563	(.376)	.476	(.490)
50–100 employees	-.514	(.415)	.321	(.528)
100–500 employees	-.354	(.342)	.361	(.493)
Constant	-3.308	(2.274)	-3.389	(2.144)
Nagelkerke <i>R</i> ²	.185		.157	

p* < 0.100; *p* < 0.050; ****p* < 0.010

^aEstimates should be interpreted as effects on log-odds. Only significant control variables are shown. Other controls include individual (children, educational level, field of study, and number of jobs since graduation), job (working hours, work below educational level), and firm characteristics (sector of industry and public sector). Estimates are available on request.

Conclusions and discussion

This study examined the impact of formal training on male and female graduates' job search behaviour. It advanced on previous research on the relationship between training and turnover in two important ways. First, the insights of the well-studied economic human capital perspective were contrasted with the insights of a 'human relations' perspective: the commitment perspective. Second, instead of studying one aspect of training only, this study incorporated several aspects of training in one model and looked at training intensity (incidence and duration), training specificity (type of training, location, and objectives), and training funding (payment and timing).

Which of the two perspectives is the most promising in explaining the relationship between training and turnover? When studying each aspect of training separately, specific training in own field decreases the probability that female graduates will search for a new job. This is in line with the hypothesis of the human capital perspective predicting lower levels of job search for specific training. However, for male graduates, specific training in another field is associated with more – and not less – job search. Two other conclusions are prominent as well. First, training not paid for by the employer and training followed during leisure time appeared to increase male graduates' job search behaviour. This could be interpreted as a negative version of the commitment perspective: Training that is perceived as *not* being a gift (e.g. when the employee bears the direct and indirect training costs) induces more job search. Second, more intense training and general

training – like management and off-the-job training – are associated with more job search behaviour for male graduates, which is not in line with the human capital perspective predicting no relationships, or with the commitment perspective expecting lower levels of job search. An alternative explanation for this finding could be that training in general increases workers' marketability and therefore encourages them to think about looking for a new job.

When incorporating all aspects of training in one model simultaneously, conclusions are somewhat different. Training intensity or specificity are no longer associated with male graduates' job search behaviour, with the exception of training followed for occupational updating or career objectives. Employer-funded training is, on the other hand, related to lower levels of job search, which is in line with both the human capital and the commitment perspective. The commitment perspective could, however, be regarded as carrying more weight, as the human capital perspective relies on the assumption that employers pay for specific training only, and the negative estimate for training payment is found after controlling for training specificity. This result makes it clear that it is important to examine more than one training aspect before reaching conclusions. By including indicators of training intensity, specificity and funding simultaneously, I provide a stronger test of the human capital and the commitment perspective.

For female graduates, specific training in own field of study is associated with lower levels of job search, as was predicted by the human capital perspective. However, specific training in another field, which can be considered to be even more specific in its nature, is not related to job search behaviour, whereas management training – which can be regarded as general training – induces less job search. This brings us again to the commitment perspective, which predicts that general training is perceived more as a gift than specific training and therefore associated with lower levels of job search behaviour.

The commitment perspective therefore seems to be the most promising, but the evidence is not very strong. For example, other aspects of formal training do not significantly affect job search behaviour. It seems that training plays only a minor part in graduates' job search decisions. Other job aspects, such as working conditions, incentives, and career trajectories could be more important in this respect. Graduates in their early careers also look for better matching employment, as skills are often under-utilized in first jobs (e.g. Purcell and Elias, 2004; Wolbers, 2003).

Another explanation might be that training not only induces job search, but that job search also brings about training. Workers who intent to quit will invest in human capital to improve their position on the labour market (Zweimüller and Winter-Ebmer, 2000). This means that training is not a cause, but a prerequisite for job search. It would be interesting if future research could in some way unravel this issue of reverse causation, although this will not be easy. Measuring training variables in a period before the job search takes place (e.g. by using longitudinal or panel data) probably will not solve the problem, since sequence in time is not the same as causality (cf. Goldthorpe, 2001).

