

Fits, misfits and interactions: learning at work, job satisfaction and job-related well-being

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The resource-based view (RBV) of the firm has focused attention on the importance of aligning employees' needs with the requirements of the jobs they do. This article focuses on how these needs and requirements interact in terms of learning. It does so in two ways. First, it develops new survey instruments to capture the learning demands of jobs and the learning dispositions of workers and uses them for the first time in a survey of 2,810 employees. Second, it examines how these person and job characteristics correlate with specific aspects of job satisfaction and job-related well-being. The results show that although learning alignment is associated with high levels of satisfaction and well-being, not all learning misalignments are associated with the reverse.

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INTRODUCTION

In seeking to understand what makes some businesses more successful than others, management scholars have turned to two variants of the strengths, weaknesses, opportunities and threats framework. One focuses on the external opportunities and threats of market position and conceives of competitive advantage as something gained outside the firm (Porter, 1985). This 'outside-in' approach prompts managers to address practical questions such as what market should the business be in and how should the business position itself (Baden-Fuller, 1995). The other approach focuses on the strengths and weaknesses of resources under the firm's control. This offers a firm-focused conception of competitive advantage and raises practical issues around how resources, such as labour, are managed; hence offering an 'inside-out' perspective (Barney, 1991). Known as the resource-based view (RBV) of the firm, the latter provides the theoretical basis on which to argue that HRM can of itself be a source of sustained competitive advantage, thereby transforming HR costs from operating expenses into capital investments capable of generating economic returns (Wright *et al.*, 1994; Boxall and Purcell, 2011: chapter 4).

The RBV approach, then, stresses the importance of getting the right fit between the desires of the person and the demands of the job (Kristof-Brown *et al.*, 2005). However, matching people and jobs according to their learning capabilities has been neglected (Boxall, 2013). This article plugs the gap. First, we develop and use survey measures that capture the learning

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demands of jobs and the learning dispositions of workers. Second, we examine how these job and person characteristics correlate with facets of job satisfaction and with the level the job-related well-being measured along Warr's 'Depression-Enthusiasm' scale.¹ The article also investigates how employees' learning desires and the learning requirements of the job interact to modify or amplify these correlations which can, in turn, lead to unwelcome personnel problems for employers. These include high labour turnover, low productivity, high absenteeism rates and low worker morale as shown by previous research (Freeman, 1978; Green, 2010). According to the RBV approach the person-job learning fit is, therefore, an area of HRM ripe for investigation because it can offer a means of delivering economic value.

The article is structured as follows. The second section briefly reviews existing research on workplace learning, the disposition of learners and the person-job learning fit as well as the theoretical bases of the concepts and hypotheses the article sets out to test. The third section outlines the nature of the new data, paying particular attention to the survey items used to derive the indices of the learning requirements of jobs and the learning dispositions of employees. It also considers employees' satisfaction with specific job aspects and their job-related well-being. The fourth section presents the results in two ways. First, it maps how learning requirements and employees' dispositions to learning at work vary in Britain. Second, it uses multivariate analysis to examine how strongly the job-holders' satisfaction and enthusiasm for the job correlates with: (a) the learning demands of the job; (b) the learning disposition of the job-holder; and (c) the interaction of the two. The final section concludes the article with a summary of its main findings and its implications.

THEORIES, CONCEPTS AND HYPOTHESES

It is widely recognised – not least by HR managers – that workplace learning arises in a variety of settings that includes, but go beyond, formal training (Sfard, 1998; Hager, 2004). This includes acquiring skills incidentally through the demands and challenges of everyday work experience, and social interactions with colleagues, clients and customers. However, all forms of learning are, to a large extent, bounded and defined by demands of the job. Some jobs expand employees' horizons, widen exposure to new thinking and promote experimentation. In these circumstances, workers' learning experiences are 'expansive'. Other jobs emphasise the importance of following set procedures and keeping within prescribed boundaries, hence making learning more 'restrictive'.

So far, however, the debate around this binary distinction has taken place either at a theoretical level with discussion of its relationship to, and extension of, activity theory (Engeström, 2001) or through workplace-level case studies (Fuller and Unwin, 2004; Cox, 2007; Felstead *et al.*, 2009). However, relatively few attempts have been made to capture the learning permissiveness of jobs by building in appropriate questions into survey design (Kirby *et al.*, 2003; Skule, 2004; Felstead *et al.*, 2005; Kitching, 2007). By developing the scales and survey measures presented here, the article offers a distinctive and original contribution to this debate. Because a substantial body of empirical research – especially of a quantitative variety – does not yet exist, we therefore draw on associated literature to frame our thinking on how learning demands may correlate with job satisfaction and job-related well-being.

The Hawthorne experiments of the 1920s suggest that allowing workers the scope to experiment at work, take time out to learn new things and think about different ways of doing the job is likely to make them feel special, and hence *ceteris paribus* to raise satisfaction levels and job-related well-being (Mayo, 1945). Involving workers in other aspects of the job – such as decisions about how tasks are to be carried out, what tasks are to be done, to what standards

they are to work and how hard they are to work – has also been shown to raise levels of well-being (Karasek, 1979; Warr, 2007). Furthermore, giving workers greater task discretion and involving them in higher level decision-making are both features of ‘high involvement management’, which can lead to better business performance through enhanced worker well-being (Felstead *et al.*, 2010; Wood and de Menezes, 2011; Boxall and Macky, 2014). In line with the associated literature, therefore, we test the hypothesis that these influences can be extended to the learning demands of the job so that:

Hypothesis 1: The more expansive the learning requirements of the job, the higher the level of job satisfaction and job-related well-being.

