

# Developments in work psychology: Emerging issues and future trends

**Fiona Patterson\***

*Institute of Work Psychology, University of Sheffield, UK*

## Introduction

The discipline of work psychology has accomplished a great deal in a short space of time, and is thriving. The field has undoubtedly evolved to perform a valuable role in society and in promoting the well-being of employees at work. This advancement can be attributed partially to the growing appreciation of the utility of work psychology in enhancing individual and organizational prosperity. The expertise of both academic and practitioner work psychologists has had an enormous influence in the way many organizations operate, ranging from multinational commercial organizations, through to public-owned companies and the voluntary sector. The review articles presented in this centennial special issue attest to this proposition, and demonstrate the achievements of work psychology over the past few decades.

The intention of this issue is to provide a collection of review papers from some of the leading authors in the field, focusing on the theme of the British Psychological Society centenary celebrations, which is '*Psychology; the state of the science and emerging issues*'. The purpose of this discussion paper is to provide a descriptive reflection of the topics presented in this issue, highlighting emergent themes, and presenting some of the apparent inter-dependencies. The brief for authors was to synthesize existing literature in the area, to outline a future research agenda, and to comment on potential implications for applied practice. The topics included are by no means exhaustive, and there are certainly numerous other issues in work psychology that deserve attention. Indeed, the sheer diversity of research areas and spheres of applied practice currently embraced by work psychology is quite remarkable. Over time, attention has extended from a focus at the employee level of analysis towards a breadth of impact in areas spanning organizational strategy, human-computer interaction and the work/non-work divide.

This paper presents an overview of the recurrent themes emerging from the review articles presented in this issue. Five key themes are identified to be considered for future research and practice in work psychology: (1) the transformation of the organizational context, (2) employer demands versus employee

\*Requests for reprints should be addressed to Fiona Patterson, Institute of Work Psychology, University of Sheffield, Mushroom Lane, Sheffield S10 2TN, UK (e-mail: f.patterson@sheffield.ac.uk).

choice and the psychological contract, (3) the psychological impact of the changing nature of work, (4) theoretical and methodological advances in the discipline, and (5) developments in the profession more generally.

### 1. Transformation of the organizational context

Over the past 30 years there have been revolutionary changes in the organizational context. The *globalization* of industries has offered unique and unprecedented opportunities for creating wealth and organizational efficiency. Consider, for example, the fact that the revenue enjoyed by the Microsoft corporation is greater than the GDP of many European countries. Such macro-economic shifts and increasing focus on business conglomeration have brought about radical changes in work patterns. Many employees now telecommute to work from home, via a computer network and the internet (see Daniels, Lamond & Standen 2000). In tandem, work psychology has responded to this challenge and shifted focus from more physical and mechanistic skills, to those about the social context of work and the assessment of cognitive demands brought about by increased use of information technology. There are few job roles left untouched by e-based technologies. Stanworth (1998) highlighted that the European Commission is confident that new jobs will move beyond existing routine work and will shift towards occupations such as professional or consultancy work.

The birth of the technological age has resulted in dramatic changes in employee *work patterns* including the possibility of job sharing, flexible working and career breaks. There has been an erosion of the working week, now replaced by the concept of the 'waking week'. The notion of the portfolio worker has emerged (see Handy, 1985) where individuals hold multiple job roles or contracts, in several fields, with numerous different companies. Over the last 20 years in the UK, self-employment has almost doubled to include over three million people, and over one million people hold more than one job, largely out of choice (Clinton, 2001). Organizations are outsourcing workers and relying on temporary or semi-permanent staff to provide services that were once done by full-time employees. Although outsourcing may theoretically reduce organizational head-count costs, there may be less tangible losses such as reduced organizational commitment (see Parker, Wall & Cordery, 2001; Rousseau, 2001).

Since the late 1970s, there has been a vast increase in *service sector* working, and a simultaneous decline of manufacturing in the UK. Machines and robots have now replaced many jobs previously conducted by humans. It is not entirely clear how technology will impact upon service sector job roles. For some, complexity will be increased in those jobs requiring use of highly technical equipment and for others, the human component will be redundant. For example, in many manufacturing job roles, employees have become equipment monitors rather than technical experts, where cognitive demands are chiefly reduced to following procedures. For service sector working, competitive edge comes through service relationships as customer expectations have become more acutely focused on delivery of positive service interactions (Silvester, Patterson & Ferguson, submitted). Given these changing

demands, the notion of emotional labour has emerged (see Parker, Wall & Cordery, 2001) as a core topic in work design and employee well being. Economically, it was suggested that these shifts into service sector working would reduce the working week and increase leisure time; in practice, the converse has happened.

