# The Future of Occupational Health Psychology

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A partir de la prise en considération de la nature changeante du travail, on a identifié trois thèmes prospectifs pour la psychologie de la santé au travail: 1) l'examen des caractéristiques des lieux de travail; 2) la recherche sur les effets des pratiques organisationnelles; 3) la recherche-action. On recense aussi cinq catégories de recherches dans la psychologie de la santé au travail, chacune pouvant contribuer à sa façon aux développements futurs du domaine: 1) la recherche explicative (le développement conceptuel de modèles de stress au travail, le développement d'une perspective d'action personnelle); 2) la recherche descriptive (des études épidémiologiques, les relations avec les paramètres organisationnels objectifs); 3) le développement des outils (la standardisation des questionnaires de stress au travail, l'évaluation des performances); 4) la recherche-action (l'utilisation de programmes de recherche plus rigoureux, l'évaluation coût-efficacité); 5) le changement organisationnel (des comptes rendus plus systématiques des projets de changement, une plus grande attention portée à la mise en oeuvre des projets). Finalement, pour que la psychologie de la santé au travail puisse se développer à l'avenir d'une façon plus équilibrée, on insiste sur la nécessité d'une mutation théorique en passant d'un modèle de la maladie à un modèle de la santé authentique.

Taking into account the changing nature of work, three future topics for occupational health psychology were identified: (1) surveillance of workplace characteristics; (2) research on effects of organisational practices; (3) intervention research. Furthermore, five types of research in occupational health psychology are distinguished, each of which may contribute in its own specific way to future developments in the field: (1) explanatory research (e.g. conceptual development of job stress models, development of a personal agency perspective); (2) descriptive research (e.g. epidemiological studies, relationships with objective organisational parameters); (3) tool development (e.g. standardisation of job stress questionnaires, benchmarking); (4) intervention research (e.g. the use of more rigorous research designs, evaluation of cost-effectiveness); (5) organisational change (e.g. more systematic accounts of change projects, more attention for implementation of projects). Finally, the necessity of a paradigm shift from a disease model towards a genuine health model is emphasised so that occupational health psychology may develop in future in a more balanced way.

## INTRODUCTION

Although research on worker health has a long tradition, starting with the Health and Munition Workers Committee founded in 1915 in Britain, it was not until the 1990s that Occupational Health Psychology (OHP) emerged as a novel psychological specialty (for a historical account see Barling & Griffith, 2003). Hence, somewhat paradoxically, this article is on the future of an area that has—at least formally—but a very recent past. According to the definition of the US National Institute of Occupational Safety and Health (NISOH),[1] "Occupational Health Psychology concerns the application of psychology to improving the quality of work life, and to protecting and promoting the safety, health and well-being of workers." In doing so it seeks to integrate knowledge and experience from different disciplines within and beyond psychology with the aim of applying this to issues of employee safety, health, and well-being. State-of-the-art knowledge on OHP can be found in recent handbooks by Quick and Tetric (2003) and by Schabracq, Winnubst, and Cooper (2003), as well as in scientific journals such as *Work & Stress* (since 1987) and the *Journal of Occupational Health Psychology* (since 1996).

Although the definition of OHP is quite comprehensive, I would like to make four additional clarifications. First, the term health is used in OHP as a positive concept that includes social and personal resources as well as physical abilities. This agrees with the 1948 description of the World Health Organization (WHO) that considers health not just as the absence of disease or infirmity but a state of complete physical, mental, and social well-being. In a similar vein, OHP uses a fairly broad notion of occupational mental health that not only includes workers' affective well-being, but also cognitive, motivational, and behavioral aspects (Warr, 1987). Second, OHP is not only concerned with employees in large organisations but also with, for instance, unemployment and work–home interference. In other words, OHP goes beyond the strictly organisational domain and includes the health effects of non-work as well as the impact of work on other domains of life, and vice versa. Third, OHP takes into account four different but strongly interconnected levels of explanation: (1) the individual employee; (2) the job environment; (3) the organisational environment; and the (4) the external environment. For instance, sickness absenteeism is considered to be influenced by factors at the individual level (e.g. symptoms, ways of coping), the job level (e.g. work overload, lack of job control), the organisational level (e.g. role conflict, unfairness), and the external level (e.g. life events, home stresses). And last but not least, OHP is both a scientific discipline and an applied field. That is, OHP tries to *understand* the underlying psychological