Learning motivations and strategies of employees also vary. Although this is not new in the field of school and university education, it has rarely been applied to workplace learning. In this article, then, we draw on research and theorisation taken from educational psychology that has led to the development and testing of lengthy questionnaire batteries, which categorise student approaches to learning (Biggs *et al.*, 2001).

This vein of research was prompted by a series of qualitative studies. In one such study, a group of university students was asked to read an article and then describe what they had learnt (Marton and Säljö, 1976). One group sought to understand the author’s meaning; they appraised the evidence in relation to the conclusions reached and related the new evidence to their own knowledge/experience. This pattern of intention and process is conceptualised as ‘deep learning’. The other group set about identifying and then memorising the facts and ideas they thought important to pass the exam. As a result, the second group failed to appreciate the article’s structure and principles, and instead, they learnt by rote only the facts they thought they needed. This is conceptualised as ‘surface learning’. Learning strategies (*i.e.* the processes of learning), then, varied with selective memorisation favoured by surface learners, whereas analysis and diagnosis were favoured by deep learners. Similarly, learning motivations differed with surface learners motivated by instrumentalism and deep learners moved by intrinsic interest.

The same principles can be applied to employees, some of whom only want to remember facts of immediate and/or practical relevance, whereas others want to understand what causes what, how and why. So, faced with a given learning demand, individuals will react differently according to their own learning biographies, histories and experiences (or ‘learning career’). Although these ideas have been used to understand the individual life stories of groups (*e.g.* Bloomer and Hodkinson, 2000; Hodkinson and Hodkinson, 2004; Billett, 2006), they have not been used – until now – in surveys of working adults.

Whether one takes satisfaction or pleasure from any given level of learning will depend, in part, on expectations built up as part of one’s learning career. It will also be based on a cognitive evaluation of learning currently available against an unknown range of available alternatives (Brown *et al.*, 2012). These could be the in-built learning requirements of previous jobs, other jobs that might be available or jobs to which one aspires. So, applying Maslow’s pyramidal theory of needs, ‘deep learners’ are expected to have higher learning needs than those ‘surface learners’ (Maslow, 1943). This means that any given level of learning is more likely to satisfy the latter than the former. As a result, we hypothesise that those with a deep commitment to learning will be more difficult to satisfy, whereas surface learners who have a lower commitment to learning will be easier to placate. We therefore set out to test the hypothesis that:

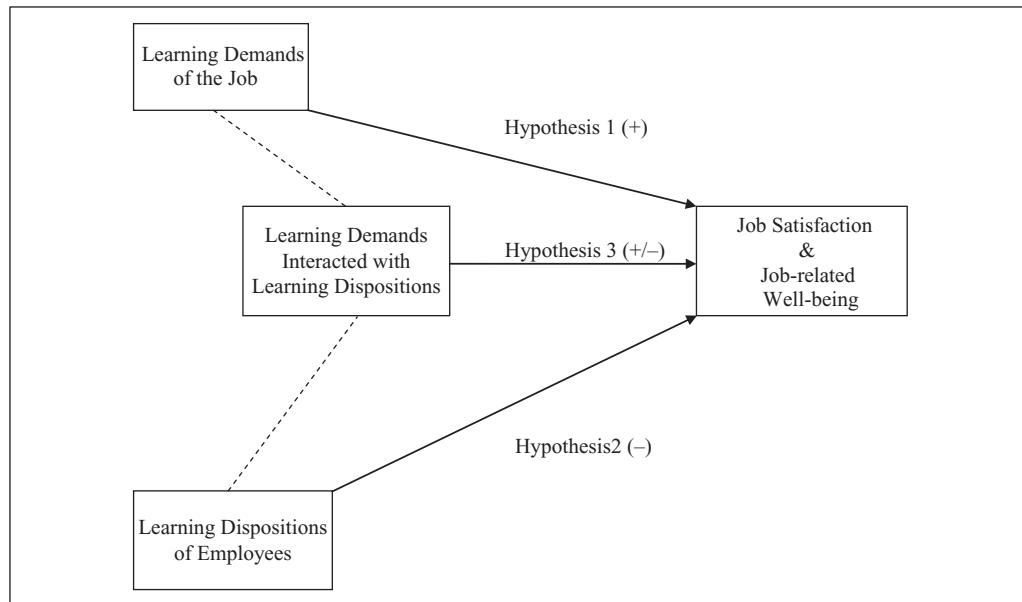
Hypothesis 2: The deeper the learning disposition, the lower the level of job satisfaction and job-related well-being.

Figure 1 *Typology of learners at work*

Learning Demands of the Job	Surface Learners in Jobs Offering Expansive Learning	Deep Learners in Jobs Offering Expansive Learning
	Surface Learners in Jobs Offering Restrictive Learning	Deep Learners in Jobs Offering Restrictive Learning
	Employees' Learning Dispositions	

How learning requirements and learning dispositions interact is also of considerable interest because jobs with different learning requirements will be populated by individuals with different learning dispositions. In some cases, then, the learning demands afforded by the job will closely correspond to employees' learning careers, so that employees' and managers' expectations are aligned; but in others, they will not. It follows that for each individual, we need to examine not only the associations that demands and dispositions have, but also how they interact.

