

Development of an evidence-based vocational rehabilitation program and guidance to promote return to work of people with mild functional impairments

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Faculty Disclosure

Nothing to disclose

Background

▪ Vocational rehabilitation (VR) – a comprehensive conceptual definition still in progress

- Diversity of the VR field – medical, psychological, social and occupational activities aiming to re-establish the working capacity required for staying or returning to the labor market of people with previous work history, affected by long term incapacity for work
- VR designed to maximize work ability of persons with activity limitations and participation restrictions caused by various health conditions
- Promoting return to work of people with mild functional impairments is an important goal of the actual approach.
 - **Motives:** - Vulnerable group on labor market
- Gap in existing legislation
- Vocational interests and skills are important for career decisions, job matches, good performance and health at work

Study motivation

- Return to work or work (re)integration of people with activity limitations - part of the change of approach and new eligibility criteria for social insurance benefits (assessment based on ICF concepts and definitions)

- The new criteria

- Health conditions are grouped together on functional basis
- Introduction of activity limitations and participation restrictions
- More RTW oriented
- Evaluation of skills and interests as a development of an individualized approach in order to achieve effective vocational rehabilitation

Objective

We aimed to



- develop and validate
- a VR **evaluation and counseling model**
- to support people with mild functional impairments to maintain or resume a professional activity

Research plan

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- To investigate the potential key factors for **work participation**
 - Sociodemographic?
 - Medical?
 - Vocational skills and interests?
 - To identify a vulnerable population for disengagement from the labor market
 - To find evidences for a personalized **vocational rehabilitation** program based on vocational skills and interests

Methods

- An observational study was performed to describe vocational skills and to integrate interests and abilities to work counselling, using a person-centered approach
- Brief sociodemographic data were collected: age, gender, marital status, residence, level of education, occupation
- RIASEC (Holland test) test was applied
- Data were statistically analyzed with appropriate tests: parametric, non-parametric, multiple linear regression
- $P<0.05$ was the cut-off for statistical significance with 95% confidence interval

RIASEC (Holland) test (**validated in Romania**)



- ✓ Refer to six personality types: **Realistic (R)**, **Investigative (I)**, **Artistic (A)**, **Social (S)**, **Enterprising (E)** and **Conventional (C)**
- ✓ According to **Holland's theory**, choosing a job or an educational program that matches one's personality creates the conditions for a satisfying and successful working life

Results

- 271 patients** admitted to The National Institute for Medical Assessment and Work Capacity Rehabilitation Bucharest (INEMRCM the Romanian abbreviation) for work capacity evaluation were included in the survey
- Persons who agreed to complete the questionnaire in addition to the usual psychological assessment
- Participation rate 27.93%**

Sociodemographic and professional characteristics of participants

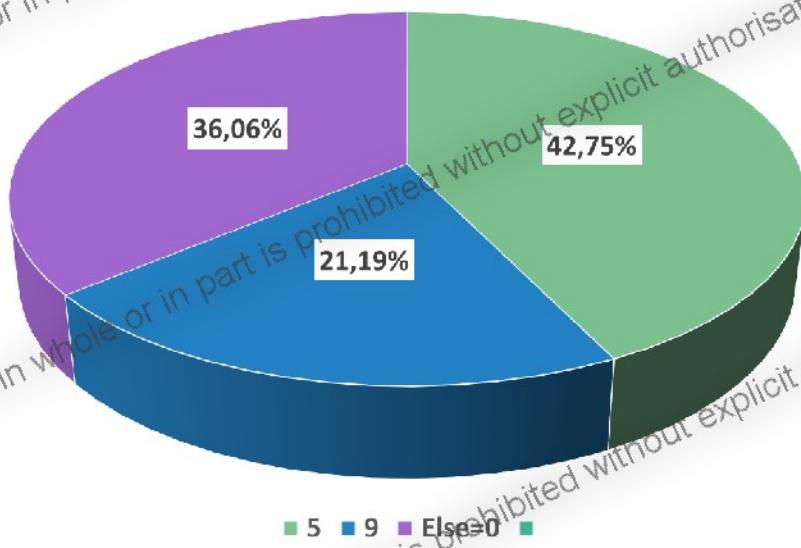
| Characteristics | Number ($\pm SD$) |
|--|-------------------------------------|
| Mean age (years) | 50.74 ± 5.83 |
| Gender (female) | 168 (62%) |
| Marital status (yes) | 202 (74.54%) |
| Residence (urban) | 120 (44.28%) |
| Mean length of service duration (years) | 16.70 ± 10.10 |