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[1] See: http://www.cdc.gov/niosh/ohp.html#whatis

processes, and seeks to *improve* occupational health, safety, and well-being. This makes OHP not only an object of scientific discourse, but likewise of societal and political debate. In other words, OHP operates at the intersection of science and society, which means that its future is shaped by both the internal dynamics of science as well as by external developments in the society at large. Therefore, in this article I will first identify some recent trends and major changes that have dramatically changed the nature and organisation of work. Next, based on a typology of OHP research I will briefly discuss the white spots that should be addressed by future OHP research. In other words, the future of OHP is discussed from two different perspectives: the changing nature of work (external) and the development of OHP (internal). The article is concluded by a final note stressing the importance of a shift from the predominant disease model towards a genuine health model.

## THE CHANGING ORGANISATION OF WORK

Society changes rapidly, and so do organisations. These organisational changes, in turn, have an impact on individual jobs and are therefore likely to influence workers' safety, health, and well-being. This notion of changing society, changing organisations, and changing jobs led NIOSH (2002)[2] to formulate a three-level hierarchical model that distinguishes between: (1) the *external context* that includes economic, political, legal, technological, social, and demographic factors at the overarching societal level; (2) the *organisational context* that is influenced by the external context and includes management structures, supervisory practices, production methods, and human services policies; (3) the *work context* or the design of the job that is determined by the organisational context. It is assumed that these three contexts directly or indirectly influence workers' safety, health, and well-being. Some examples of specific factors that operate within each of these three contexts are:

*External context*
- Economic developments (e.g. globalisation of economy)
- Regulatory, trade, and economic policies (e.g. deregulation)
- Legislation (e.g. (inter)national occupational safety and health legislation)
- Technological innovation (e.g. information and communication technology)

[2] This document was developed by the Organization of Work Task Force under NIOSH's National Occupational Research Agenda (NORA). This agenda was unveiled in 1996 on the basis of input from approximately 500 organisations and individuals and identified the "organisation of work" as one of the 21 national occupational safety and health research priority areas.

- Social changes (e.g. increased cultural diversity)
- Demographic changes (e.g. aging population)

*Organisational context*
- Organisational restructuring (e.g. downsizing)
- New quality and process management initiatives (e.g. high performance work systems)
- Alternative employment arrangements (e.g. use of contingent or contract labor)
- Work/family programs and flexible work arrangements (e.g. telecommuting)
- Psychological climate (e.g. competitiveness)

*Work context*
- Task attributes (e.g. work intensification, increased complexity)
- Job content (e.g. mental and emotional instead of physical demands)
- Social-relational aspects of work (e.g. increased violence)
- Career development (e.g. lateral instead of hierarchical)
- Work roles (e.g. more teamwork)

Although some would argue that new systems of work organisation are beneficial because they offer increased responsibility and learning opportunities, most would disagree. For instance, the Tokyo Declaration (1988), a consensus document produced by nearly 30 occupational health experts from Europe, Japan, and the United States, concluded that the recent changes in work organisation are ". . . likely to be highly stress provoking" (p. 472). More specifically, Landsbergis (2003) argues that the three above mentioned contexts may lead to increased occupational accidents and injuries, musculoskeletal disorders, psychological and behavioral disorders (e.g. burnout, depression, excessive alcohol use, and smoking), and cardiovascular disease. Thus, there seems to be agreement about the potential harmful effects of recent changes in the organisation of work that prompts action.