Figure 1 presents an ideal type 2×2 representation of the total population with alignment represented by the top right and bottom left quadrants and misalignments in the other two. This builds on the binary divides suggested in both the workplace learning and disposition literatures discussed above. However, Figure 1 is a crude simplification because the extent of these matches and mismatches varies considerably with some closer and some wider than others. So, in order to focus only on the clearest cases of match and mismatch, we examine the extremities of the four quadrants in later analysis (*cf.* Table 3). Nevertheless, Figure 1 is a useful heuristic device in helping us to understand the processes at work. It suggests that some organisations may deliberately cultivate greater person-job correspondence through in-house recruitment procedures. This is in line with scholars who emphasise 'inside-out' approaches to improving business performance. On the other hand, outside pressures – emphasised by 'outside-in' scholars of performance enhancement – may force managers to make new demands on staff because of changes beyond their control (Baden-Fuller, 1995). In the latter set of circumstances, these learning demands may not be synchronised with employees' learning dispositions. As a result, employees may become uneasy either because they have a deep learning outlook but find themselves in a job with restrictive learning demands or because they are surface learners working in a job requiring expansive learning (top left and bottom right quadrants in Figure 1). For example, new ways of working that give employees more autonomy in carrying out their work and require them to learn new ways of working may be welcomed by those who have a readiness and eagerness to learn, but resisted by those who do not. Similarly, employees with many years of experience may resent having to follow step-by-step scripts when carrying out their work because it strips them of their role as 'recipe writers' and treats them as 'recipe followers'. However, those with less appetite for learning may feel

Figure 2 Schematic representation of the hypotheses

happier following step-by-step procedures (Felstead *et al.*, 2009). That said, in each case these feelings are likely to be strongest at the extremities of Figure 1.

Related studies suggest that a poor person-job fit in terms of skill levels, educational qualifications and preferred hours of work reduce job satisfaction and well-being (Spector, 1997; Allen and van der Velden, 2001; Green and Zhu, 2010). This article investigates whether learning misalignments, or what Boxall (2013) refers to as 'learning traps', have similar associations. Our expectation, therefore, is that having restricted opportunities to learn at work but wanting to learn about the work process in-depth will interact to put further downward pressure on job satisfaction and well-being. This is in line with deprivation theory, which predicts that those who believe they deserve better are more likely to harbour negative feelings (Crosby, 1976). Similarly, we expect that negative sentiments will be held by those who prefer to learn the bare minimum to get by but are in jobs requiring them to do more. Both of these interactions can be expected to be associated with lower job satisfaction and enthusiasm levels. While these connections have been examined, to some extent, in qualitative research focused on individual employees and/or work groups, they have not been investigated using survey data of the type presented here. We set out, then, to test the hypothesis that:

Hypothesis 3: The learning requirements of jobs and the learning dispositions of employees interact to modify the above correlations – upward where they are matched, downward where they are not.

These three hypotheses are presented schematically in Figure 2. The main correlations are hypothesised to have different signs, leading to the possibility that they may cancel each other out with the interaction term complicating matters further and making the overall strength of the correlation not readily apparent. Towards the end of the article, we run a series of probability predictions that focus on the extremities of Figure 1 to make the correlations more transparent.

DATA SOURCES, ITEMS AND SCALES

Until now, data on the learning demands of jobs, employee learning dispositions, job satisfaction and well-being have not been available in the same data set. However, the Skills and Employment Survey 2012 (SES2012) offers a rare opportunity to examine the interconnections. The survey collected responses from working adults in Britain, interviewed in their own homes for around 1 hour. The sample was drawn using random probability principles subject to stratification based on local unemployment rates and the percentage of household heads in non-manual occupations. Interviews were carried out with those who had done at least 1 hour of paid work in the week immediately prior to the survey. Where necessary, a random number grid² was used to select one respondent per address. The response rate was 49%. To maintain quality control, call back procedures were used and the fieldwork closely monitored. Data collection was carried out by GfK NOP, a well-respected market research company. The survey is the sixth in a series of nationally representative sample surveys of individuals in employment aged 20–65 years old, although SES2012 is the only one that contains data on the features of interest for this article. A total of 3,200 working adults took part in the survey, although in this article, we focus on the 2,810 employee respondents – the remainder were self-employed. A weight was computed to take into account the differential probabilities of sample selection, the over-sampling of certain areas and small response rate variations between some groups (technical appendix in Felstead *et al.*, 2015). All of the descriptive analyses that follow are weighted accordingly. It should also be noted that the data are cross-sectional, and so we are only able to test the strength of correlations not causal relationships.

To operationalise the nature of the learning demands of the job, we derive an index measuring the extent to which jobs are expansive or restrictive. The 'job learning demands index' is based on six survey questions – the higher the score the more expansive the learning and vice versa. Inevitably, in all surveys, questions are asked of individuals, and so they are subjective in terms of their source. However, in this survey, the responses they gave were objective in that respondents were asked to report on objective features of the job. Only for analytical purposes do we refer to such responses as 'low' or 'high', such terms were not used in the survey itself. An alternative approach would be for an independent, third party to make an assessment of jobs using a benchmark that is consistently applied across all jobs. However, such an approach would be prohibitively expensive and would face its own drawbacks such as the need to minimise inter-rater variation.

