Investing in People: Training, Turnover, and Organizational Performance

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Theories of human resource management suggest that public agencies that proactively seek to train and develop their workforce are able to reap a series of benefits for their organization. In particular, it has been argued that "investing in people" by training them can increase levels of organizational effectiveness. At the same time, a commitment to training and development may enable organizations to counteract negative performance effects associated with personnel turnover difficulties. To investigate these critical issues in contemporary public administration, we examine the independent and combined effects of a commitment to employee training and development and the presence of recruitment and retention problems on organizational outcomes in English local government. The empirical results show that training and development is positively associated with organizational performance, and that it moderates problems associated with recruitment and retention.

Key words: Human Resource Management; training and development; human capital; turnover; local government; performance; England

Introduction

Human Resource Management (HRM) is a key issue facing public sector organizations in the twenty-first century (Nigro, Nigro, & Kellough 2006; Rainey, 2009). New Public Management (NPM) reforms over the past decade or so have arguably undermined the traditional notions of a career service and stable lifelong employment in the public sector (Brown, 2004: Kettl, 2005). For example, downsizing, privatization, and contracting have lowered job security, while posing new management challenges that can only be met through the development of often unfamiliar skills and capabilities (Ackroyd, Kirkpatrick & Walker, 2007; Noblet & Rodwell 2009). At the same time, long-term demographic trends and the perceived unattractiveness of careers in the public service have led to what some observers have termed a "human resource crisis" within public organizations, with personnel turnover and the corresponding need to recruit quality staff an ever-present challenge (Lane, Wolf & Woodard, 2003; see also Bilmes & Neal, 2003; Light 2008).

In response to these developments, governments across the globe have implemented a swathe of initiatives designed to improve HRM systems in order to sustain organizational effectiveness (Pollitt & Bouckaert, 2004). For instance, the U.S. Comptroller General (Walker, 2001) has drawn attention to the need for better human resources strategy, while the Audit Commission (2002b) in England has emphasised the need to address public sector recruitment and retention difficulties. Similarly, the United Nations (2005) and the Organization for Economic Co-operation and Development (2008) have also weighed in with recommendations for HRM reform. Although scholars and policy-makers alike have increasingly emphasized the importance of HRM for successful organizational functioning, evidence of its impact on the achievements of public organizations remains sparse – as contrasted with the literature on HRM and firm performance (see Paauwe, 2009). Indeed, HRM itself can encompass a wide range of responsibilities and initiatives, so a full

assessment of the relationship between HRM and performance would constitute a substantial research agenda rather than a specific and precise research question (see Guest, 2011). In this paper we begin this assessment by identifying a vital but under-researched issue in public administration: the relationship between a key aspect of HRM – employee training and development – and public service performance.

There is a growing body of literature exploring the nature of HRM in the public sector (e.g. Boyne, Jenkins & Poole, 1999; Selden & Jacobsen, 2007) and its relationship with employee outcomes (e.g. Gould-Williams, 2004). Although Gould-Williams (2003) and Rodwell and Teo (2008) show a link between HRM, broadly speaking, and employees' perceptions of organizational performance, there are virtually no published studies of the impact of HRM on the service achievements of public organizations. Even fewer studies focus on the effects of specific elements of HRM, such as training and development, on organizational achievements from any stakeholder perspective other than that of employees themselves. This is a highly pertinent topic as management theory suggests that "investing in people" is the vital means for realising the benefits of human capital for organizational performance (Barney, 1991; 1995).

Management scholars argue that HRM consists of "an identifiable set of best practices for managing employees" (Becker & Gerhart, 1996). Amongst those practices, an emphasis on training and development is regarded as a key contribution which the HR function can make to the enhancement of the core competencies of the organization (Boselie, Dietz & Boon, 2005; Geary & Dobbins, 2001). At its most basic, HRM involves the establishment of policies and practices that can ensure that the productive capacity of an organization's members is directed with maximum effectiveness. Inevitably, this presupposes that much HRM effort is devoted to building the skills and abilities of the workforce (Boxall & Steenveld, 1999). In fulfilling this role, training and development programs are arguably

essential to the delivery of better organizational performance because they can enable senior management to match the talents of organizational members to operational problems with greater effect (Guest, 1997; Parnes, 1984). Moreover, these benefits may be felt to an even greater degree where organizations must tailor their HRM effort to their specific circumstances (Wright, Dunford, & Snell, 2001; Youndt, Snell, Dean & Lepak, 1996). In particular, it is highly conceivable that "investing in people" is an especially fitting response to the "human resource crisis" in the public sector, because it offers organizations a way to enhance the knowledge and skills of existing staff. Training and development efforts may thus represent an especially effective strategic action where personnel turnover causes problems for agencies.

The aims of this paper are to examine whether employee training and development has a positive impact on organization outcomes, and whether it can moderate the negative effects associated with recruitment and retention difficulties. Do levels of performance rise with the extent of training and development within public organizations? Are recruitment and retention problems associated with worse performance? If so, can development efforts counteract these negative effects? We address these questions through statistical analyses of the relationship between training and development activity, recruitment and retention difficulties, and public service performance, while holding constant the effects of other relevant variables. We also draw upon evidence from interviews with public managers which explored the links between HRM and performance. First, we outline theories of HRM to cast light on the emergence of organizational policies focused on training and development, and review literature which suggests that employee training and development may be integral to public service improvement. Next we outline our statistical model and our measures of performance, training and development, and recruitment and retention difficulty. We then

present our findings, discuss the statistically significant effects that emerge, and draw conclusions.

