

NOTES

Assessment of Psychophysical Abilities of People with Disabilities During Occupational Rehabilitation

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Designing objective and subjective methods of studying the abilities of disabled people is one of the most important things to be done before employing them. That is why new assessment methods are proposed. Evaluation as a testing procedure used for defining the abilities of disabled people—general capacity, range, and strength of the main groups of muscles and extremities, psychological tests, and many others—were developed by an interdisciplinary team. In total, 48 testing procedures, including physiological, psychological, and biomechanical ones, were prepared.

We also propose another subjective assessment method because it is also very important to know what an individual person with disability needs, wants to do, or what kind of job he or she prefers. The subjective evaluation of abilities, possibilities, and needs might be done by using a questionnaire. These testing procedures offer a chance to use the same methods in all diagnostic centres so the criteria of health and work ability will be the same and easily comparable. Using the same tests for assessment will be helpful in observing the results and progress of medical, social, and vocational rehabilitation, too.

disabled people employment ability assessment testing procedure

1. INTRODUCTION

People with disabilities constitute a significant and growing portion of both the European Union's (EU) and Polish population. Studies within some EU countries show that as much as 10-20% of the EU's population, corresponding to 20 to 40 million people between the ages of 16 and 64, have some form of disability that restricts them in their daily life (EUG-IPWH, 1999a, 1999b). According to the Polish Central Statistical Office (GUS) 1997 report based on a questionnaire survey on the health of the population, there were 5,145,000 disabled people over 15 years of age in 1996 in Poland, which amounts to 17.5% of the population in this age group (Ostrowska & Szczepankowska, 1998).

All developed definitions of disability show a connection between disability and difficulties, limitation, and incapability of people's usual functions including the vocational function. Because of the natural history of a disease and its advancement, some disabled people cannot go on working, so they get pensions or benefits under the social security system. Others, after medical, social, and occupational rehabilitation will be able to work, and they want to work, even in special conditions (Majewski, 1995).

The number of disabled people is still increasing. We know various causes of this situation: development of medicine including the ability to save handicapped children and adult patients, development of social diseases, the increasing number of car accidents, and longer life expectancy.

People with disabilities must be legally entitled to equal opportunities in all aspects of life, particularly in employment. However, the unemployment rate is much higher among people with disabilities than among others. It is 20-30% above the rate for the rest of the population (Gwara, 1997).

Everybody has potential if they have the right support and opportunities. Sometimes it is very difficult to decide whether a handicapped person is able to take a job and what kind of job it should be. It is also difficult to find or prepare a workplace that would meet his or her needs. Disabled people must be employed in certain conditions. We have to know those people's abilities and possibilities to work, but we also have to know the working conditions (including physical and chemical factors) and the ergonomic analysis of work operations for their fitness to work.

Having a job is crucial to being a member of society. Employment for people with disabilities includes both human values for the individual and economic values for society. There are also clear benefits, both socio-economic and in terms of government expenditure, for a society that provides work for people with disabilities as an alternative to various forms of passive compensation payments.

2. ASSESSMENT STRATEGY

Designing objective and subjective methods of studying the abilities of disabled people is one of the most important things to be done before employing them, that is why new methods of assessment are proposed (Kurkus-Rozowska, 1996; Kurkus-Rozowska, Bugajska, Widerszal-Bazyl, & Najmiec, 1997a, 1997b).

Taking a job by a disabled person usually goes with the necessity of obtaining a lot of information about the disabled person and the position he or she is going to work at. Many factors affect work ability:

- diagnosis and contraindications,
- psychophysical assessment of work ability,
- education,
- worker's own concept of his or her ability,
- motivation.

The first of the aforementioned points constitutes information about contraindications for professional work and, as a result, activities that the person cannot perform due to health or the environmental conditions the person cannot work in. Another important piece of information, which is sometimes ignored, is defining a disabled person's psychophysical capabilities, that is, establishing what the person can do, and to what degree, with his or her present abilities. Every disabled person, despite body damage, retains certain abilities, talents, and mental dispositions that—once they are acknowledged, directed, and improved—can become a basis helping to undertake training and then a job. On this basis, workplaces should be chosen according to an individual's needs (Kurkus-Rozowska et al., 1997a, 1997b).