There are striking *demographic changes* in relation to the constitution of the labour force. There is increased cultural diversity of employees in many organizations, there is an ageing work force in the UK, women now comprise 50% of the labour force, and families with dual earners are now the norm. In the USA, Williams and Reilly (1998) estimate that over the next 10 years, women and ethnic minority groups will fill 75% of all newly-created jobs. Such demographic changes will have a major impact in creating new territories for research and practice in work psychology.

Sparks, Faragher and Cooper (2001) suggest that given the trend towards globalization of industry, work psychologists need to examine issues at a global level. The evidence suggests that although globalization has offered unique opportunities to create wealth in the world, it may also accelerate inequalities. Consider, for example, that Tiger Woods' sponsorship income from Nike is greater than the total wage bill for all the Indonesian employees producing the Nike goods, who earn on average 72 pence per day.

Researchers must be wary that a great deal of the research literature reported in journals is derived from the *private sector 'blue-chip' corporations* that can afford the expertise of the organizational psychologist. This may distort reality since there are countless small- and medium-sized enterprises that lack the access to this wisdom. Further, many smaller organizations may lack the 'sample size' to allow the use of some quantitative research methods and analyses. In overview, Rousseau and Fried (2001) criticized the lack of reporting of the organizational context in the academic literature, arguing that is likely to have far-reaching consequences on the generalization of results.

At the employee level, work psychologists need to be mindful of an increasing *skills gap*, particularly in relation to basic skills. In 1995 in the USA, 25% of organizations with over 50 employees had to provide formal training in basic reading, writing and arithmetic skills (Bureau of Labor Statistics, 1995). In the UK in 2001, the DTI estimate that illiteracy and innumeracy costs business and government over £10 billion a year.

## **2. Employer demands versus employee choice, and the psychological contract**

Traditionally, employment has been viewed as more of a 'buyer's market' and throughout the last century there have been marked peaks and troughs in employment. More recently, the balance of power between employer and employee has shifted in favour of employees. Management strategists of the 1980s suggested that organizational prosperity would be enhanced if employees are seen as a source of ideas, and not just a pair of hands (Peters & Waterman, 1982). This notion is reflected in the recent organizational learning literature (see Sparrow, 1994;

Sparrow, 2000), suggesting that organizations should become platforms for individuals as opposed to individuals becoming resources for organizations. To be world leaders, organizations must be able to attract and retain the best employees, and providing greater opportunity for personal development may lead to increased employee job satisfaction.

Since the 1980s' emphasis on *downsizing* and de-layering, redundancy on a large scale has been prevalent in many organizations. As a consequence, the notion of a 'job for life' is not part of young worker's career schemata (Loughlin & Barling, 2001), but is perhaps more concerned with 'survival of the fittest'. The aftermath of downsizing forced employees to focus on developing personal career plans and portfolios, rather than viewing their current employer as relatively permanent. The concept of employee loyalty has consequently been lost for many organizations. Simultaneously, employer's demands have moved to emphasizing employee flexibility, adaptability and innovation. Stable, prescribed and documented job descriptions are a thing of the past (Herriot & Anderson, 1997). At the individual level, characteristics associated with conscientiousness (such as being dutiful and reliable), have been traits previously valued as supreme and rewarded by organizations (see Schmidt & Hunter, 1998). However, these characteristics have been demonstrated to be negatively associated with employer's current demands for creativity, flexibility and innovation (Patterson, in press; Robertson *et al.*, 2000). Employees that actively embrace change and are tolerant of ambiguity are more likely to prosper in today's highly turbulent organizational environments.