Training and Public Service Performance

Human resources are sometimes regarded by organizations as a necessary input but also a cost to be minimized, rather than a potentially valuable investment and source of value creation (Becker & Gerhart, 1996). However, people are also a source of competitive advantage that, if managed strategically, can make a positive contribution to the success of organizations. In particular, resource-based theories of the firm suggest that because an organization's human resources (i.e. its knowledge and skills-base) are both rare and difficult to imitate they constitute a key source of sustained competitive advantage (Barney, 1991; 1995; Bryson et al., 2007; Nahapiet & Ghoshal, 1998). Thus, attempts to manage that resource more effectively can play an especially important role in delivering better organizational results (Pfeffer, 1994). Within this context, HRM practices, such as training and development, have become a key strategic asset in the search for success.

Because HRM practices constitute an "invisible asset" that creates value by being deeply embedded within an organization's policies, systems, and routines (Itami, 1987), they often produce organization-specific assets. In particular, a commitment to training employees typically reflects strategic choices about the investments in people required to achieve organizational goals. Where organizations are able to reap the benefits of training and developing workers, it is probable that they have achieved some kind of fit between best practice and their own requirements (Castellano & Martin, 2011). Thus, training may have important benefits for organizational outcomes on its own, and in combination with other relevant variables.

Management theorists assert that investing in people through appropriate training and development policies and practices can enhance organizational performance (Pfeffer, 1994). By building workers' skills and enhancing their motivation to contribute to organizational goals, "high commitment" training and development programs are increasingly thought to be key to gaining the edge over competitors (Hatch & Dyer, 2004). One senior manager in a high-performing suburban government indicated when interviewed for our study that the organization would "bring the right people in and equip them with the right skills and a good understanding of the ideological framework of the organization." Such attempts to develop skills and forge "psychological links" between the organization and its employees essentially aim to "develop committed employees who can be trusted to use their discretion to carry out job tasks in ways that are consistent with organizational goals" (Arthur, 1994, p.672).

Chester Barnard (1938) long ago emphasised the managerial task of inculcating values and motives which could prompt employees to willingly serve their organizations.[1] By investing in people, through formal (and informal) processes of training and development, managers can tap into workers' desire to satisfy personal ideals, such as learning new skills and deepening professional knowledge. Indeed, Elton Mayo (1977) asserted that attentiveness to the morale of individual employees and work groups held the key to securing their on-going co-operation in the pursuit of organizational goals. Thus, the use of training and development programs can build relevant knowledge and elicit previously untapped reserves of "human resourcefulness" (Blyton & Turnbull, 1992) and may also enable organizations to fulfil their side of the "psychological contract" of reciprocal commitment (Guest, 1999; Sims, 1994).

Organizations across the world invest vast sums of money in the belief that programs of training and development hold the key to competitive advantage (Haccoun & Saks, 1998). At the same time, a growing evidence base is gradually emerging on the direct benefits of

training for organizational performance in private firms (e.g. Aragon, Barba & Sanz, 2003; Castellano & Martin, 2011; d'Archimoles, 1997; Kalleberg & Moody, 1994; Russell, Terborg & Powers, 1985). A meta-analysis of 67 empirical studies of the effects of training on organizational outcomes uncovered a connection between training and both employee and organizational performance (Thaernou, Saks, & Moore, 2007). This study suggested that the size of the effect of training on organizational performance was greatest when researchers utilised perceptual measures of performance, but that a consistent and substantive positive relationship was also observed for archival performance indices like the one we use in this study (see methods section). However, despite this explosion of interest in the effects of training and development on the performance of private firms, little is still known about its impact in government, even though a commitment to structured careers supported by investments in training is at the heart of the employment contract of many public sector workers (Bach & Kessler, 2011). Indeed, the positive effects of training may be especially apparent in public organizations, where the "human side of enterprise" is very strongly to the forefront (McGregor, 2006).

Work in the public sector is invariably labor intensive, with outcomes dependent upon the talent, training, motivation, and effort of myriad professional groups (Nigro, Nigro, & Kellough, 2006). Moreover, it is only by adopting appropriate HRM policies that public organizations can ensure results compatible with "core governmental values – judgement, balance, rationality, and accountability" (Bertelli & Lynn, 2006). At the same time, well-designed HRM can also help public managers and policy-makers gain the support of important internal stakeholders, such as front-line staff, middle managers, and trade unions (Selden & Jacobson, 2007). Thus, in theory, a commitment to workforce training and development can enable managers to bring together more skilfully many of the key stakeholders that shape the behavior of public organizations. This, in turn, is likely to have a

performance pay-off – an argument that is given substance by studies examining the relationship between HRM and employee outcomes in the public sector (e.g. Gould-Williams, 2003; Rodwell & Teo, 2008). Hence, our first hypothesis is:

H1: Training and development is positively related to organizational performance

We hypothesize that training and development programs can have a direct effect on performance, but the importance of such programs may extend further. Another important set of personnel issues has to do with turnover and the ability of an organization to recruit and retain employees. The antecedents and effects of employee turnover are key issues within the generic management literature (Griffith & Horn, 2001), but ones that have been relatively neglected within the theory and practice of public administration (Selden & Moynihan, 2000; cf. Mosher & Kingsley, 1936). However, the emergence of the so-called "human capital" or "human resource crisis" within public organizations now makes the dynamics of employee turnover a topic of compelling interest and importance, particularly in the context of the recent global economic recession. In fact, the human resource crisis is unlikely to abate even in the current era of fiscal austerity. Capelli (2000) notes of the market for labor more generally that "while overall demand for labor will rise and fall, the war for talent will rage on" (105). The director of performance in one government noted in interview that even street-level bureaucrats "appear to be willing to move around for an increment of one grade." The impact of recruitment and retention difficulties within the public sector thus remains of vital concern to scholars and practitioners of public administration. In particular, as it appears to become progressively harder for public organizations to retain valued workers and recruit suitable replacements, so it might be anticipated that the potential consequences of the

"human resource crisis" will be especially severe for the achievement of key organizational goals.

Within the management literature, employee turnover is generally thought to present serious problems for organizational functioning because of the resources required to replace or retain existing workers (Griffith & Horn, 2001). At the same time, it represents a potentially catastrophic human capital loss (Strober, 1990). Turnover incurs additional recruitment (Darmon, 1990), new-hire training (Smith & Watkins, 1978) and general administrative costs (Dalton & Todor, 1982). Yet a series of benefits may potentially be realized from a certain level of employee turnover, such as payroll reductions (Dalton & Todor, 1982), removal of poor performers, and the injection of new ideas (Abelson & Baysinger, 1984). However, where turnover is complemented by recruitment problems, such benefits are unlikely to materialize because of the additional costs associated with the need to invest even more time and money in the talent search process. Moreover, according to the human capital perspective, the hard-to-replace skills and experience of leavers can lead to a substantial decline in productivity and organizational social capital, which in turn has negative implications for organizational performance as a whole (Becker, 1993; Dess & Shaw, 2001).

Taken in combination, the elimination of an organization's return on its investment in an employee and the actual loss of expertise that results from turnover may have a damaging effect on organizational outcomes. This problem can be compounded where it is particularly difficult to attract suitably qualified or motivated replacements – a situation that could be especially acute in public organizations, where work is highly professionalized and skill-based (Nigro, Nigro, & Kellough, 2006). We therefore anticipate:

H2: Recruitment and retention difficulties are negatively related to organizational performance.

According to the resource-based view of HRM, organizations that seek to develop their staff reap a series of benefits for organizational functioning. These benefits may be especially salient in an operating environment with a greater dependence upon the capacity to develop home-grown solutions to organizational problems. Where the opportunity to recruit new talent is restricted, it will be increasingly necessary to make suitable investments in the skills and expertise of existing employees. An attempt to reduce the costs of turnover through better workforce development may be especially important in the public sector, where there is much less managerial discretion over worker compensation, and pay scales are less flexible. Indeed, Meier and Hicklin (2008) highlight that for public organizations it may be "more efficient" to "manage the turnover process than to try to minimize the level of turnover" (575). Yet, such organizations often differ considerably in how they choose to align their HRM practices alongside the HRM challenges that they face. As one manager with experience of working in more than one urban government stated in interview, HRM "does vary quite a lot in terms of how authorities approach recruitment. It varies in terms of management,… especially for retention, the management element can be quite big."

Public organizations that have more developed training programs may therefore be able to offer a total reward package that make them better placed to address the recruitment and retention difficulties associated with the "human resource crisis" in government. By investing in such programs, they may be able to continually update the knowledge and skills base within the organizations while simultaneously reducing the costs associated with mounting a sustained effort to attract talented and motivated replacements in a tough labor market. Although training and development activities can make employees more marketable

to other organizations (Ito, 2003), these initiatives have also been associated with better worker retention (Curry, McCarragher & Dellman-Jenkins, 2005), as well as enhanced organizational performance. Thus, on balance, we expect that:

H3: Training and development moderates the negative relationship between recruitment and retention difficulties and organizational performance

Data and Measures

Our units of analysis are English local governments. These are elected bodies, operate in specific geographical areas, employ professional career staff, and receive approximately two-thirds of their income from the central government. They are multi-purpose organizations and deliver services in the areas of education, social care, land-use planning, waste management, public housing, leisure and culture, and welfare benefits. During the study period, there were 386 local governments of five types in England. 32 London boroughs, 36 metropolitan boroughs, and 46 unitary authorities are primarily found in urban areas and deliver all of the services listed above; in predominately rural areas, a two-tier system prevails with 34 county councils administering education and social services, and 238 district councils providing welfare and regulatory services. County councils are by far the larger of these organizations (according to UK national census 2001 serving, on average, 675,574 people, while districts serve on average 96,501) and account for around two-thirds of local service expenditure in the two-tier system. In this study, we do not include district councils because our measure of organizational performance is not available at this level.