The six questions used to derive the job learning demands index are: (a) the extent to which respondents agreed that 'my job requires that I keep learning new things'; (b) the extent to which these new things 'make you think harder about different ways of doing your job'; (c) and gives 'you more independence in how you do your job'; as well as the importance of (d) 'spotting problems or faults'; (e) 'working out the cause of problems or faults'; and (f) 'thinking of solutions to problems'. The labelling of these scales varies as do the number of points.³ The items are, therefore, standardised and combined into a learning demands index. The mean scores for each item are set at 0, so that negative values indicate below average learning demands and positive values indicate jobs with above average learning demands. The index has a Cronbach's alpha statistic of 0.82; this is a measure of how closely related a set of items are as a group, with values above 0.70 considered acceptable. The higher the index score, the higher the in-built requirement for employees to learn by spotting problems and faults, seeking solutions to problems, learning new things about the job, thinking more about the job and taking independent action, and vice versa. In addition

to content validity, the resulting index correlates significantly ($r = 0.36, p < 0.001$) with the length of time it takes to learn to do the job well. It has a standard deviation of 0.73 and is negatively skewed (indicating that there is a very long tail of employees in Britain who work in jobs offering restrictive learning; see Figure 3a).

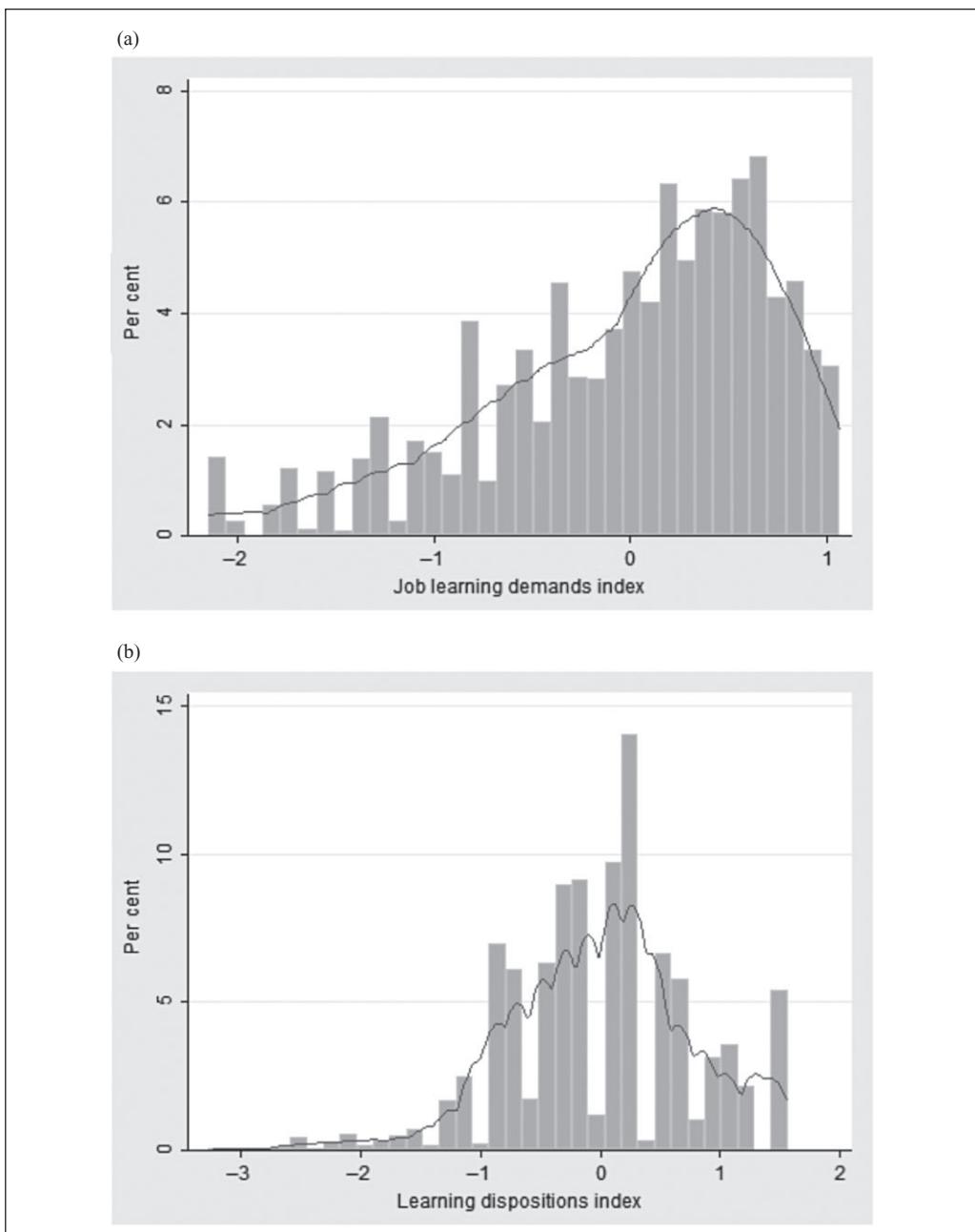
Measuring learning dispositions has a long history of development, albeit in formal education settings (see above). The 42-item Study Process Questionnaire is one of the most widely used measures of students' approaches to learning with shorter versions also available (Biggs *et al.*, 2001; Fox *et al.*, 2001). More recently, a reduced and revised set of six survey questions were tested, piloted and then included in the 2011/12 Organisation for Economic Co-operation and Development (OECD) Survey of Adult Skills (OECD, 2013; Allen and van der Velden, forthcoming). These new instruments were designed to measure the learning disposition of adults. These were replicated in SES2012. They took the form of six statements, which were randomly rotated for each interview – a standard practice designed to avoid question order bias. Each statement was read out, and respondents were asked to what extent each applied to them according to a five-point scale ranging from 'to a very high extent' to 'not at all'. Three focused on learning motivations. These were: 'I like learning new things'; 'I like to get to the bottom of difficult things'; and 'I like to figure out how different ideas fit together'. The other three statements focused on learning strategies. These were: 'When I come across something new, I try to relate it to what I already know'; 'When I hear or read about new ideas, I try to relate them to real life situations to which they might apply'; and 'If I don't understand something, I look for additional information to make it clearer'.