Perhaps more information about workers' motives to follow training might help in opening this black box. In addition, information about employers' decisions on who to train would clarify the relationship between training and turnover as well.

More information on employers' decisions and employees' motives is important in another way too. It provides a stricter test of the commitment perspective, since voluntary training could be perceived more as a gift than obligatory training (e.g. training due to employers' certification standards or collective bargaining agreements). A related point worth investigating is explicit training contracts that exist between employers and employees. Pay-back clauses might influence the relation between training and turnover, as they encourage the employer to pay while imposing a penalty on employees who quit within a certain period. In doing so, they reduce the risk of trained workers leaving the firm (Brunello and De Paola, 2004).

Finally, another interesting theme for future research would be to explore gender variation in the relationship between training and turnover. This study shows that there are major differences in the impact of training on job search between male and female workers. It would be tempting to reveal the mechanisms that underlie these differences. For example, gender dissimilarities in family obligations and career opportunities might play a role. In this respect, possible trends in the relationship between training and turnover over time are interesting to study as well.

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Notes

- 1 The focus of this study is on formal job training. I acknowledge the fact that most job training is informal (Bishop, 1997), but as Wholey (1990) points out, formal job training determines employee mobility to a higher extent than informal training.
- 2 Some researchers have argued that the distinction between general and specific training is too strict to account for reality. For example, Stevens (1999) distinguishes a third type of training, transferable training, which is productive in some, but not all firms.
- 3 This holds for future wages outside the firm. Within the firm, an increase in wages can be expected because of increased productivity.
- 4 This project was partially funded by the European Commission in the Targeted Socio-Economic Research programme (TSER EGS-SOE2-CT97-2023), with additional funding by the Dutch Ministry of Education.

- 5 Given the fact that graduates were approached seven years after graduation, the response rate of the graduate survey is remarkably high, also in an international perspective (see for example Allen and De Vries, 2001). There is a long tradition of graduate surveys in the Netherlands, and several non-response studies have made clear that differences in employment between non-response and response groups hardly exist. Graduates mainly refuse to cooperate because they think too much time or effort is involved (about 33%) or simply because they forget (about 15%).
- 6 Career training (objective) is moderately related to management training (type of training): $r = .427$ for male graduates and $r = .343$ for female graduates. Regression analyses excluding training objectives, however, give the same qualitative results.
- 7 In the first step, a selection equation is estimated with training being the dependent variable. The error terms generated in this equation are used to compute a correction variable, which is subsequently incorporated as a covariate in the second, substantial equation with job search behaviour as the dependent variable. An important condition in Heckman's method is that the model has to be identifiable, which can be achieved by incorporating at least one variable in the first analysis that is absent in the second one. For male graduates, three variables have a significant impact on training, but do not affect job search behaviour: (1) educational level before entering tertiary education, (2) opinion on 'skills I learned during my education are sufficient to start working in my own field of study', and (3) opinion on 'skills I learned during my education are sufficient to learn additional skills at work'.
- 8 The estimated effect of the correction variable is $-.491$ with a standard error of $.719$.
- 9 One could object that employers paid most graduates' formal job training (see Table 1). Analyses excluding this aspect of training funding give the same qualitative results, however.
- 10 Because own income could be an endogenous variable in the model, I estimated regression analyses without this variable, which gives the same qualitative results.

References

- Acemoglu, D. and Pischke, J.-S. (1999) 'The Structure of Wages and Investment in General Training', *The Journal of Political Economy* 107(3): 539–72.
- Allen, J. and De Vries, R. (2001) *Transition from School to Work of Graduates in Higher Education in an International Perspective* (in Dutch only). Zoetermeer: Ministry of Education.
- Altonji, J.G. and Spletzer, J.R. (1991) 'Worker Characteristics, Job Characteristics and the Receipt of On-the-Job Training', *Industrial and Labour Relations Review* 45(1): 58–79.
- Barrett, A. and O'Connell, P.J. (2001) 'Does Training Generally Work? Measuring the Returns to In-Company Training', *Industrial and Labor Relations Review* 54(3): 647–62.
- Bartel, A.P. (1995) 'Training, Wage Growth and Job Performance: Evidence from a Company Database', *Journal of Labor Economics* 13(3): 401–25.