One of the many downsides of promoting a more disposable work force is that job relevant *knowledge* is often lost. In the climate of downsizing, many organizations encouraged older workers to retire early, in the hope of making way for 'bright young things'. Consider a hypothetical example of an engineering organization that make the design engineers aged over 55 years redundant. In their place are brought fresh graduates, armed with the latest software and technology. In practice, numerous design faults occur, which the new employees cannot solve easily. In response, the company bring the older workers back into the organization on premium rates of pay; these older, more knowledgeable workers then swiftly solve the design faults. This type of scenario is perhaps not unfamiliar. Much effort is now devoted towards researching the psychological underpinnings of knowledge capture and knowledge sharing in organizations (Coakes, Willis & Clarke, 2001), where the workers now own the tools for production. Also, given the demographic changes in the labour market, there is much interest in the impact of age on employee productivity (Warr, 2001).

Consideration of employer demands and employee choice has generated a large body of literature focusing on the *psychological contract*. Rousseau (2001) highlights that this research area has tended to focus on psychological contract violation. For the future, the field is now exploring opportunities to examine the forces that promote mutuality and agreement, in order to understand the underlying mechanisms promoting cooperation and favourable employment relations. Similarly, Fletcher (2001) reports on a shift in the performance appraisal literature from focusing on measurement and methodological issues, and more towards consideration of the social and motivational aspects of appraisal. Again this is partially a

reflection of the structural changes in organizations where conventional top-down appraisal systems are less appropriate. The purpose of appraisal has shifted from 'pay for performance' and more towards employee development and learning (see Fletcher, 2001).

There has also been a transferral of emphasis between employer and employee in personnel selection research, focusing not just on predicting who will be good at the job, but also on how to attract good candidates. Selection is currently viewed as a two-way decision-making process and issues regarding procedural justice and fairness are now considered (Robertson & Smith, 2001). Research into work design reflects this notion (Parker, Wall & Cordery, 2001) and emphasizes a 'war for talent' and organizational competition in attracting the best employees. In this way, Parker, Wall and Cordery (2001) highlight the growing importance of work design theory and provide an elaborated model of work design to reflect rapid changes in the organizational landscape. As with other fields of research, Parker *et al.* (2001) suggest we learn nothing through simply adding to the list of variables to be considered, and efforts must focus on developing a more integrative, holistic approach.

Historically, research in work psychology has tended to concentrate on the management or organizational perspective. The focus has changed over time where now organizations wish to be perceived as an 'employer of choice' in attracting the best employees for jobs. As a consequence, the research conducted by work psychologists has a broader outlook to encompass the employee perspective. Loughlin and Barling (2001) provide commentary on the practical implications of the changing nature of work on both the motivation and the work/non-work balance for young workers. They suggest that many young people saw their parents 'betrayed' by their employers in the midst of the 1980s/1990s climate of downsizing. As a result, young workers are likely to be more demanding of employers and will be less willing to make sacrifices in terms of their work life balance than their parents' generation.

### **3. The psychological impact of the changing nature of work**

Given the radical transformation of the nature of the work with globalization and the use of IT, there has been a major body of literature considering the psychological impact of this transition on *employee well-being*. Sparks, Faragher and Cooper (2001) describe four key issues that are current concerns for organizations and the work force: job insecurity, extended work hours, reduced control at work, and managerial stress.

Deleterious health consequences as a result of increased demands from employers for greater flexibility have been identified. Increased employer demands include flexibility in covering extended opening hours, the decay of the working week, and overtime as a result of understaffing. However, although work hours may have increased in many occupations, Sparks *et al.* (2001) suggest there has been a decline in real income, particularly for low wage earners. From the employer's perspective, the research evidence suggests that extended work hours lead to performance

deficits in the long term. There is a need to calculate the long-term costs and ill effects of prolonged work hours, both to the employee and the organization. Already, work psychologists have been instrumental in demonstrating the benefits of interventions such as the introduction of flexible work patterns, which can have a positive impact on the work-family balance. For example, increased employee choice regarding work hours has been found to be an important factor in promoting well-being (Sparks *et al.*, 2001). Further, work psychology has played a large role in the formulation of government policy and current legislation in relation to occupational stress, for example (e.g. Earnshaw & Cooper, 1994).