In the analysis, the six items are standardised and combined to produce the learning dispositions index, with a Cronbach's alpha statistic of 0.86, a value well over the 0.70 threshold for acceptability. The index measures the extent to which employees appraise evidence in relation to their previous knowledge/experience and therefore engage in 'deep learning' through the use of different motivations and strategies towards learning. Higher scores indicate 'deep learning', whereas lower scores are indicative of 'surface learning'. As one would expect from educational psychology, the index is strongly correlated with academic ability (here proxied by level of highest level of qualification), thereby giving it construct as well as content validity ($r = 0.30, p < 0.001$). It has a standard deviation of 0.77 and is negatively skewed (indicating that there is a short tail of employees who are relatively weakly disposed to learning; see Figure 3b).

Employees were also asked a series of questions about their satisfaction with various extrinsic and intrinsic features of the job. Here, we focus on two of the latter, which have a specific connection with learning demands and learning dispositions. On a seven-point scale, respondents were asked: 'How satisfied or dissatisfied are you with the opportunity to use your abilities?' and 'How satisfied or dissatisfied are you with being able to use your own initiative?'. To measure the level of well-being on the 'Depression-Enthusiasm' scale following Warr *et al.* (1979) and Warr (1990), respondents were asked: 'Thinking of the past few weeks, how much of the time has your job made you feel each of the following ...?' Respondents were then presented with a series of adjectives, each describing a different feeling: 'depressed', 'gloomy', 'miserable', 'cheerful', 'enthusiastic' and 'optimistic'. The response set comprised six points ranging from 'never' to 'all of the time'. Based on a 1–6 scoring system, we constructed the Warr scale by averaging the responses given after reversing the first three (negative) items.

Given that satisfaction and well-being are strongly correlated with personality traits, in some of the regression models, we also include controls for the 'Big Five' personality domains of extraversion, agreeableness, conscientiousness, emotional stability and openness. These controls are designed to factor out individual differences in perceptions, thereby providing reassurance

Figure 3 (a) Job learning demands index: distribution plot; (b) Learning dispositions index: distribution plot



that objective differences in job-related well-being are captured. These controls are derived from a battery of 10 questions designed and validated for use in large-scale surveys (Gosling *et al.*, 2003). Respondents were presented with a pair of personality traits and asked how strongly these traits applied to them. They were asked to use a five-point scale in response. Each pair of traits has a negative equivalent, which is then reverse scored in the construction of five domains, so that a higher score indicates a more positive outlook. We also enter controls for respondents' labour market expectations along with standard controls such as gender, age, occupation and industry (shown in Table 2).

RESULTS

Mapping learning demands and dispositions

Individual characteristics, the nature of the job and the type of employer are the key factors associated with the learning demands of jobs. For example, men on average are in jobs that place significantly more emphasis on learning than is the case for women – the learning demands index is as positive for men as it is negative for women (+0.038 versus -0.042 respectively, see Table 1, column 1). This is likely to reflect occupational segregation (Warren and Lyonette, 2015). However, these gender patterns mask an important contrast between those who work full-time and those who work part-time. When gender patterns among full-timers are examined, women are in jobs requiring more or less the same level of learning as men. Among part-timers the gender pattern is reversed, so that men are significantly ($p < 0.1$) less likely be occupying jobs that require high levels of learning (*t*-tests not shown in table). This implies that part-time jobs are more important than gender in reducing the chances that employees enjoy expansive learning at work. Further analysis shows that jobs offering the most restrictive learning for this group of workers are in the retail and hospitality sector.

Another important individual characteristic is age. Here, we find that learning demands of the job rise with age, peaking among the 30–39 year age group and then falling among 40–49 year olds before falling significantly after the age of 50. In other words, the pattern is an inverted U-shape (see Table 1, column 1).

Linear relationships are found elsewhere. For example, learning demands are closely related to an individual's position in the wage distribution – the higher the pay, the greater the likelihood of being in a job requiring more expansive learning. The same goes for the qualifications held by individuals as well as the level of qualification the job requires on entry – the higher the qualification, the higher the learning demands of the job. This is also the case for other measures of job skills such as the length of training needed for the type of work currently undertaken and the time it takes to learn to get to grips with the job once recruited. Like formal training, employer characteristics are related to the extent to which the learning demands of the job can be regarded as expansive. In general, working for a relatively small employer, for example, markedly reduces the likelihood of being in a learning-rich job – the index is -0.072 for workplaces with less than 25 employees compared with a significantly higher score of +0.161 for those working in sites with 500 or more employees (see Table 1, column 1).