Dependent Variable

Organizational performance in the public sector is complex and multidimensional. Public organizations are typically required to meet multiple and potentially conflicting organizational goals (Rainey, 1993). Moreover, their achievements are judged by a diverse array of constituencies, such as taxpayers, staff, and politicians. The criteria, weighting, and interpretation of performance indicators are thus all subject to ongoing debate and contestation amongst key stakeholders (Boyne, 2003). The analysis presented here focuses on the views of the primary external stakeholder on the service performance of English local governments: UK central government.

In England, central government performance classifications have been an important (though contestable) means for assessing the achievements of local governments. Central government provides the majority of their funding and monitors administrative accountability on behalf of citizens. Local government functions classified as "poor" have been externalized, new management imposed or stricter regulation introduced. By contrast, those regarded as "excellent" have benefited from "lighter-touch" inspections and freedom from some central controls (Downe & Martin, 2007). Although such classifications are arguably susceptible to political bias (Bache, 2003), the subjective element within them has typically been small because they have relied on audited performance indicators, minimizing the potential for external interference in the inspection process. Moreover, they are the measures that have mattered to local governments themselves (see Laffin, 2008).

Between 2002 and 2008, single and upper-tier local governments in England were subject to Comprehensive Performance Assessments (CPA) undertaken by the Audit Commission, which categorised them on the basis of their service achievements and corporate capacity. We take the core service performance element of CPA in 2008 as the dependent variable for our analysis (Audit Commission, 2008). Based principally on their

achievements on statutory Best Value Performance Indicators (BVPIs), as well as inspection results, for the financial year 2007/08, six key local government services (children and young people, adult social care, environment, housing, libraries and leisure and benefits) are graded 1 (lowest) to 4 (highest) (Audit Commission, 2002).

Over 100 BVPIs were used to derive the CPA service performance score, covering a wide range of dimensions of performance (see Andrews 2004), including: indicators gauging *formal effectiveness* (e.g. pupils' school examination results), *output quality* (e.g. average housing re-let times), *output quantity* (e.g. number of elderly people receiving home-based care), *efficiency*, and *service satisfaction* (e.g. library user satisfaction). To reach a judgement about the overall quality of a local government's services the separate service scores for each government were first weighted in the same way by the Audit Commission – the relative share of total local government spending in England on each service. Thus, the scores for children and young people's services and adult social care services were multiplied by 4; the scores for environmental services and housing services were multiplied by 2; and, the scores for libraries and leisure, welfare benefits services and the overall management of resources received no additional weighting. The weighted service scores are summed to provide an overall service performance judgement, ranging from 15 (12 for county councils which are not responsible for housing or benefits services) to 60 (48 for county councils).[2] Because these scores are not directly comparable across county councils and other governments, we take each organization's overall score as a percentage of the maximum possible score, thereby ensuring that the scores are comparable for these two different types of government.

Independent Variables

Data on training and development, and recruitment and retention difficulties and other relevant internal management characteristics, were drawn from an email survey of managers

in English local governments. The survey was administered in late 2007. As a result, our measures are not biased by the recent severe budget cutbacks being experienced by local governments. Survey respondents were asked a series of questions on management in their organization. For each question, informants placed their organization on a seven-point Likert scale ranging from 1 (disagree with the statement) to 7 (agree with the statement). Email addresses for the entire population of the first three tiers of local government officers were drawn from a national contacts database the Public Service Exchange provided by Oscar Research, and questionnaires were then delivered as an Excel file attached to an email. Multiple informant data were aggregated from senior and middle managers in each organization, as it is important to capture the views of these two groups on the practices within their organizations (Walker & Enticott, 2004).

Since only governments from which there were responses from each of the two managerial echelons (senior and middle management) were included in our analysis, some cases could not be matched when we aggregated these echelons up to the organizational level due to missing data. As a result, our statistical analysis of HRM and performance was conducted on 87 (out of a population of 148) single and upper tier local governments. For this sample, we received on average 5.1 responses per organization, which compares well with the 2-5 responses recommended for multiple informant studies of organizational characteristics (see Wagner, Rau & Lindemann, 2010). For the survey as a whole, the total number of potential informants was 3,675, and the number of actual respondents was 575, yielding an overall response rate of 15.6 per cent. Time-trend tests for nonrespondent bias were carried out to assess whether the modest response to the survey might bias our findings. Independent sample t-tests for differences between the responses received from early (week one) and late (final week) respondents to the questions used for our measures of HRM were undertaken. This technique for assessing bias in response rates was developed by marketing

specialists and assumes that late respondents have a similar attitude towards survey completion as nonrespondents (Armstrong & Overton, 1977). Our tests revealed no statistically significant differences in the responses of early and late respondents.

To test for differences between the sample of governments used here and the population, independent sample t-tests were undertaken on our dependent variable and all of our external constraint variables (see below). No statistically significant differences between our sample of local governments and the population were found, highlighting that our cases are broadly representative of the performance of English local governments and the diverse operating environments that they face.

The HRM phenomena in which we are interested were measured using continuous scales that capture the intensity of their presence (see Boselie, Dietz, & Boon, 2005) within the local governments. We measured commitment to *training and development* (labeled *T&D* here) within each government by asking respondents to indicate to what extent staff in their organization "are actively engaged in programs of training and development." This measure has strong face validity as a proxy for the organization-wide efforts of local governments to develop the knowledge and skills-base of their staff. The presence of *recruitment and retention problems* (labeled *RRP* here) within each government was gauged by asking respondents if their organization had "difficulty recruiting and retaining good managers." Again this measure has strong face validity, since it provides a clear indication of the extent to which turnover and prospective job candidate availability and suitability may be a problem for local governments.