Therefore, drawing upon their three-level model of the organisation of work, NIOSH proposed an agenda for research and development that consists of three key elements:

1. Surveillance or research on the prevalence of work organisation risk factors such as high job demands, low job control, job insecurity, and extended work hours, preferably in the form of periodic national surveys.
2. Safety and health effect research to understand the effects of prominent trends in organisational practices, such as restructuring, downsizing, lean production, and flexible work arrangements. This research should take into account the changing workforce in which more women, older workers, and ethnic minorities participate, who are likely to be especially at risk. So far most research has excluded these specific groups.

3. Intervention research targeting workplace practices, such as job redesign, individual health promotion (e.g. stress management), worksite health promotion (e.g. comprehensive wellness programs), and work rehabilitation (e.g. after cardiac events).

Recently, Landsbergis (2003) added a few specific recommendations to the NIOSH research agenda such as the study of health effects of vulnerable groups (e.g. contingent, temporary, part-time, and lower SES workers), the use of standard generic work stressor questionnaires, the study of biological pathways by which work organisation affects health (e.g. by using ambulatory cardiovascular registration devices during work), collaboration in multidisciplinary research teams (including occupational health psychologists, health educators, ergonomists, epidemiologists, and occupational physicians), and the estimation of economic costs, including workers' compensation costs and absenteeism. Based on a similar analysis of changes in the nature of work, Sparks, Faragher, and Cooper (2001) identified four major future research areas for OHP: job insecurity, work hours, control at work, and managerial style. These priority research areas agree with the analyses and recommendations from NIOSH.

The research agenda of NIOSH is useful because it identifies a number of research topics and needs that are based on a thorough analysis of changes in the organisation of work. At the same time, however, it neglects more fundamental research questions that may generate in-depth knowledge about the psychological processes and mechanisms that might explain *how* the organisation of work affects individual workers. In other words, the NIOSH research agenda is not so much about understanding the underlying psychological processes, but about improving occupational safety, health, and well-being.

## A TYPOLOGY OF OHP RESEARCH

The spectrum of research in OHP is broader than just descriptive research and intervention research, as included in the NIOSH research agenda. As can be seen from Table 1, five different types of OHP research can be distinguished. Below, each type is briefly discussed thereby focusing on its past performance and future perspective.

### Explanatory Research

Explanatory, theory-guided research focuses on producing knowledge; that is, on understanding psychological processes and mechanisms. It is more fundamental by nature and follows the so-called empirical cycle that starts with the formulation of a hypothesis, moves in the next step to the

TABLE 1
Types of OHP Research

|  | Explanatory research | Descriptive research | Tool development | Intervention research | Organisational change |
|---|---|---|---|---|---|
| Orientation | Theory guided | Problem focused | | | |
| Process | Empirical cycle | Non-cyclical | Regulatory cycle | | |
| Method | Empirical-analytical | | Empirical-analytical, action research, case studies | | |
| Purpose | Generating knowledge | Fact finding | Design of tools | Evaluation | Planned change |
| Publication medium | Scientific journal | Professional or scientific journal | | | Company report |
| Target group | Scientific community | Professionals | | | Organisation |

collection of data and ends with the statistical testing of the hypothesis. Results of such empirical-analytical research are discussed among peers in the scientific community and published in scientific journals. The knowledge that is generated by this type of research is disseminated—for instance through textbooks or professional journals—and may sometimes be applied in organisations. However, its main purpose is to understand behavior and contribute to the body of knowledge in OHP.

Traditionally, a strong focus exists in OHP on job stress research that uses explanatory models that include psychosocial risk factors as causal agents. Examples of such models that study the effects of job demands and lack of job resources on employee health and well-being are the *Job-Demands Control Model*, the *Role Stress Model*, and the *Person–Environment Fit Model* (see Cooper, 1998). A second approach uses notions from social and organisational psychology such as organisational justice (Folger & Cropanzano, 1998) and psychological contract (Rousseau, 1995) to explain sickness absenteeism, turnover, organisational commitment, and job satisfaction. In a similar vein, approaches that are inspired by social exchange mechanisms such as Siegrist's (1998) *Effort–Reward Imbalance Model* and Schaufeli's (in press) *Reciprocity Model* try to explain cardiovascular disease and job burnout, respectively. A third important stream of OHP research stems from experimental and physiological psychology and studies the cognitive, energetic, and motivational processes that are involved in (mental) workload, performance, and recovery. These approaches, such as the *Compensatory Control Model* (Hockey, 1997) and the *Action Regulation Model* (Frese & Zapf, 1994), specifically focus on occupational fatigue and on the resulting human errors and accidents.