By and large, learning dispositions do not vary as much as learning demands when measured against the same indicators and some of the patterns differ. Women employees, for example, have a statistically weaker disposition towards learning than men, with women part-time employees having the weakest learning disposition of all. This may reflect gendered attitudes to learning borne out of differential societal constraints on men and women (Probert, 1999). This is in marked contrast to learning demands where male part-timers are, on average,

TABLE 1 Mapping learning demands and learning dispositions

	Job learning demands index (1)	Employee learning dispositions index (2)
Sex		
Male	+0.038***	+0.076***
Female	-0.042	-0.060
Working time – men		
Full-time	+0.081***	+0.092**
Part-time	-0.440	-0.095
Working time – women		
Full-time	+0.100***	+0.030***
Part-time	-0.253	-0.193
Pay		
Top quartile	+0.259***	+0.282***
Second quartile	+0.169***	+0.037***
Third quartile	-0.082**	-0.112
Bottom quartile	-0.380	-0.198
Age		
20–29	-0.089***	+0.127
30–39	+0.106	+0.079
40–49	+0.059***	+0.006***
50–65	-0.073	-0.142
Highest qualification required		
Degree level and above	+0.163***	+0.246***
A-level and equivalent	+0.047**	+0.007***
General Certificate of Secondary Education and equivalent	-0.075**	-0.170*
National Vocational Qualification Level 1 and equivalent	-0.278***	-0.320**
None held	-0.582	-0.534
Occupation		
Managers	+0.207**	+0.247*
Professionals	+0.305	+0.357***
Associate professionals	+0.250***	+0.116***
Administrative and secretarial	-0.114***	-0.076
Skilled trades	+0.207***	-0.007
Personal services	-0.360	-0.100
Sales	-0.333***	-0.169
Operatives	-0.661***	-0.323
Elementary	-0.424	-0.362
Highest qualification needed for the job		
Degree level and above	+0.274***	+0.288***
A-level and equivalent	+0.151**	+0.028**
General Certificate of Secondary Education and equivalent	+0.027***	-0.089**
National Vocational Qualification Level 1 and equivalent	-0.252	-0.249
None needed	-0.396	-0.205
Training required for this type of work		
2 years or more	+0.350***	+0.170***
Less than 3 months	-0.191	-0.064
Learning time required to do the job well		
2 years or more	+0.347***	+0.170***
Less than 1 month	-0.516	-0.186
Size of workplace		
Less than 25	-0.072**	-0.025
25–99 employees	+0.048	+0.017
100–499 employees	+0.012***	+0.068
500+ employees	+0.161	+0.076
Base (unweighted)	2,810	2,788

*** Significant at 1%; ** significant at 5%; * significant at 10%.

Significance tests are reported between immediately following rows in the same column e.g. in column 1, the male index is compared with the female index (the reference category), the professional index with the associate professional index (the reference category) and so on.

in jobs offering the most restrictive learning opportunities. Eagerness to learn also falls according to the nature of the job, although only those in the top three occupational groups – managers, professionals and associated professionals – report possessing significantly stronger learning dispositions than those outside these groups (see Table 1, column 2). Again, this differs from learning demands that are more likely to fall significantly as we move down the occupational hierarchy from one group to the next.

Learning fit correlations

To formally examine the relationship between the learning requirements of employees' jobs, the learning dispositions they possess and the connection this has with job satisfaction and job-related well-being, we fit a series of regressions to the data. To examine Hypothesis 1 we first consider the correlations for someone with an average learning disposition. By construction, the learning disposition index for such an employee is zero and so, too, is the interaction term in the third row. In terms of this hypothesis, then, we find that jobs that have an in-built requirement to learn are *ceteris paribus* more favourably viewed by employees of an average learning disposition with significant coefficients in five of the six models (see row 1, Table 2).

TABLE 2 *Regressions: demands, dispositions, job satisfaction and job-related well-being*

	Satisfaction with the opportunity to use abilities		Satisfaction with being able to use initiative		Enthusiasm	
	(1)	(2)	(3)	(4)	(5)	(6)
Job learning demands index	0.289*** (0.040)	0.214*** (0.041)	0.246*** (0.040)	0.188*** (0.042)	0.050* (0.029)	0.017 (0.028)
Employee learning dispositions index	-0.059* (0.034)	-0.139*** (0.036)	-0.015 (0.034)	-0.108*** (0.037)	0.027 (0.024)	-0.023 (0.024)
Job learning demands index × employee learning dispositions index	0.152*** (0.041)	0.144*** (0.041)	0.150*** (0.041)	0.151*** (0.042)	0.080*** (0.030)	0.075*** (0.028)
Standard controls ^a	Yes	Yes	Yes	Yes	Yes	Yes
Personality controls ^b	No	Yes	No	Yes	No	Yes
Pseudo R ² /R ²	0.1003	0.1415	0.1308	0.1640	0.1929	0.2978
No of observations	2,318	2,318	2,318	2,318	2,318	2,318

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Ordered probit regressions are fitted in columns 1–4 and ordinary least squares regressions are fitted in columns 5 and 6.

^a Standard controls include: sex dummy; years of work experience; years of work experience squared; age; age squared; part-time working dummy; ethnicity dummy; qualification held on 0–4 scale; required qualification level for the job on 0–4 scale; length of training for the job on 0–7 scale; learning time for the job on 0–5 scale; 8 occupational dummies; 12 industry dummies; and 10 regional dummies. They also include controls for task discrete, consultation at work and job variety.