Although both of our independent variables are reliant on single survey items, there is growing evidence on the reliability of such single item measures (e.g. Nagy, 2002; Wanous and Hudy, 2001). In fact, many studies of the relationship between training and performance draw, as we do, upon single-item measures that capture the perceived importance of training

to an organization (see Tharenou, Saks, & Moore, 2007). We tested the inter-rater agreement within our sample of local governments for these single-item measures by calculating average deviation indices for the T&D and RRP variables, with the resulting values both meeting the threshold of 1.2 recommended by Burke and Dunlap (2002). Moreover, both of these variables are correlated with other relevant HRM variables that are not included within the models presented below for reasons of parsimony. T&D is negatively correlated (-.27) and RRP positively correlated (.30) with administrative data on the number of working days lost due to sickness absence in 2007, while T&D is positively correlated (.39) and RRP negatively correlated (-.39) with a measure of staff satisfaction drawn from our survey.

Control Variables

To ensure that the coefficients for the independent variables in the statistical model are not biased, it is important to control for the stock of human resources within English local governments. We adapt O'Toole and Meier's (2009) measure of *human capital* to gauge the abilities of employees at three levels of the organizational hierarchy. We asked respondents to rate separately whether the senior managers, middle managers, and front-line staff in their organization "can implement virtually any strategy successfully." Using principal components analysis, the human capital scores were then combined into a single human capital index, which demonstrated strong inter-item reliability (Cronbach's Alpha score of .82; see Nunnally, 1978). The intra-class correlation coefficient ICC(1) for the human capital measures was .58, signifying a statistically significant level of perceptual agreement, and justifying aggregation to the organizational level (p.>.001) (see McGraw & Wong, 1996).

Ideally, we would include variables that capture the characteristics of the workforece of local governments within our model. Unfortunately, though, comprehensive data on the characteristics of the workforce of governments are not publicly available. Inclusion of

measures of HRM outcomes that were collected as part of the national performance management framework in 2007 – working days lost through sickness absence, % early retirement, and % ill-health retirements – made no difference to the explanatory power of the model, and so we chose to leave them out of the estimates presented in the paper within Table 2.

Ten measures that have been shown to matter in prior studies were selected to control for the potential impact of social, economic, environmental, and political constraints on local service standards. The Formula Spending Share (FSS) per capita for 2005 was used as a measure of *quantity* of service needs. At the time, this was the method by which central government distributed grant funding to local governments. It was heavily weighted towards the major local government functions (such as education and social services) and based on indicators of service need, such as the number of schoolchildren and elderly people in the local population.

We measure three dimensions of *diversity* of service needs: age, ethnicity, and social class (see table 2 for further details). The proportions of the various sub-groups within each of the different categories identified by the 2001 national census within the area served by a local government (e.g. ages 0-4, Black African, Small Employers, and Own Account Workers) was squared and the sum of these squares subtracted from 10,000. The resulting measures give a proxy for "fractionalization" within an area, with a high score on the index reflecting a high level of diversity (see Trawick & Howsen, 2006).

A measure of the *discretionary resources* available to each local government was derived by dividing its total expenditure in 2005 by its FSS in the same year. This shows whether governments were spending above or below the level deemed necessary to meet their service needs. We used two proxy measures for the *prosperity* of local residents. The first is the number of single-parent households in each local government area as a percentage of all

households identified in the 2001 census; pressures of time and money on such households are likely to impede positive contributions to service provision (Chambaz, 2001). The second is the percentage population growth in each local government area recorded in the 2001 census. New residents in areas with growing populations are likely to be economically skilled and socially enterprising, thereby generating positive externalities for local governments (Armstrong & Taylor, 2000).

Differences in the resource levels available to public organizations also arise from variations in the size of the population they serve. In particular, local governments serving big populations can accrue economies of scale by distributing fixed costs over more units of output (Boyne, 1995). The relative *size* of local governments was measured using population figures for each area from the 2001 national census. While some central government grants compensate for the geographical dispersion of clients and services, local governments in urban areas may be able to reap scope economies by offering multiple services from the same site (Grosskopf & Yaisawamg, 1990). Population figures were therefore divided by the area served by each local government to measure *density*.

Service expenditure and, therefore, performance may vary because of local political preferences (Sharpe & Newton, 1984). The percentage share of the vote gained by the Labour Party in the most recent local election was included as a measure of the *political disposition* amongst local residents. Labour voters, in general, are more committed to state provided services than their Conservative or Liberal Democrat counterparts (Clarke *et al*., 2004). The descriptive statistics and data sources for all the variables used in our statistical modelling are listed in Table 1.[3]

[Position of TABLE 1]

Correlations between the variables entered in the statistical model are shown in Table 2. The statistics illustrate that organizational performance is positively correlated with our training and development measure, but negatively correlated with the retention and recruitment problems measure. The independent variables are largely uncorrelated with the control variables, excepting negative correlations between training and age diversity, and between retention and recruitment problems and population size and density. The correlations between the control variables imply that it is important to include each of them in the regression models to capture the full array of place effects on the HRM-performance relationship in English local governments.