What directions for future explanatory OHP research can be outlined for each of these three approaches? Based on my own reading of the results that have been obtained so far I would suggest two future avenues for job stress research. First, most job stress models are heuristic in nature and lack a firm theoretical underpinning, consequently more effort should be put into their conceptual development. A good example is the recently proposed *Demand-Induced Strain Compensation* (DISC) model (De Jonge & Dormann, 2003) that tries to integrate the *Job-Demands Control Model* and the *Effort–Reward Imbalance Model* into a single framework, building on common principles with respect to psychological compensation processes and balancing challenging demands. Second, typically job stress models consider psychosocial risks to be causal agents, thereby largely neglecting the role of personality, personal agency, and personal resources. Current stress models consider workers to be passive objects, instead of subjects and active agents. At best, personality factors are considered moderators that buffer or facilitate the stressor → strain relationship, like overcommitment in the Effort–Reward Imbalance Model. However, research is needed that uncovers that employees themselves may "cause" their own job stress—as is the case in workaholism, for instance. Also, future research should study the way in which workers deal with psychosocial risks at work and what health protective role particular personal resources play in this coping process (see Semmer, 2003a). The bottom line is that future stress research should more strongly emphasise the role of personal agency in the stress process.

The social and organisational approach within OHP could greatly benefit from three recent developments, First, there is a growing interest in emotions at work (see Payne & Cooper, 2001). So far, only a very limited range of mostly negative emotions have been studied such as stress, anxiety, and dissatisfaction, thereby neglecting other emotions such as joy, happiness, and excitement. Since emotions at work depend on social relationships they are open for investigation from a social and organisational perspective, for instance using concepts such as "emotional contagion" that might explain why emotions spread from one worker to another, or "emotional labor" that is described as the management of emotions as part of the work role (e.g. the ever-smiling flight attendant). Second, the role of collective values and experiences for health and well-being has been stressed by the introduction of such concepts as group affective tone, shared job strain, and climate strength. So far stress has been studied almost exclusively as an individual phenomenon, ignoring the collective dimension. Third, the social and organisational approach to OHP might benefit from laboratory research in a simulated work environment, which, for instance, has demonstrated the negative effect of receiving social support because this is experienced as a threat to the worker's self-esteem (Deelstra, Peeters, Schaufeli, Stroebe, Zijlstra, & Van Doornen, 2003).

So far the experimental and physiological approach within OHP has mainly focused on (mental) overload in laboratory-like settings. Accordingly, an innovative extension would be to study underload or boredom and to conduct investigations in real work settings, for instance by using a combination of data from an electronic diary and on-line ambulatory cardiovascular registration. This would allow the investigation of covariations between particular events at work (as registered by the diary) and levels of particular cardiovascular parameters (as recorded by the ambulatory device).

## Descriptive Research

Descriptive research focuses on producing "facts", that is, on the accurate description of a particular state of affairs. This type of research is problem focused and non-cyclical, typically using a one-shot design, although descriptive research can also be longitudinal and include multiple data-waves. In descriptive research the usual empirical-analytical methodology is employed that stresses the systematic acquisition and evaluation of information, including objectivity, accuracy, and verification. The "facts" that are produced by descriptive research are typically published in professional journals, but sometimes in scientific journals as well. A typical example of a descriptive approach is epidemiological research that estimates, for instance, the prevalence of job strain, absenteeism, workplace violence, and occupational injuries. Studies that seek to identify psychosocial risk factors or specific groups at risk are usually descriptive in nature because they do not go beyond producing mere facts in terms of percentages, frequencies, or relative risks. This type of OHP research mainly serves practical purposes and may be used for policy and management decisions, for instance, to tailor preventive measures to specific groups of workers.