Occupational rehabilitation consists not only in employing disabled people but also in helping them to find work based on an evaluation of their capabilities to work, occupational training, and—lastly—in taking

care of employed disabled people. When planning occupational rehabilitation one should remember that it is likely to succeed if it starts as early as possible, during medical rehabilitation, and when it is accompanied by social rehabilitation (Kurzynowski, 1997; Milanowska, 1994).

Evaluation as a testing procedure used for defining the abilities of disabled people—general capacity, range, and strength of the main groups of muscles and extremities, psychological possibilities tests, and many others—were developed by an interdisciplinary team of the Department of Ergonomics of the Central Institute for Labour Protection (Kurkus-Rozowska et al., 1997a, 1997b).

In total, 48 testing procedures, including physiological, psychological, and biomechanical ones, were prepared. When designing these methods, the International Classification of Disability (a manual of classification relating to the consequences of disease) published by the World Health Organisation (World Health Organisation, 1980) was used.

TABLE 1. Testing Procedures for Psychophysical Assessment

Group of Disability	Testing Procedures for Psychophysical Assessment
0—for all disabled people	Preliminary, internal examination; Personal and environmental interview; Psychological observation; Psychological interview; Analysis of psychophysical abilities; Investigation of intelligence level; Work samples.
I—for people with behavioural disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Behaviour analysis in a group—two parts; Intelligence and social adjustment analysis.
II—for people with communication disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Preliminary neurological study; Otosopic test; Acumetric test; Audiometric test; Binocular vision test; Visual field test; Distant and near vision test; Chromatic vision test; Analysis of intelligence and manual activities of deaf people; Analysis of touch and movement sense of blind people; Analysis of manual activities of blind people; Analysis of intelligence of blind people; Analysis of personality; Intelligence and social adjustment analysis.
III—for people with personal care disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Preliminary neurological study; Evaluation of the hand-grip quality; Evaluation of the means of manual control; Evaluation of the force developed during different grip types; Evaluation of the force developed during different grip types using dynamometer; Evaluation of the possibilities of obtaining the force needed to perform given work.

TABLE 1. (continued)

Group of Disability	Testing Procedures (or Psychophysical Assessment)
IV—for people with locomotor disabilities	Physical fitness and effort tolerance for men with legs dysfunction; Preliminary neurological study; Evaluation of the possibilities exerting force by leg muscles; Evaluation of the possibilities of locomotion; Evaluation of gait phases.
V—for people with disposition disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Preliminary neurological study; Evaluation of the labyrinthine sense organ; Evaluation of the range of upper limb; Evaluation of the possibilities of exerting force by upper limb muscles; Evaluation of the possibilities of exerting force by lower limb muscles; Evaluation of the possibilities of exerting force by forearm muscles; Evaluation of the possibilities of obtaining force of trunk muscles; Evaluation of the possibilities of locomotion; Evaluation of gait phases; Evaluation of the possibilities of exerting force needed to perform given work.
VI—for people with dexterity disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Evaluation of the means of manual control; Evaluation of the force developed during different types of grip; Evaluation of the possibilities of exerting force by upper limb muscles; Evaluation of the possibilities of exerting force by forearm muscles; Evaluation of the possibilities of exerting force needed to perform given work.
VII—for people with situational disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Test of physical fitness and effort tolerance of men with cardiac defect; Test of physical fitness and effort tolerance of men with coronary disease; Test of physical fitness and effort tolerance of men with hypertension; Evaluation of the resistance of respiratory tract and pulmonary capacity; Evaluation of the ventilation reserve; Evaluation of the efficiency of pulmonary tissue; Evaluation of the ability of CO diffusion; Evaluation of the composition of blood gases; Evaluation of the adaptation of retina to light; Evaluation of the possibilities of exerting force by trunk muscles.
VIII—for people with particular skill disabilities	Test of physical fitness and effort tolerance; Test of physical fitness and effort tolerance of men over 50; Behaviour analysis in a group—two parts; Intelligence and social adjustment analysis.