The prolific use of e-based technologies across industry has meant increased complexity in job requirements for many job roles, whereas for others it has meant redundancy of some skills. For example, shop assistants no longer need to have basic numerical skills, since calculating customer bills involves bar scanners and IT. Shop assistants are selected on the basis of their customer service skills, requiring very different attributes and abilities. By contrast, other job roles have become more complex. For example, take the job role of the general practitioner. Over the past two decades, due to economic and structural changes, the job role demands have become both more complex and diverse (Patterson *et al.*, 2000). In addition to the practice of medicine (which requires continual up-skilling), the role now demands that GPs act as small business owners, where financial acumen, management skills, knowledge of legislation and use of IT have become core requirements for the job role. Assessing the psychological impact of such changes and the consequences on service provision is entirely the domain of the work psychologist.

#### **4. Theoretical and methodological advances**

The statistical and methodological advances in psychological research over the past few decades have been phenomenal. The use of meta-analysis techniques in personnel selection research is an excellent example. Although not without methodological weaknesses, meta-analytic studies on the relative criterion-related validity of various selection methods have been invaluable in guiding both research and practice in this area (Robertson & Smith, 2001).

In other areas, techniques such as structural equation modelling (SEM) have offered unprecedented scope for the prediction and explanation of causal paths between variables of interest (see Joreskog & Sorbom, 1984). The great advantage of SEM is that it has allowed us to examine mediational effects of variables on outcomes, and to test causal pathways. Other new advanced techniques include multi-level modelling where, for example, the causal effects of an intervention in an organization could be examined at the individual, group and organizational levels simultaneously. There is also growing interest in dynamic time series analyses (Sonnentag, 2001; Totterdall & Holman, 2001), where the impact of temporal sequencing of events or interventions can be assessed (see Parker, Wall & Cordery, 2001). There is now a growing acceptance within the discipline of the complementary use of qualitative techniques (see Symon & Cassell, 1998). Qualitative analyses

can provide the 'meaning' behind the patterns of quantitative data collected, and many qualitative techniques can be more 'powerful' and appropriate for specific research questions (e.g. Silvester, Anderson & Patterson, 2000). There is a growing need to create a synergy between researchers advocating either quantitative or qualitative techniques, rather than viewing each other with suspicion.

The rapid expansion of IT has had a major impact on how many research psychologists operate. For example, e-based psychological testing is replacing paper and pencil testing. In large-scale questionnaire-based studies, few work psychologists would not contemplate e-based administration. With more dispersed working, access to data may become more limited, where observational-based studies will be untenable. For the future, litigation in relation to employment law will also have a major impact on almost all applications of work psychology (see Rousseau, 2001). With advances in neuroscience and the promise of genome typing, imagine if the collection of genes responsible for aspects of 'intelligence' were identified. Genetic profiling could revolutionize psychological testing. It is also noteworthy that today, genetic profiling as a one-off assessment is currently cheaper to conduct per person than many psychometric tests, at around \$2 per person.

Over time, psychology more generally has been criticized for adopting a reductionist approach. Also, much of the research literature has been condemned for over-reliance on cross-sectional research designs. Parker, Wall & Cordery (2001) suggest that *Innovation in theory needs to be matched by innovation in method* (p. 434). As psychological research moves increasingly from laboratory-based studies into real world applications, the methods and analytical tools employed must reflect this increased level of complexity.

## 5. Developments in our profession

With a vastly expanded range of application, there is good reason to be optimistic about work psychology as a profession. Using employment prospects as a sole criterion, there has been a marked increase in the opportunities for work psychologists over the past few decades, especially within commercial consultancy settings. Simultaneously, the number of BPS accredited MSc Occupational Psychology courses offered in the UK have grown from 7 to 21 over the past 10 years. In their review of 50 years of occupational psychology in Britain, Shimmin and Wallis (1994) provide a thorough historical account of the opportunities and threats to the discipline. Some of the major setbacks have been the suspending of operations of both the National Institute of Industrial Psychology and the Behavioural Sciences Division of the Civil Services Department in the 1970s. However, there has been continued growth in the demand for work psychology services since then, which has not diminished, even in the face of the economic recession.

Perhaps the most significant change over the past few decades has been the increasing recognition, among large organizations, of the benefits that work psychology can offer. Consider, for example, the impact of work psychology on selection and recruitment practices over the past two decades. The dramatic spread

of the assessment centre approach, designed by work psychologists, is a remarkable illustration. More generally, there has been growing appreciation of the role of work psychologists in managerial consulting, in advising on issues concerning organizational strategy, development and change. This growth of impact looks set to continue, where there is a role for both generalists and specialists in the field.