The main contribution of fact-finding research has been the identification of a set of job stressors. Warr (1987) used this information to formulate his so-called *Vitamin Model* that stipulates that a healthy workplace should include nine key features (*vitamins*), for instance opportunity for control, opportunity for skill use, physical security, and a valued social position. In other words, Warr (1987) presents the profile of a healthy job. This means that for the creation of healthy jobs in organisations we do not need more descriptive research on job stress; the main challenge is to implement the necessary key features by means of planned organisational change (see below).

From my point of view, two future issues should be taken up by descriptive research. First, large-scale epidemiological studies are necessary on the incidence and prevalence of job strain that use valid instruments. A recent example is the Maastricht Cohort Study (Kant, Bültmann, Schröer,

Beurskens, Van Amelsvoort, & Swean, 2003) that follows a representative sample of over 10,000 workers for 5 years with 4-month intervals, using well-validated measures such as the *General Health Questionnaire* and the *Maslach Burnout Inventory*. In addition to accurate incidence and pre-valence figures, such epidemiological studies provide information about the waxing and waning of occupational safety and health as a function of the exposure to job stressors and also about medical consumption. To date, *cross-national* comparative occupational health studies are virtually lacking, except for a periodic survey that is conducted across all member states of the European Union at 5-year intervals since 1995. However, this survey is not very detailed and does not include validated measures (Paoli, 2001). Secondly, most research in OHP uses self-report measures, with a notable exception of the well-established link between job characteristics and cardiovascular disease (Landsbergis, Schnall, Belkvič, Baker, Schwartz, & Pickering, 2003). Hence OHP would greatly benefit from studies that demonstrate the relationship between occupational safety, health, and well-being on the one hand, and objective parameters on the other hand. Two examples from the burnout literature may illustrate this point. It was demon-strated that in US hospitals the patient-to-nurse ratio is linearly related to nurses' level of burnout; that is, each additional patient per nurse is associated with a 23 per cent increase in the odds of burnout (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Furthermore, sales-persons who suffered from burnout showed a poorer sales performance compared to those who did not suffer from burnout (Low, Cravens, Grant, & Moncrief, 2001). Both examples show that subjective experiences (burnout) are linked to organisational parameters that can be expressed in financial terms (patient-to-nurse ratio and sales performance).

## Tool Development

The development of tools for practical use in OHP settings constitutes a separate area of research that is problem focused by its very nature. Tool development follows the so-called regulatory cycle that starts with the for-mulation of a problem and then moves to the design of some tool in the form of a procedure, protocol, technique, or guideline to solve that prob-lem. Next, the tool is implemented and to what extent the initial problem has been solved is evaluated. Tools might be developed using empirical analytical methodology (e.g. psychometric test development), case studies (e.g. protocols), or action research strategies (e.g. job redesign). The latter are characterised by the fact that researchers feed their results back to the organisation during the research process. Since tools are designed for use by professionals, results are communicated via professional journals, but they may also be published in scientific journals.

The major OHP tools that have been developed are assessment tools, risk management procedures, and intervention protocols. The most widely used assessment tools are stress surveys that focus on identifying psychosocial risk factors and job-related strains at organisational level. Although it has been lamented that (too) many such surveys exist, their content overlaps to a large degree (Hurrell, Nelson, & Simmons, 1998). Most surveys include scales that measure quantitative and qualitative job demands, job control, social support, role problems, psychosomatic complaints, and psychological distress. A more serious problem, however, is the lack of reference data that allows benchmarking across different organisations, professional groups, or occupational sectors. Only few job stress surveys exist with manuals that include such reference data: the Occupational Stress Questionnaire that is used in Finland (Elo, Leppänen, & Lindström, 1992), the Questionnaire on the Experience and Evaluation of Work that is used in The Netherlands (Van Veldhoven, De Jonge, Broersen, Kompier, & Meijman, 2002), and the Occupational Stress Indicator (OSI) that is used in the UK (Cooper, Sloan, & Williams, 1988). Generally speaking, job stress surveys are not suited for individual psychological assessment. One of the very few standardised tests that can be used for individual assessment is the Maslach Burnout Inven-tory (Schaufeli, Bakker, Schaap, Kladler, & Hoogduin, 2001). Incidentally, assessment tools are not restricted to paper-and-pencil tests. For instance, in The Netherlands officially sanctioned diagnostic guidelines exist for the assessment of job-related mental problems that are applied in a face-to-face assessment interview.