[Position of TABLE 2]

Results

Table 3 presents three Ordinary Least Square (OLS) regressions in the following sequence. In model 1, the control variables are regressed onto our measure of organizational performance. To explore the potential impact of training and development along with recruitment and retention difficulties on performance, the variables measuring these are then included in model 2. Finally, to explore the potential moderating effects of T&D programs on recruitment and retention difficulties, an interaction term measuring *T&D x Recruitment and retention problems (RRP)* was added to the model.[4] Since the data are homoscedastic it was not necessary to correct for the presence of nonconstant error variance.

[Position of TABLE 3]

In model 1, most of the control variables have the expected signs and some are statistically significant. The coefficient for the human capital measure is positive and statistically significant as is the coefficient for Labour vote share, while that for lone parent households is negative and significant. The human capital result confirms the arguments of resource-based theories that the stock of employee abilities constitutes a major source of organizational advantage (Barney, 1991; 1995; Bryson et al. 2007). A senior manager in a high performing government indicated in interview that "part of the organization's long-term strategy has been to attract skilled leaders as part of a deliberate strategy to improve policy-making."

The results shown in model 2 provide very strong support for the first and second hypotheses. Both the training and development and the recruitment and retention variables make large statistically significant additions to the explanatory power of the models. Greater commitment to employee development is positively and significantly associated with organizational performance. The coefficient for T&D supports arguments about the benefits of a commitment to employee development. When interviewed, a service manager in a high performing urban government stressed the role that annual performance appraisals played within the organization, in that there is "a lot of emphasis on the employee looking at what training opportunities might be available." By contrast, the coefficient for recruitment and retention problems is negative and statistically significant. This latter finding corroborates the insights of human capital theory as well as fears regarding the damaging effects of recruitment and retention difficulties in the public sector; effects which may be far-reaching in their implications for organizational effectiveness. One senior manager highlighted when interviewed for the study how in the technical services department of their local government the departure of an experienced strategic director and subsequent inability to find a suitable

replacement resulted in "major project overspend and significant delays" to infrastructure development.

The results for Model 2 confirm the high salience of the need to respond to the human resource crisis in public organizations. To explore the potentially positive role T&D may play in counteracting recruitment and retention problems, it is necessary to examine the extent to which it may moderate the negative effects shown in model 2. Investigating the impact that training and development might have on the link between recruitment and retention problems and performance therefore requires the entry of an interaction term in the statistical model.

The interaction between T&D and RRP shown in model 3 makes a statistically significant addition to the explanatory power of the OLS model: (F ratio = 4.10, $p<.05$). The interacted term is positive and statistically significant, suggesting that training and development efforts are likely to have an important moderating effect on the negative relationship between recruitment and retention problems and public service performance – at least for this sample of local governments. Nonetheless, to fully explore the combined effect of T&D and RRP it is necessary to calculate the marginal effects of RRP on domestic violence arrests at varying levels of T&D. Graphing the slope and confidence intervals of the marginal effects is the most effective way to present this information (see Brambor, Clark and Golder 2006). Accordingly, Figure 1 provides a graphical illustration of the moderating influence of training and development on the relationship between RRP and organizational performance.

[Position of Figure 1]

The center line in figure 1 illustrates the predicted values of organizational performance on the basis of RRP and T&D, while controlling for all the other variables included in our

model. The dotted lines represent the upper and lower bounds of the confidence intervals for those predicted values. The area above the upper bound and below the horizontal zero line indicates the presence of a statistically significant relationship. Examination of figure 1 therefore confirms that T&D has an important moderating effect on the negative relationship between RRP and organizational performance. As governments exhibit a greater commitment to T&D, the negative effect of RRP on organizational performance gradually becomes weaker until at about 6.2 (about half a standard deviation above the mean) on the T&D scale the impact of RRP become statistically indistinguishable from zero. Further analysis revealed that only twenty-four of the local governments included in our sample exhibited a commitment to T&D at this strength or higher (i.e. almost one-third of the sample). Even so, the benefits of T&D are not sufficient to turn the negative relationship between RRP and performance into a positive one – at no point does the lower bound of the confidence interval exceed the horizontal zero line.

Overall, then, our results therefore highlight that it is important to consider the moderating effect of a commitment to training and development when analyzing the relationship between the "human resource crisis" and organizational performance in the public sector. This finding also confirms Meier and Hicklin's (2008) observations about the need for organizations to actively manage issues associated with employee turnover.

Conclusion

The idea that HRM leads to better public service performance is an important and influential one, but has hitherto rarely been tested systematically, especially in terms of the contribution made by training and development. Similarly, the negative effects of the "human resource crisis" in public organizations have been much debated but little analyzed. Our findings suggest that public service performance may be positively influenced by training and

development, and that this effect may moderate the recruitment and retention difficulties that organizations face.