Objective assessment under this system will concern the following issues:

- identification of the relationship between health and chances of finding employment or professional re-qualification,

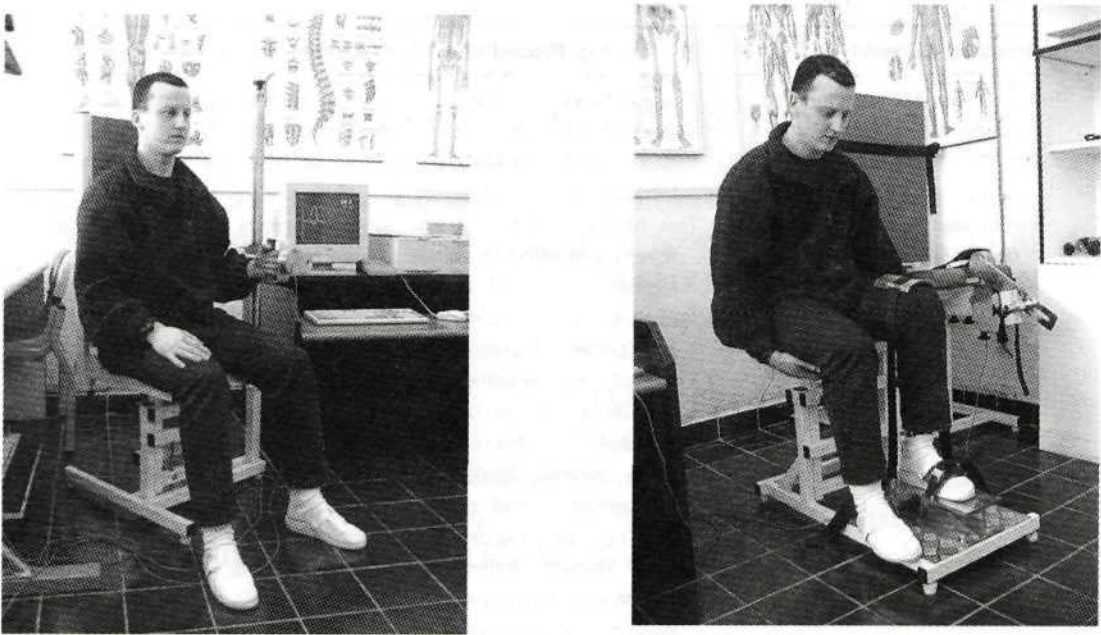


Figure 1. Biomechanical assessment.

- special arrangement and indication of the best direction of a disabled person's social and vocational rehabilitation,
- prevention of disabilities getting worse or new ones forming as a result of working conditions that are not appropriate for a disabled person's needs.

These testing procedures may be used as one of the methods for assessing work ability. Using the same tests for assessment will help in observing the result and progress of medical, social, and vocational rehabilitation, too.

We also propose another subjective method for the assessment because it is also very important to know what an individual person with disabilities needs, wants to do, or what kind of job he or she prefers. The worker's own concept of his or her ability is as important as the evaluation of experts. A subjective evaluation of abilities, possibilities, and needs might be done by using a questionnaire developed by the same team in the Department of Ergonomics and it is determined on the basis of the answers to a series of questions.

3. CONCLUSIONS

These uniform testing procedures and the questionnaire offer a chance to use the same methods in all diagnostic centres so the criteria of health and work ability will be the same and easily comparable.

The assessment process under this system, if conducted properly, identifies the relationship between health and chances of finding employment or professional re-qualification and a proper workplace in optimal conditions. This might be a decisive factor in achieving success in social and vocational rehabilitation of a handicapped person.

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