A second type of OHP tools are risk management procedures (Cox, Griffith, & Randall, 2003). Typically, these procedures include various stages such as risk assessment, planning and implementation of measures, and evaluation and feedback. The final type of OHP tools concerns standardised protocols for such issues as time management, stress management, work rehabilitation, and post-traumatic stress disorders. The evaluation of such protocols, that is an integral part of their development, is discussed below.

The importance of tools for OHP is obvious, also for the future. Their development should be stimulated but it is important to coordinate efforts, not only for using resources efficiently but also for the sake of comparabil-ity. For instance, (cross-national) epidemiological research will greatly benefit when similar instruments are used across different samples. Like-wise, the development of individual assessment tools should be encouraged, for instance for musculoskeletal disorders, work-related mental disorders, and personal resources.

A fundamental issue that constitutes a challenge to future research in this area is the establishment of proper cut-off points that are based on a trade-off between sensitivity and specificity. For job-related strains this is not very complicated since one can use as a cut-off the mean value of a

group of workers that is unable to work because of the particular strain involved. For instance, for the Maslach Burnout Inventory the average score of a group of patients who receive psychological treatment for their burnout is used as the cut-off point (Schaufeli et al., 2001). However, this logic cannot be applied to job stressors like work overload and role problems, or to lack of resources such as poor feedback or lacking social support. Establishing valid cut-off points implies that not only healthy workers are studied, but also those who are on sick leave, have left the organisation, and are work incapacitated. To date, these groups are seriously under-researched.

Finally, the development of a system that would allow calculating the financial costs of sickness absenteeism, turnover, poor motivation, job dissatisfaction, burnout, labour accidents, and occupational injuries would be of great importance (DeRango & Franzini, 2003). This would make OHP an area that cannot be ignored by management.

## Intervention Research

Intervention research is straightforward and focuses on the evaluation of interventions, both in terms of outcomes (Are the objectives achieved?) and process (What went well and what went wrong?). By its nature, intervention research is problem focused and follows the regulatory cycle but it may either use the empirical-analytical methodology or case studies or an action research approach. Research on the effects of individual-based or group-based interventions usually employs (quasi)experimental research designs, whereas organisation-based interventions are evaluated using case studies or action research. Results of intervention research are communicated either by professional journals or scientific journals. It is generally acknowledged that the complexities and constraints inherent in organisational intervention studies are daunting (Kristensen, 2000).

A paradox exists between the popularity of interventions on the one hand, and the number of published intervention studies on the other. Whereas stress-management training is booming, research on its effectiveness is scarce. For instance, Van der Klink, Blonk, Schene, and Van Dijk (2001) could only identify 48 (quasi)experimental intervention studies of which only five were organisation based and the remaining 43 were individual or group based. Their meta-analyses show small to medium sized effects of stress-management interventions that use cognitive-behavioral techniques, relaxation, or a combination of both. No significant effects were found for organisation-based interventions. It seems premature to conclude that this type of intervention does not work since too few studies have been carried out so far. Although straightforward from a methodological point of view, experimental intervention research is difficult to conduct for practical

reasons, especially at organisational level. For instance, in order to have enough statistical power many organisations have to be included, both in the experimental and in the control condition.

Recently, Semmer (2003b) reviewed the effects of interventions that aim at improving job characteristics (e.g. control, variety, demands, role conflict), changes in working conditions such as ergonomic adaptations, reducing time constraints and workload, and improving role clarity and social relationships. He concludes that "the state of affairs seems less pessimistic than it appears at first" (p. 345) because "there are many positive findings, many null effects, but not very many negative ones" (p. 345).