- Becker, G.S. (1962) 'Investment in Human Capital: a Theoretical Analysis', *Journal of Political Economy* 70(5): 9–49.
- Bishop, J.H. (1997) 'What We Know About Employer-Provided Training: A Review of the Literature', *Research in Labor Economics* 16(1): 19–87.
- Booth, A.L. (1991) 'Job-related Formal Training: Who Receives It and What is It Worth?', *Oxford Bulletin of Economics and Statistics* 53(3): 281–94.
- Brunello, G. and De Paola, M. (2004) 'Market Failures and the Under-Provision of Training', CESifo Working Paper 1286, Munich.
- Carroll, G.R. and Mayer, K.U. (1986) 'Job-Shift Patterns in the Federal Republic of Germany: The Effects of Social Class, Industrial Sector, and Organizational Size', *American Sociological Review* 51(3): 323–41.
- De Graaf, P.M. and Luijkx, R. (1997) 'Structurele veranderingen, aspiraties en arbeidsmobiliteit [Structural Changes, Aspirations, and Labour Mobility]', OSA-werkdocument W155, Tilburg.
- Dekker, R., de Grip, A. and Heijke, H. (2002) 'The Effects of Training and Overeducation on Career Mobility in a Segmented Labour Market', *International Journal of Manpower* 23(2): 106–25.
- De Wolff, C., Luijkx, R. and Kerkhofs, M. (2003) 'Wie wat leert is weg – of niet? De effecten van bedrijfsscholing op functie- en baanverandering [Who Learns Quits – Or Doesn't? The Effects of Company Training on Job Change]', *Tijdschrift voor Arbeidsvraagstukken* 19(2): 131–41.
- Dolton, P.J. and Kidd, M.P. (1998) 'Job Changes, Occupational Mobility and Human Capital Acquisition: An Empirical Analysis', *Bulletin of Economic Research* 50(4): 265–95.
- Eckaus, R.S. (1963) 'Investment in Human Capital: A Comment', *The Journal of Political Economy* 71(5): 501–4.
- Elias, P. (1994) 'Job-Related Training, Trade Union Membership, and Labour Mobility: A Longitudinal Study', *Oxford Economic Papers* 46(4): 563–78.
- Fevre, R., Rees, G. and Gorard, S. (1999) 'Some Sociological Alternatives to Human Capital Theory and their Implications for Research on Post-Compulsory Education and Training', *Journal of Education and Work* 12(2): 117–40.
- Forrier, A. and Sels, L. (2003) 'Temporary Employment and Employability: Training Opportunities and Efforts of Temporary and Permanent Employees in Belgium', *Work, Employment and Society* 17(4): 641–66.
- Goldthorpe, J.H. (2001) 'Causation, Statistics, and Sociology', *European Sociological Review* 17(1): 1–20.
- Green, F. (1993) 'The Determinants of Training of Male and Female Employees in Britain', *Oxford Bulletin of Economics and Statistics* 55(1): 103–22.
- Green, F., Felstead, A., Mayhew, K. and Pack, A. (2000) 'The Impact of Training on Labour Mobility: Individual and Firm-Level Evidence from Britain', *British Journal of Industrial Relations* 38(2): 261–75.
- Gritz, R.M. (1993) 'The Impact of Training on the Frequency and Duration of Employment', *Journal of Econometrics* 57(1): 21–51.
- Groot, W. and Maassen van den Brink, H. (2000) 'Education, Training and Employability', *Applied Economics* 32(5): 573–81.
- Heckman, J.J. (1979) 'Sample Selection Bias as Specification Error', *Econometrica* 47(1): 153–61.
- Heckman, J.J., Hotz, V.J. and Dabos, M. (1987) 'Do We Need Experimental Data to Evaluate the Impact of Manpower Training on Earnings?', *Evaluations Review* 11(4): 395–427.