It has been noted however, that this increased expansion and diversity of application has resulted in a schism between the interests of academics and practitioners of work psychology, which threatens to weaken the discipline as a whole (Anderson, Herriot & Hodgkinson, 2001; Dunnette, 1990; Shimmin & Wallis, 1994). Robertson and Smith (2001) also observe that the relationship between academe and practice is not linear. Anderson, Herriot & Hodgkinson (2001) suggest that this divergence is likely to lead to both '*irrelevant theory and . . . invalid practice*' (p. 391).

There is undoubtedly a need to find more advantageous ways of managing this interface. Anderson, Herriot & Hodgkinson (2001) suggest that unification can be achieved through recognizing and influencing the differing stakeholder demands of academics and practitioners (see also Hodgkinson & Herriot, 2001). Further, they suggest that although differing stakeholder demands for academics and practitioners are feeding a possible division, conflict resolution may be inadvertently achieved because stakeholders are exercising power that is detrimental to their own long-term interests. The role of both academics and practitioners is to influence both sets of stakeholders to recognize that pragmatic science is best for all parties, in an effort to create a constructive dialogue. As the boundaries of the profession become more blurred, there is a need to present a unifying message to earn support from various stakeholders.

### Summary and conclusions

By reflecting upon several core topic areas in organizational research presented in this issue, some emergent themes are suggested. The aim has been to offer some thoughts for consideration, and to stimulate further reflection and debate on topics that are likely to influence those working in organizational psychology in the future. As a broad discipline, psychology has emerged as a core academic subject and has become one of the most popular attractions in the undergraduate curriculum. In his BPS centennial presidential address, MacKay (2001) believes that the 'future belongs to psychology'. Within the domain, work psychology is perhaps one of the few sub-disciplines of psychology that draws eclectically from theories derived from developmental, clinical and social psychology for example, to make a unique contribution. There can be no doubt that the application of work psychology to organizations has borne success in enriching the lives of employees at work and promoting social justice. The discipline has been established as a worthy branch of learning in just a few decades. For future years, with recent economic and social changes, the organizational landscape has been revolutionized. Such changes will provide new and uncharted territory for work psychologists, which in turn will provide a rich mine of opportunity for both academics and practitioners in the

field. Despite uncertainties, there is clearly much to celebrate both in past achievements and for future possibilities. There are exciting times ahead for work psychology.

