



COMMENTARY

How do We Make Them Listen to Us?

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Since the 1970:s, Work Organizational Psychology has relatively speaking, had a strong position in the Nordic countries. This has also been mirrored in work environment laws in all these countries. In Sweden an agreement between employer and employee unions guaranteed relatively good financial possibilities for work environment research which was partly coordinated by the National Institute for Working Life Research. With changes in the political majorities in the Swedish parliament a marked change in the prioritization of work environment research took place. As an important component, the National Institute for Working Life Research was abruptly closed in 2007. This has had a negative effect on coordination of this kind of research in Sweden and perhaps also on the position of Sweden as a leading work environment research country.

According to the annual national assessments performed by the SOM institute in Göteborg (a university-based institute publishing yearly population assessments of opinions in the Swedish society), the typical Swedish citizen has had relatively good confidence in research during the years 2002–2014. However, in general there has been a slight decline in trust in research during these years and there are pronounced differences between different research disciplines. The leading research discipline has been medicine (84% with good or very good faith in 2002 and correspondingly 74% in 2014), with technology and natural sciences taking the second and third positions. The citizens seem to have clearly lower trust in societal and educational research (around 47% during the whole period) (Bergström & Oscarsson, 2015). It could be speculated that deeper aspects of medical and natural sciences are impossible to understand for citizens in general but still it is generally accepted that these sciences can lead to progress. For societal and educational research the situation is the opposite, citizens often consider that they have their own expertise in these subjects and research cannot unanimously claim that their results have benefited society. Work and Organizational Psychology is at

the cross-roads. Our field has components of natural science as well as societal research. Researchers in our field are however increasingly taking advantage of advanced brain research techniques and complex statistical methods including epidemiological modelling of multifactorial mechanisms, thereby approaching the research traditions in medical and natural sciences.

As researchers in the field of work and organizational research we strive at achievement of credibility. Natural science methods can add credibility for us – in line with my reasoning above. Understanding brain mechanisms is fundamental. For instance, it is important to know whether the brain is malfunctioning when subjects suffer from work-related emotional exhaustion and if so what kind of structures that are affected (Blix et al 2013). The same could be said about the brain in chronic imbalance between effort and reward (Siegrist et al 2005). The importance of this kind of knowledge lies in the fact that laymen – including employers and employee unions - obtain hard core arguments in their discussions regarding working conditions. They might ask: Are the psychosocial processes mirrored in objective events in the body, including the brain? Understanding gene-environment interaction is also fundamental. Twin research has shown that parts of the associations between self-reported working conditions and health outcomes are genetically determined. In a large study based upon the Swedish Twin Registry (Theorell et al 2016) we found that between 18 and 30% of the variance in self reported psychological demands, skill discretion and decision authority was determined by genetic factors. However, although genetic factors were found to be of importance, a large part of the variance was determined by the environment. And despite a genetic influence both on self-reported working conditions and depressive symptoms, the association between the psychosocial job factors and depressive feelings could not be explained away by the genetic factors. Accordingly, it makes sense to ask people about psychosocial working conditions!

An important aspect of this is that the existence of genetic factors that strongly influence associations between work environment and health may reduce the likelihood that interventions could be shown to be successful if the number of study subjects in an intervention is small. Thus, knowledge regarding genetic factors

will help researchers adjust their numbers of study subjects in evaluations of interventions. Another aspect of this is that knowledge regarding genetic factors will help researchers identify relevant mechanisms explaining the associations we observe between specific psychosocial job factors and specific aspects of health.

It could be speculated that if research shows that brain structures or endocrine mechanisms regulating energy mobilisation are disturbed in emotional exhaustion, interventions should aim at reduction of psychological demands or job strain for these subjects. Similarly if we discover that the dopaminergic systems in the brain are malfunctioning when subjects report effort reward imbalance in their jobs, interventions should aim at improved feedback for them.