The analysis contributes to the public administration literature in several important ways. First, it establishes a connection between a commitment to training and the overall service performance of local governments. Previous quantitative studies have largely focused on the impact of indices of HRM practices on employee outcomes (e.g. Gould-Williams, 2004), rather than specific elements of HRM and organizational outcomes. Second, the analysis uses an administrative measure of performance that is less susceptible to the problem of common methods bias associated with research that uses perceptual measures drawn from the same research instrument on both sides of the equation (e.g. Gould-Williams, 2003). Finally, we provide what appears to be the first evidence of the moderating influence of investing in people on the turnover-performance relationship in the public sector.

There are, of course, limitations to this analysis. First, we draw upon a single-item measure to assess the impact of only one very specific HRM practice – training and development. Most extant research into the HRM-performance link focuses on the impact of "bundles" of HRM practices (Boselie, Dietz, & Boon, 2005). It is conceivable, even likely, that additional measures of different aspects of HRM beyond training and development would more fully capture the full range of relationships between efforts to invest in people and organizational outcomes. For example, selective staffing, performance appraisal systems, and equitable compensation are all important human capital-enhancing HR practices, with the potential to deliver better organizational performance (Boselie, Dietz, & Boon, 2005; Snell & Dean, 1992). Second, our analysis is limited by the use of managerial self-reports, which can be susceptible to problems of social desirability bias (Gerhart, Wright, McMahan & Snell, 2000). Unfortunately, "objective" measures of training and development were not available during the study period, nor were data on the characteristics of the labor force within local

governments. As a result, we are unable to measure actual rather than perceived turnover, or to isolate the influence of other relevant personnel characteristics, such as the mean age and education levels of the workforce, on the results that we observe. Third, our research has examined a particular group of public organizations during a specific time period. To gain additional insights into the relative importance of the effects of training and development along with retention and recruitment problems on performance, researchers could investigate their presence within different organizational and national contexts and over other time periods.

Finally, stakeholders other than central government also judge the success or failure of local governments. Citizens, public managers, political officials, and local media all hold important views on the relative performance of governments. Subsequent studies could follow the recommendation of Paauwe (2009) for a more contextually-based perspective on the many stakeholders in the HRM-performance relationship by exploring whether the performance assessments made by these stakeholders mirror that examined here. Moreover, in line with calls for more in-depth case studies of HRM and performance in general (Purcell, 1999), it would be especially useful to conduct extended qualitative research within local governments to fully explore how training translates into public service delivery, as well as enhance responsiveness to environmental challenges. This would enable public administration researchers to prise open the so-called "black box" of the causal mechanisms underpinning the connection between HRM and organizational performance (Wright & Gardner, 2003). In particular, local governments operate in an inescapably political environment, and this too may have an influence on recruitment and retention. One senior manager suggested in interview that the well-known unpredictability of one locally elected representative made it "difficult to recruit someone to work with him." Future studies of

HRM in public organizations should pay greater attention to the impact of interactions between managers and politicians.

Human capital theories suggest that it can take time for investments in human resources to generate positive returns (Dierickx & Cool, 1989). Public managers seeking to improve service performance in the wake of the "human resource crisis" might conceivably find it attractive in the short-run to buy-in new talent. However, our findings highlight that policy-makers and administrators confronting tough decisions about their overall strategic HRM approach can reap important benefits for organizational outcomes by extending training and development opportunities. Of course, in a time of fiscal stress, training budgets are likely to be under great pressure. Yet, as public organizations seek to prioritize essential elements of corporate and service budgets, there is a need for greater understanding of the role that investing in people might play in the long-term functioning of those organizations. This suggests that detailed analysis of the comparative costs and benefits associated with alternative strategies for managing turnover would be of especially great practical benefit to public managers and policy-makers, as well as affording insights into the validity of classical and contemporary theories of human resource management.

Notes

[1] Or, put differently, "motivation is how the powerful steal from the dumb." (Pointy-haired manager, Dilbert).

[2] To illustrate how this works, it is useful to work through the calculation of an individual local government's performance score. Birmingham City Council is the largest local government in Europe, and its service performance in 2007 can be calculated as follows:

((children & young people score = 3) x weighting of 4) = 12

+ ((adult social care score = 3) x weighting of 4) = 12

$$+ ((\text{environmental services} = 2) \text{ x weighting of } 2) = 4$$

$$+ ((\text{housing services} = 2) \text{ x weighting of } 2) = 4$$

$$+ \text{ libraries score} = 2$$

$$+ \text{ benefits score} = 4$$

$$+ \text{ use of resources} = 3$$

$$= \text{total score of } 41 \text{ out of possible score of } 60$$

$$\text{Organizational performance} = 68.33 \text{ (\% of maximum score)}$$

[3] Before running the models, skewness tests were carried out to establish whether each independent variable was distributed normally. High skew test results for population (1.87) and population density (1.83) indicated non-normal distributions. To correct for positive skew, logged versions of these variables were created.

[4] The average Variance Inflation Factor (VIF) score for the independent variables in models 1-3 is about 2.7, with no measure exceeding 6. These VIF scores suggest the core service performance results are not likely to be distorted by multicollinearity (Bowerman & O'Connell, 1990). Inevitably, though, the level of collinearity increases considerably when interacted variables are included in the equation. Nevertheless, because this pattern does not bias the coefficient estimates, it is still possible to derive substantive interpretations of the results.