^b Personality controls include variables which take into account different personality traits as well as differences in the norms and expectations of job-holders in terms of the quality of training expected, the importance placed on exercising initiative and using abilities at work, and the quality of the job compared to alternatives available.

The second hypothesis also receives some support in that for employees, in a job with average learning demands, satisfaction levels fall the stronger the desire to learn – note the negative sign on the coefficient (see row 2, Table 2). So, those who have a deep commitment to learning are more difficult to please than surface learners whose expectations are lower and therefore easier to satisfy. The coefficient becomes more strongly significant when expectations and personality indicators are entered into the model (compare models 1 with 2 and 3 with 4 in Table 2). This suggests that employees have desires for learning that only become apparent when these factors are taken into account. However, the enthusiasm index appears unrelated to the learning dispositions index, with or without a full set of controls.

In all six models, we find a significant and positive interaction between the learning demands of jobs and the learning dispositions of employees and the three dependent variables (see row 3, Table 2). This means that both the positive correlation for in-built learning requirements and the negative correlation for learning dispositions are modified by the degree to which the learning attributes of jobs and employees are matched – upward where matched; downward where they are not. This supports our third hypothesis.

However, the strength of the overall correlation is not always easy to interpret given a combination of offsetting correlations and interaction terms in the models as well as the relative sizes of the coefficients. To make the strength of the correlations more transparent, we use the full ordered probit models reported in Table 2 to make probability predictions that an employee with mean level characteristics will report being ‘completely’ or ‘very satisfied’ with the opportunity to use their abilities and being able to use their initiative – referred to as ‘high’ satisfaction for short. We follow the same procedure to predict the enthusiasm score using the full regression models reported in Table 2. The value of one of the independent variables is altered (and the interacting term if necessary) in order to highlight how this changes the prediction. For illustrative purposes, we take extreme points on the learning demands and learning dispositions indices. So, we take very high and very low points on these indices; that is, the 95th and 5th percentile points. When used in combination, four critical case scenarios are examined. These relate to the *extremities* of the four quadrants in Figure 1, and therefore provide examples of very close learning matches, on the one hand, and very wide learning mismatches, on the other. We use the three hypotheses outlined earlier to report the results (see Table 3).

Presented in this way, the data show a clear relationship between the expansive-restrictive nature of the learning demands of the job and how these features are linked to job satisfaction and well-being. Almost two thirds (63.9%) of employees in jobs with high learning demands are predicted to be highly satisfied with the opportunity to use their abilities compared with around two fifths (43.0%) of those in jobs with a low in-built requirement to learn (see Table 3, Hypothesis 1). There is a smaller, but still large, gap of 18 percentage points between these two groups for satisfaction levels with the use of initiative at work. This evidence supports the hypothesis that the more expansive the learning demands of the job, the higher the level of job satisfaction. However, the association with enthusiasm is limited.

The second hypothesis is that the deeper the learning disposition of employees, the lower job satisfaction. This is also supported (see Table 3, Hypothesis 2). However, the percentage point gaps between positions at the top and bottom of the learning dispositions scale are narrower – 12 and 8 points respectively. But, once again, learning dispositions on their own have little association with enthusiasm levels at work. This is in line with the insignificant coefficients in Table 2.

The article’s third hypothesis is that the learning demands of jobs and the learning dispositions of employees interact positively to modify the links with satisfaction and enthusiasm. So, deep learners in jobs offering restrictive learning face two downward pressures

TABLE 3 Predicted levels of job satisfaction and job-related well-being

	Predicted probability of being completely or very satisfied with:	Predicted enthusiasm score	
		Opportunity to use abilities	Being able to use initiative
Hypothesis 1			
High learning demands (taken as the top 95th percentile observation)	63.9	68.1	4.26
Low learning demands (taken as the bottom 5th percentile observation)	43.0	49.8	4.20
Hypothesis 2			
High learning dispositions (taken as the top 95th percentile observation)	49.2	56.5	4.22
Low learning dispositions (taken as the bottom 5th percentile observation)	61.4	64.9	4.25
Hypothesis 3			
Surface learners in jobs offering restrictive learning (bottom 5th percentile observation on both indices)	60.7	66.3	4.38
Deep learners in jobs offering restrictive learning (top 95th and bottom 5th percentile respectively)	25.5	32.5	4.03
Surface learners in jobs offering expansive learning (bottom 5th and top 95th percentile respectively)	62.6	65.9	4.19
Deep learners in jobs offering expansive learning (top 95th percentile observation on both indices)	63.7	69.9	4.35
Post-estimation calculations with values of all (non-interacting) independent variables set to their means, except for variables shown in left-hand column. Estimations made on the basis of the full models shown in Table 2, columns 2, 4 and 6 (using ordered probit and ordinary least squares regressions, and then pr value post-estimations).			

– one coming from their own high learning desires and the other coming from the relative lack of learning opportunities at work. In addition, these two factors interact to exert a third downward pressure on satisfaction and well-being. As a result, high levels of satisfaction are estimated to be less than half as prevalent among deep learners in jobs with restrictive learning as among deep learners in jobs offering expansive learning.

As expected, probability predictions show that when both learning demands and learning dispositions are well matched, satisfaction and enthusiasm levels are high (see Table 3, Hypothesis 3). In terms of the case study evidence reviewed earlier, these results are akin to situations, on the one hand, where employees are required to come up with new ways of working and are keen to do so, and on the other hand, where employees are expected to follow step-by-step procedures with little thinking required and are willing to oblige.