- Katz, E. and Ziderman, A. (1990) 'Investment in General Training: The Role of Information and Labour Mobility', *The Economic Journal* 100(403): 1147–58.
- Krueger, A. and Rouse, C. (1998) 'The Effect of Workplace Education on Earnings, Turnover and Job Performance', *Journal of Labour Economics* 16(1): 61–94.
- Li, J.H., König, M., Buchmann, M. and Sacchi, S. (2000) 'The Influence of Further Education on Occupational Mobility in Switzerland', *European Sociological Review* 16(1): 43–65.
- Loewenstein, M.A. and Spletzer, J.A. (1997) 'Delayed Formal On-The-Job Training', *Industrial and Labor Relations Review* 51(1):82–99.
- Loewenstein, M.A. and Spletzer, J.A. (1999) 'General and Specific Training: Evidence and Implications', *The Journal of Human Resources* 34(4): 710–33.
- Lynch, L.M. (1991) 'The Role of Off-the-Job vs. On-the-Job Training for the Mobility of Women Workers', *American Economic Review, Papers and Proceedings* 81(2): 151–6.
- Lynch, L.M. (1993) 'Entry-Level Jobs: First Rung on the Employment Ladder or Economic Dead End?', *Journal of Labor Research* 14(3): 249–63.
- Lynch, L.M. and Black, S.A (1998) 'Beyond the Incidence of Employer-Provided Training', *Industrial and Labor Relations Review* 52(1): 64–81.
- Mueller, C.W., Wallace, J.E. and Price, J.L. (1992) 'Employee Commitment, Resolving Some Issues', *Work and Occupations* 19(3): 211–36.
- Noe, R.A. and Wilk, S.L. (1993) 'Investigation of the Factors that Influence Employees' Participation in Development Activities' *Journal of Applied Psychology* 78(2): 291–302.
- Purcell, K. and Elias, P. (2004) *Graduate Careers Seven Years On: Short Report*. Manchester: HECSU.
- Rose, M. (2005) 'Do Rising Levels of Qualification Alter Work Ethic, Work Orientation and Organizational Commitment for the Worse? Evidence from the UK, 1985–2001', *Journal of Education and Work* 18(2): 131–64.
- Rosenfeld, R.A. (1992) 'Job Mobility and Career Processes', *Annual Review of Sociology* 18: 39–62.
- Royalty, A.B. (1996) 'The Effects of Job Turnover on the Training of Men and Women', *Industrial and Labor Relations Review* 49(3): 506–21.
- Smith, A. and Hayton, G. (1999) 'What Drives Enterprise Training? Evidence from Australia', *International Journal of Human Resource Management* 10(2): 251–72.
- Stevens, M. (1999) 'Human Capital Theory and UK Vocational Training Policy', *Oxford Review of Economic Policy* 15(1): 16–32.
- Stromback, T. (2002) *Training and Mobility*. Paper presented at a seminar for the Labour Economics Group at Oxford University, March 2002.
- Tannenbaum, S.I., Mathieu, J.E., Salas, E. and Cannon-Bowers, J.A. (1991) 'Meeting Trainees' Expectations: The Influence of Training Fulfilment on the Development of Commitment, Self-Efficacy, and Motivation' *Journal of Applied Psychology* 76(6): 759–69.
- Veum, J.R. (1997) 'Training and Job Mobility among Young Workers in the US', *Journal of Population Economics* 10(2): 219–34.
- Weisberg, J. and Kirschenbaum, A. (1991) 'Employee Turnover Intentions: Implications from a National Sample', *International Journal of Human Resource Management* 2(3): 359–75.
- Wholey, D.R. (1990) 'The Effects of Formal and Informal Training on Tenure and Mobility in Manufacturing Firms', *The Sociological Quarterly* 31(1): 37–57.

- Wolbers, M.H.J. (2003) 'Job Mismatches and Their Labour-Market Effects among School-Leavers in Europe', *European Sociological Review* 19(3): 249–66.
- Zweimüller, J. and Winter-Ebmer, R. (2000) 'Firm-specific Training: Consequences for Job Mobility', IZA Discussion Paper 138.
- Zwick, T. (2002) 'Continuous Training and Firm Productivity in Germany', ZEW Discussion Paper 02–50.

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