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Table 1   Descriptive Statistics

	Mean	Min	Max	S.D.
Organizational performance	76.18	54.17	93.33	7.69
Training & Development	5.81	2.50	7.00	.72
Recruitment and retention problems	4.23	1.75	6.10	1.05
Control variables				
Human capital	.00	-2.59	2.13	1.00
FSS per capita 2005	1181.05	750.11	2299.57	267.66
Age diversity 2001	8729.83	8536.11	8855.00	61.27
Social class diversity 2001	8784.46	8664.20	8933.46	61.25
Ethnic diversity 2001	2432.57	372.71	8452.82	2124.12
Discretionary resources 2005	1.20	.72	1.77	.10
Lone parent households 2001	22.49	11.32	39.50	5.79
Population growth 2001	.75	-.24	4.49	.77
Population 2001	356313.02	34563	1329718	280539.52
Population density 2001	2261.52	70.91	11733.33	2625.10
Labour vote share 2005	29.46	4.44	57.30	10.81

Data sources	
Core service performance	Audit Commission (2008) *Comprehensive Performance Assessment*. London: Audit Commission.
Age diversity, ethnic diversity, lone parent households, population growth, population, population density, social class diversity	Office for National Statistics (2003) *Census 2001, National Report for England and Wales*. London: ONS. Age diversity comprised 12 groups: 0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-44, 45-59, 60-64, 65-74, 75-84, 85+. Ethnic diversity comprised 16 groups: White British, Irish, Other White, White and Black Caribbean, White and Black African, White and Asian, Other Mixed, Indian, Pakistani, Bangladeshi, Other Asian, Caribbean, African, Other Black, Chinese, Other Ethnic Group. Social class diversity comprised 12 Socio-Economic Classifications: Large Employers and Higher Managerial Occupations, Higher Professional Occupations, Lower Managerial and Professional Occupations, Intermediate Occupations, Small Employers and Own Account Workers, Lower Supervisory and Technical Occupations, Semi-Routine Occupations, Routine Occupations, Never Worked, Long-Term Unemployed, Full-time Students, Non-Classifiable.
Discretionary resources	http://www.communities.gov.uk/localgovernment/localgovernmentfinance/
Labour vote share	Rallings, C. and Thrasher, M. (2005). *Local elections handbook 2005*. Plymouth: LGC Elections Centre.

Table 2   Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Organizational performance													
2 Training & development	.33**												
3 Recruitment and retention problems	-.33**	-.08											
4 Human capital	.34**	.41**	-.25*										
5 Formula Spending Share per capita	.22**	-.02	.04	.06									
6 Age diversity	-.10	-.25*	.14	-.37**	-.11								
7 Ethnic diversity	.03	.04	-.01	.03	.65**	-.26*							
8 Social class diversity	-.04	-.12	-.09	-.11	.31**	.22*	.54**						
9 Discretionary resources	-.18+	.00	-.03	-.13	-.53**	.17	-.22*	-.12					
10 Lone parent households	.07	-.08	.09	-.02	.70**	.01	.47**	.15	-.11				
11 Population growth	-.12	-.06	-.21*	.05	.07	-.31**	.18	.03	-.09	-.02			
12 Population (log)	-.11	.10	-.25*	.08	-.42**	.08	-.22*	-.01	.06	-.35**	-.03		
13 Population density (log)	.15	.04	-.03	.06	.76**	-.39**	.84**	.28**	-.25*	.64**	.27*	-.33**	
14 Labour vote share	.33**	.01	.07	-.04	.54**	.09	.35**	.25*	-.15	.64**	-.30**	-.25	.42**

Notes: number of observations = 87. $+ p \leq 0.10$; $* p \leq 0.05$; $** p \leq 0.01$ (two-tailed tests).

Table 3 T&D, turnover and organizational performance

Variable	Model 1		Model 2		Model 3	
	β	*T*-score	β	*T*-score	β	*T*-score
Training & development (T&D)			2.460	2.32*	-2.842	-1.01
Recruitment and retention problems (RRP)			-2.277	-3.15**	-10.148	-2.57**
T&D x RRP					1.378	2.03*
Human capital	2.851	3.55**	1.582	1.95*	1.566	1.97*
Formula Spending Share per capita	.008	1.33	.006	.97	.007	1.20
Age diversity	-.001	-.05	.007	.48	.010	.73
Ethnic diversity	-.001	-1.57	-.001	-1.16	-.001	-1.02
Social class diversity	-.004	-.21	-.009	-.56	-.007	-.46
Discretionary resources	2.161	.22	-4.261	-.47	-5.209	-.58
Lone parent households	-.609	-2.78**	-.461	-2.24*	-.493	-2.44*
Population growth	.394	.36	-.240	-.23	-.517	-.50
Population (log)	.254	.19	-1.003	-.80	-.794	-.64
Population density (log)	1.911	1.71	1.334	1.25	1.131	1.08
Labour vote share	.311	3.07**	.288	3.06**	.273	2.96**
Constant	92.773	.61	98.000	.67	80.395	.56
F statistic	3.55**		4.72**		4.86**	
Adj R^2	.25		.36		.39	

Notes: number of observations = 87. * $p \leq 0.05$; ** $p \leq 0.01$ (two-tailed tests).

Figure 1   Marginal effect of T&D on the relationship between RRP and organizational

performance