Level of education



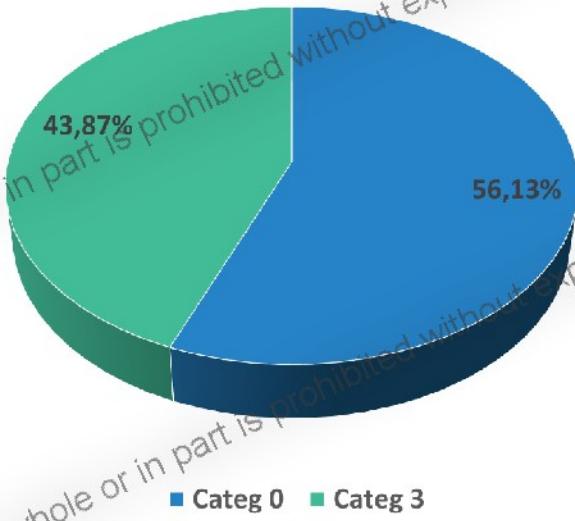
The International Standard Classification of Education (ISCED) is the official framework used to facilitate international comparisons of education systems

Clinical diagnosis according to ICD-10



5 – Mental
disorders
9 – Cardio-
vascular diseases
0 – Other
pathologies

Eligibility for Work disability benefits



0 – full work capacity
3 – half work capacity; part-time work

WORK PARTICIPATION

| Characteristics | P value |
|---|--|
| 1. Longer working experience <ul style="list-style-type: none">• Gender• Marital status• Residence• Level of education• Occupation | =0.005 =0.001 <0.001 <0.001 <0.001 |
| 2. Shorter interruption of the activity <ul style="list-style-type: none">• Residence• Multi-skilled employees• Job match | =0.016 <0.001 =0.031 |

Factors associated with longer working experience

| Variable | B | Standard Error | Significance (p) |
|--------------------|-------------|----------------|------------------|
| | Coefficient | | |
| Constant | 16.87 | 4.61 | <0.001 |
| Gender | -3.26 | 1.16 | =0.005 |
| Marital status | 4.84 | 1.27 | <0.001 |
| Residence | 3.64 | 1.13 | =0.001 |
| Level of education | 4.14 | 1.04 | <0.001 |
| Occupation | -2.51 | 1.04 | =0.017 |

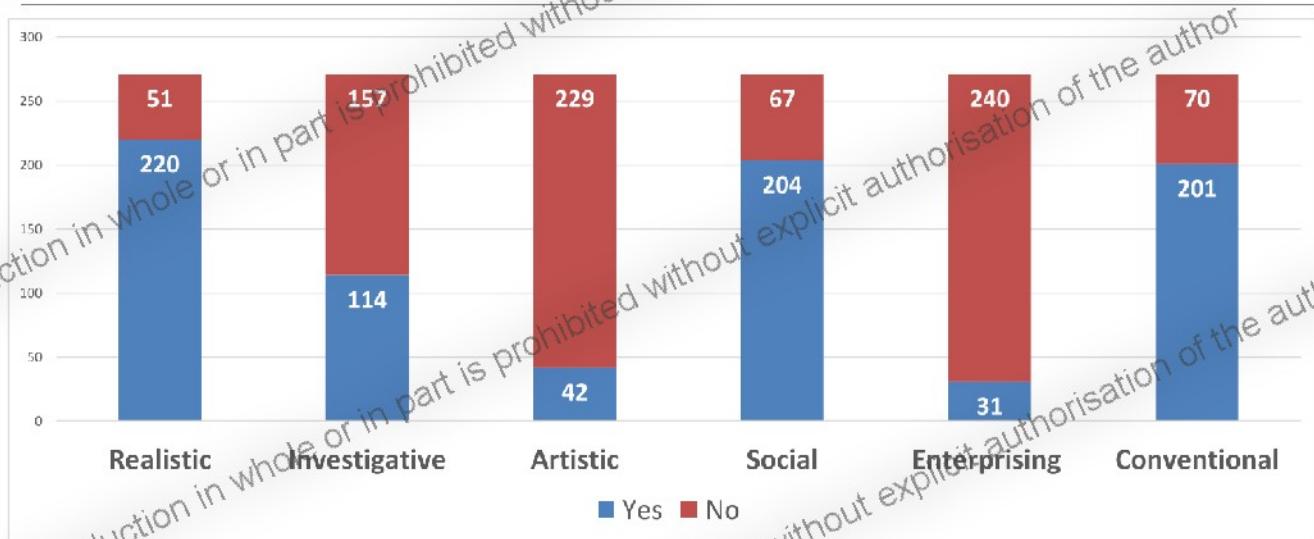
- Multiple linear regression analysis
- R Square = 0.22
- Men, persons having a partner, from the urban area, with higher education, professionals or managers seem to stay employed longer

Factors associated with shorter interruption of the activity

| Variable | B | Standard Error | Significance (p) |
|----------------------------|--------------|-------------------|------------------|
| | Coefficient | | |
| Constant | 11.54 | 1.07 | <0.001 |
| Residence | -2.28 | 0.90 | =0.012 |
| Multi-skilled employees | -1.03 | 0.52 | =0.048 |
| Job match | -1.19 | 0.54 | =0.030 |

- Backward selection type of multiple linear regression
- R Square = 0.07
- Persons from the urban area, with multiple qualifications, having a job matching with personal interest seem to be less out of work.