As is rightfully noticed in the NIOSH research agenda more intervention research is needed, especially as far as organisation-based interventions are concerned. More than in the past, this research should be of great methodological rigor, as advocated by Kristensen (2000). This applies particularly to studies on outcome effectiveness. On the other hand, qualitative analyses and process accounts in the form of case studies are extremely informative about the dangers and pitfalls of worksite interventions. Hence, in future the value of case studies should be recognised more and their role as a complement to (quasi)experimental research should be acknowledged. Finally, in addition to outcome evaluation and process evaluation, worksite interventions should also be evaluated in terms of financial costs and benefits (DeRango & Franzini, 2003). Cost-effectiveness is a unique selling point for OHP interventions in organisations.

## Organisational Change

As the label indicates, organisational change focuses on changing the organisation into a healthier environment, for instance by implementing the so-called work "vitamins" (see above). The process of organisational change is problem focused, usually directed towards decreasing sickness absenteeism rates, increasing health behavior (e.g. smoking reduction, weight control, alcohol management, physical exercise, acquisition of stress reduction techniques), decreasing physical and mental symptoms, and fostering an adequate safety climate. Typically, action research strategies are used in which researchers feed back their results during the process of organisational change. In other words, in action research organisational change and research are intertwined. Many organisational change projects are carried out, whereas only few are documented and publicly available. If at all, planned organisational change projects are reported in the form of case studies (e.g. Cooper & Williams, 1994). After analysing 11 European case studies that aimed at preventing job stress and improving productivity, Kompier and Cooper (1999) identified five key factors for success: (1) the use of a stepwise systematic approach; (2) an adequate diagnosis or risk

analysis; (3) a combination of work-directed and worker-directed measures; (4) a participative approach that involves workers and middle management; (5) top management support. These factors may guide future organisational change projects.

Although the practical relevance of organisational change projects is obvious, their scientific contribution remains questionable especially when the evidence is purely descriptive or anecdotal. For that reason, future projects should be carried out and evaluated in a more systematic and standardised manner, which in a way runs counter to the preferred action research orientation. This leaves us with the conclusion that at best, while results of organisational change projects may be plausible, they can hardly be demonstrated unequivocally. A blind spot that may be addressed in future investigations is the implementation of organisational change projects. What factors facilitate a successful implementation of such projects, what obstacles exist, and how can these be overcome?

## A FINAL NOTE: TOWARDS A TRULY OCCUPATIONAL *HEALTH* PSYCHOLOGY

In principle—as indicated in the introduction—OHP complies with the WHO positive definition of health as a state of complete physical, mental, and social well-being. However, in practice OHP adopts a traditional disease model that primarily focuses on fixing what is wrong, as opposed to developing what is right. For instance, a simple count reveals that over 90 per cent of the articles in the *Journal of Occupational Health Psychology* concern problems such as cardiovascular disease, labor accidents, burnout, workplace violence, work–home interference, bullying, and substance abuse. Hence, despite the fact that important work has been on positive concepts such as job satisfaction, intrinsic motivation, social support and work-related self-esteem, OHP is basically about *ill*-health. Since the turn of the century, a new trend towards a "positive psychology" has emerged that focuses on human strengths and optimal functioning, rather than on weakness and malfunctioning. Meanwhile, the relevance of this trend is also acknowledged for OHP (Wright & Copranzano, 2000; Wright, 2003). A radical shift in paradigm from a disease model towards a truly health model would open an entirely new and promising field of research including positive emotions (happiness, joy, pleasure, pride), effective ways of coping, resilience, authenticity, flow, engagement, hope, optimism, self-determination, collegiality, and civility. The traditional utilitarian approach in OHP that considers workers as a means to the desired end of higher organisational productivity needs to be supplemented by a genuine occupational *health* psychological perspective that considers the pursuit of workers' happiness, health, and betterment as legitimate goals and ends in themselves.

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