Progress is also made in epidemiological and statistical research. Our statistical methods for improved modelling and understanding complex relationships are increasing. One development in this direction is the creation of very large epidemiological cohorts that can be used for the study of for instance psychosocial job factors and health. The IPD (Individual Participant Data) Work study is an example. Due to intensive collaboration initially between several European epidemiological research centres it has been possible to construct data sets with between 100 000 and 200 000 participants who have answered questions about psychological demands and decision latitude with a homogenous operational definition of job strain (high demand and low decision latitude). Using this cohort it has been shown that job strain is prospectively associated with increased risk of developing coronary heart disease (Kivimäki et al 2012) and diabetes (Nyberg et al 2014) but not related to the change in risk of developing inflammatory bowel disease (Heikkilä et al 2014) or exacerbations of asthma or chronic obstructive lung disease (Heikkilä et al 2014a and b). The study also showed that there is an interaction between demands and decision latitude – which means that job strain is a meaningful theoretical construction beyond its components. However such collaboration between centres builds upon approximations of measurements. A critique against the studies based upon IPD Work is that the associations between job conditions and studied health outcomes may have been underestimations (Choi et al 2013, Kivimäki et al 2015, see also Theorell, 2014) due to methodological dilution – bias towards null. Another strong debate based upon the IPD Work findings has been about the role of life style factors. Individual life style factors such as tobacco smoking and high BMI cannot explain away the association between job strain and ischemic heart disease. Despite this, some researchers have argued that it would be more cost effective for reduction of ischemic heart disease risk in the working population to put the emphasis on anti-smoking and diet advice as well as propaganda for increased physical exercise than on improvement of psychosocial working conditions. Regardless of mathematical precision in the epidemiological predictions, interventionists would argue that propaganda for improved personal life style is more effective if work environment improves than if the employer disregards the work environment (La Montagne &

Landsbergis, 2007) and puts all the responsibility for health on the individual and his/her life style.

Another question that is frequently discussed in relation to the association between psychosocial work environment and poor health is whether part of or even the whole association can be explained by personality. A problem that arises in the discussion is that personality is a phenotypic concept. This means that personality scores that we assess by means of self-administered questionnaires are related both to genetic factors and to the environment that the individual has been exposed to during his/her whole life. In the twin study mentioned above (Theorell et al 2015) there was interestingly enough no difference from between men and women with regard to the genetic contribution to self-reported psychological demands, skill discretion and decision authority at work.

Accordingly, there is increasing input from natural sciences in work and organizational psychology and this will probably raise laymen's confidence in our field. However, regardless of such influences important progress in work and organizational psychology has been made in recent years with the use of more complex statistical models than hitherto. For instance new statistical techniques are being used for the study of clustering of psychosocial conditions among individuals (Härenstam, 2009, Hansen et al 2013). This may clearly increase our understanding of societal processes. Increased awareness of the complex interaction between home and working life is increasingly explored in this field (for instance Nyberg et al 2015). In addition studies are addressing how psychosocial working conditions are associated with job mobility and turnover in a gender perspective (Söderberg et al 2014), questions that are highly relevant for the labour market. How job insecurity interacts with work-family conflict (Richter et al 2015) is another type of question of acute interest to modern society.

In summary, work and organizational psychology is highly relevant in its own right to society. Faith in and attention to this research discipline in society has to increase. Presently, increasing attention to biological mechanisms, epidemiological methods and statistical sophistication holds good promise for a near-future rise in society's attention to what we are doing.

We must never lose sight of *why* we are doing our research. Accordingly we must keep asking ourselves what the long-term goals are. After all, we want to contribute to an improved society. This is why we have engaged ourselves in this kind of research to begin with. And we can influence the choice of research topics within that field. However, we have to be prepared for results that are unwelcome for us. We might have been wrong in our hypothesis formulations and we should not hesitate to publish findings that go against our own beliefs. Accordingly we have to keep the balance between long-term engagement in societal goals and rigorous scientific approach.

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Competing Interests

The author declares that they have no competing interests.

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