## References

- Anderson, N., Herriot, P., & Hodgkinson, G. P. (2001). The practitioner-researcher divide in industrial, work and organizational psychology: Where are we now and where do we go from here? *Journal of Occupational and Organizational Psychology*, *74*, 391–411.
- Bureau of Labour Statistics. (1995). *Contingent and alternative employment arrangements*. Report 900. Washington, DC: United States Department of Labor.
- Clinton, M. (2001). A grounded theory of the experience of portfolio working. *Unpublished MSc thesis*, Institute of Work Psychology, University of Sheffield.
- Coakes, E., Willis, D., & Clarke S. (Eds.) (2001). *Knowledge management in the sociotechnical world: the graffiti continues*. Springer Verlag, London.
- Daniels, K., Lamond, D. & Standen, P. (Eds.) (2000). *Managing telework: Perspectives from human resource management and work psychology*. London: Thomson Learning.
- Dunnette, M. D. (1990). Blending the science and practice of industrial and organizational psychology: Where are we and where are we going? In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol 1). Palo Alto, CA: Consulting Psychologists Press.
- Earnshaw, J., & Cooper, C. L. (1994). Employee stress litigation: The UK experience. *Work and Stress*, Vol. 8, 287–295.
- Fletcher, C. (2001). Performance appraisal and management: The developing research agenda. *Journal of Occupational and Organizational Psychology*, *74*, 473–487.
- Handy, C. (1985). *The future of work*. Oxford: Blackwell.
- Herriot, P., & Anderson, N. (1997). Selecting for change: How will personnel and selection psychology survive? In N. Anderson & P. Herriot (Eds.) *International handbook of selection and assessment*, 1–38, London, Wiley.
- Hodgkinson, G. P., & Herriot, P. (2001). The role of psychologists in enhancing organizational effectiveness. In I. Robertson, D. Bartram, and M. Callinan (Eds.), *The role of individual performance in organisational effectiveness*. Chichester: Wiley.
- Joreskog, K., & Sorbom, D. (1984). *LISREL VI: Analysis of Linear Structural Relationships by Maximum Likelihood, Instrumental Variables and Least Squares Methods* (3rd Edn) Department of Statistics, University of Uppsala, Sweden.
- Loughlin, C., & Barling, J. (2001). Young worker's work values, attitudes and behaviours. *Journal of Occupational and Organizational Psychology*, *74*, 543–558.
- MacKay, T. (2001). The future belongs to psychology. *The Psychologist*, *14*, 466–468.
- Parker, S. K., Wall, T., & Cordery, J. L. (2001). Future work design in practice: Towards an elaborated model of work design. *Journal of Occupational and Organizational Psychology*, *74*, 413–440.
- Patterson, F., Ferguson, E., Lane, P., Farrell, K., Martlew, J., & Wells, A. (2000). A competency model for General Practice: implications for selection and development. *British Journal of General Practice*, *50*, 188–193.
- Patterson, F. (in press). Great minds don't think alike? Person level predictors of innovation at work. In C. L. Cooper, & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology, to appear 2002*.
- Peters, T., & Waterman, R. H. (1982). *In search of excellence: Lessons from America's best run companies*. New York: Harper and Row.
- Robertson, I., & Smith, M. (2001). Personnel selection. *Journal of Occupational and Organizational Psychology*, *74*, 441–472.
- Robertson, I., Baron, H., Gibbons, P. MacIver., & Nyfield, G. (2000). Conscientiousness and managerial performance. *Journal of Occupational and Organizational Psychology*, *73*, 171–180.
- Rousseau, D. M. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology*, *74*, 511–541.

- Rousseau, D. M., & Fried, Y. (2001). Location, location, location: Contextualising organizational research. *Journal of Organizational Behavior*, 22, 1–13.
- Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, 124, (2), 262–274.
- Sparks, K., Faragher, B., & Cooper, C. L. (2001). Well-being and occupational health in the 21st century workplace. *Journal of Occupational and Organizational Psychology*, 74, 489–509.
- Shimmin, S., & Wallis, D. (1994). *Fifty years of occupational psychology in Britain*. British Psychological Society, Leicester.
- Silvester, J., Anderson, N., & Patterson, F. (1999). Organisational culture change: an inter-group attributional analysis. *The Journal of Occupational and Organizational Psychology*, 72, 1–24.
- Silvester, J., Patterson, F., & Ferguson, E. (submitted). Explaining customer interactions: Predicting the performance of retail sales assistants. Submitted to *Journal of Occupational and Organizational Psychology*.
- Sonnetag, S. (2001). Work, recovery activities, and individual well-being: A diary study. *Journal of Occupational Health Psychology*, 6, 196–210.
- Sparrow, P. R. (1994). The psychology of strategic management: Emerging themes of diversity and cognition. In C. L. Cooper, & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology*, Vol. 9 (pp. 147–181). Chichester: Wiley.
- Sparrow, P. R. (2000). Strategic management in a world turned upside down: the role of cognition, intuition and emotional intelligence. In P. Flood, T. Dromgoole, S. Carroll, & L. Gorman (Eds.), *Managing strategy implementation*. Oxford: Blackwell Publishers.
- Stanworth, C. (1998). Telework and the information age. *New Technology, Work and Employment*, 13.1, 51–63.
- Symon, G., & Cassell, C. (1998). Reflections on the use of qualitative methods. In G. Symon and C. Cassell (Eds.), *Qualitative methods and analysis in organizational research: A practical guide*. Sage Publications: London.
- Totterdell, P. & Holman, D. (2001). Just trying to keep my customers satisfied: A diary study of emotional dissonance in a call centre. *Published conference proceedings for The European Congress of Psychology*, July 2001.
- Warr, P. (2001). Age and work behaviour: physical attributes, cognitive abilities, knowledge, personality traits and motives. In C. L. Cooper & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology*. Chichester, Wiley.
- Williams & Reilly (1998) *Research in Organizational Behavior*, Vol 20, 77–140.