However, the model estimations show that surface learners in jobs offering expansive learning have similarly high satisfaction levels to deep learners, with around two thirds

'completely' or 'very satisfied' with the opportunity to use their abilities and initiative. In this case, the benefits of being in an expansive job as well as being easier to satisfy as a surface learner offset the dampening influence of the interaction term (*cf.* Table 3 and the size of the coefficients). Nevertheless, their overall enthusiasm for the job is not similarly enhanced and remains relatively low (*i.e.* here the interaction coefficients are relatively large; see Table 2). So, this misalignment is associated with lower well-being, if not lower job satisfaction. Mismatches for surface learners, then, may be less troublesome for HR managers than for workers who possess a deeper appetite for learn.

CONCLUSION

This article breaks new methodological ground in HRM, and workplace learning in particular, by operationalising two concepts in a survey context: one, the idea that jobs can be classified as expansive at one end of the spectrum or restrictive at the other; and two, the idea that employees can be classified according to their learning dispositions along another continuum with deep learners at one end and surface learners at the other. Previously, both concepts have been discussed theoretically and qualitatively investigated, but have not been operationalised together in a single survey.

The article also makes substantive contributions. One of which is to show that jobs offering more expansive learning opportunities are associated with higher levels of job satisfaction and that for jobs offering more restrictive learning, they are lower. Even when other factors are taken into account, jobs with higher in-built learning requirements are more satisfying in terms of the scope they offer employees to use their abilities and initiative and vice versa. Deep learners, on the other hand, tend to have higher expectations and are therefore often left disappointed, whereas surface learners have lower expectations and are much easier to satisfy. However, neither the learning requirements of jobs nor the learning dispositions of employees – on their own – are significantly correlated with work-related enthusiasm.

Nevertheless, interactions between what the job requires and what employees are able to supply can result in reductions in satisfaction levels and overall enthusiasm levels for the job. The data presented here support the hypothesis that learning mismatches can negatively affect those who have higher learning dispositions, but are in jobs where they follow set procedures and engage in minimal thinking. This frustration can result in higher dissatisfaction levels with the scope they have to use their abilities and initiative, and a reduction in enthusiasm for the job. Lower level mismatches can also do the same. However, the associative benefits of working in a job offering more expansive learning can sometimes be enough to cancel out, or at least dampen, the drawbacks associated with being mismatched.

These results have several lessons for HR practitioners. The first is that jobs offering more expansive learning are associated with higher levels of job satisfaction and job-related well-being. Even for employees who have a weaker learning disposition, exposure to jobs that offer more challenging learning opportunities is associated with higher levels of satisfaction and may stimulate interest in future learning because dispositions are not set and can change as careers progress.

The associative benefit of exposure to expansive learning is especially high for employees who also have a deep learning disposition, because in these circumstances, job and person learning characteristics interact positively. This is the second implication of the article's findings. Employers, then, should be well informed and sensitive to the learning aspirations of potential employees – not only at the point of recruitment, but on an ongoing basis, as learning dispositions often become evident long after employees are taken on. Those who are seeking

more learning opportunities from jobs than are currently built-in are likely to be disappointed and frustrated with early exit a possibility. To avoid demotivation and the personnel problems that may follow, employers would be well advised to redesign jobs so that they can better meet employees' learning needs and avoid under-use of creative potential. Similarly, for employees – and those who support them such as careers advisers, mentors and learning coaches – the findings underline the importance of jobs that allow expansive learning, especially for those who have high learning aspirations.

The deeper the learning disposition, the greater the importance of getting the right learning fit for eventual economic outcomes. This provides the HR function with a productive role and is in line with the 'inside-out' or RBV approach to management, which motivates much of the person-job matching debate. For deeper learners, mismatches are associated with downward pressures on both job satisfaction and well-being, but for those with a more surface-learning outlook, mismatches are not unambiguously negative. The implication of the article, then, is that although redesigning jobs to provide for expansive learning offers the greatest benefit for deep learners, it may make little difference to job satisfaction and may even dampen the job-related well-being of surface learners.

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Notes

1. Job-related well-being refers to employees' feelings for the job, defined as 'the degree to which a person reports that he or she is currently happy' with his or her work (Warr *et al.*, 1979: 133). Job-related well-being is then conceived and measured as a mix of arousal and pleasure emotions. In this article, we use Warr's 'Depression-Enthusiasm' measure with the shortened nomenclature 'enthusiasm'; this is positively correlated with both the arousal and the pleasure dimensions of emotion. The facets of job satisfaction that we examine, on the other hand, comprise evaluations of the job with respect to specific intrinsic features related to learning. Unlike job-related well-being, these evaluations are made against a set of norms and expectations taken from a 'field of possibilities' (Brown *et al.*, 2012: 1013).
2. This is referred to as a 'Kish' grid, which is used to randomly select an eligible respondent if more than one eligible respondent resides at the randomly selected address. Interviewers list eligible respondents in name order and then use the randomly generated numbers on the grid to select an individual to interview.
3. For (a), there is a four-point scale: 'strongly agree', 'agree' and either 'disagree' or 'strongly disagree'. For (b) and (c), there is a five-point scale: 'a great deal', 'quite a lot', 'to some extent', 'a little' and 'not at all'/no requirement to learn new things. For (d), (e) and (f), there is a five-point scale: 'essential', 'very important', 'fairly important', 'not very important' and 'not at all important'.

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