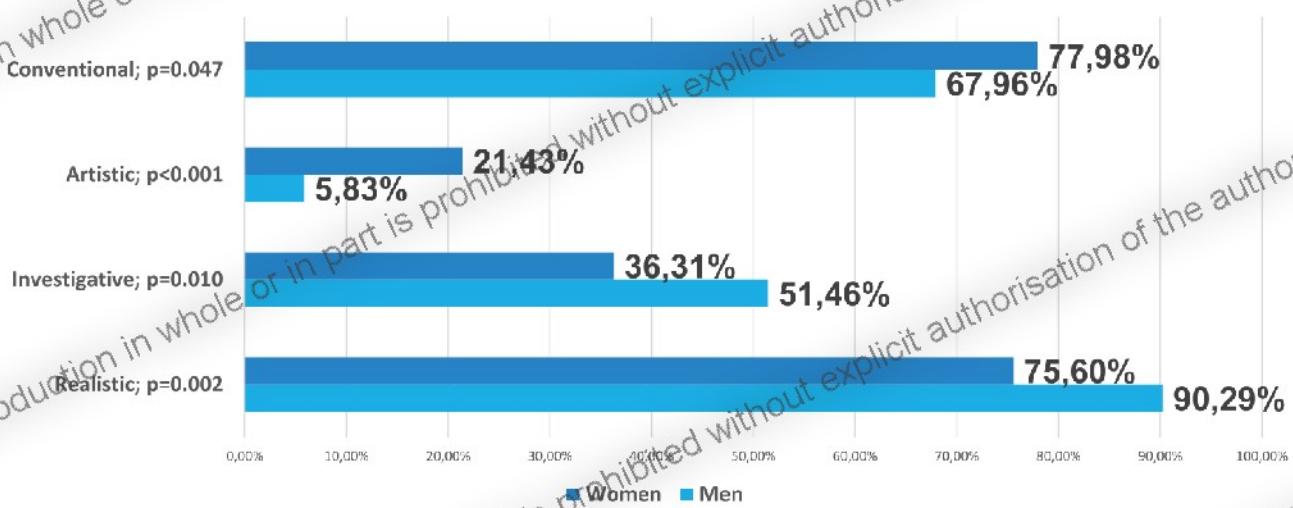
RIASEC PROFILE



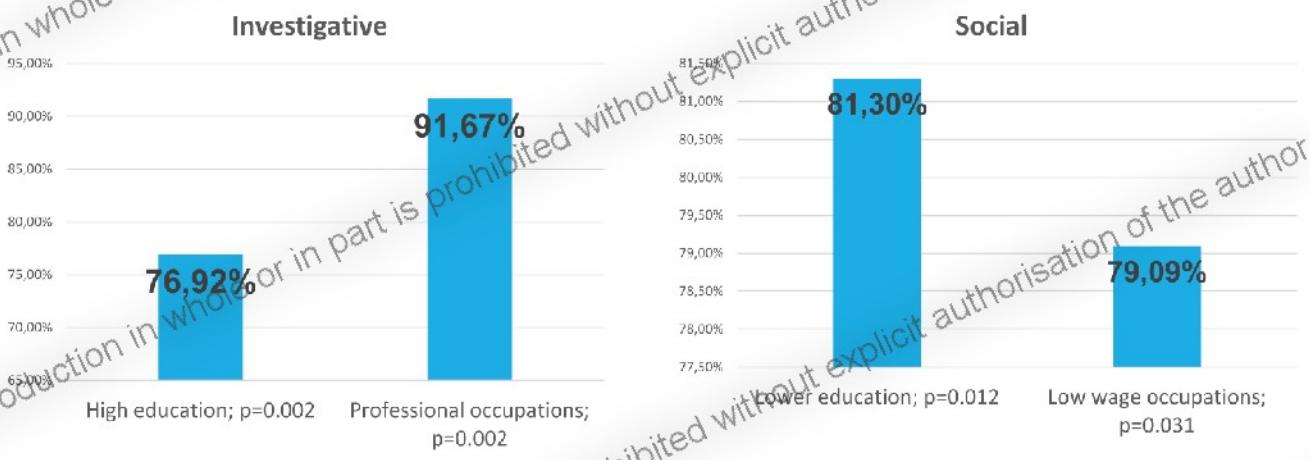
RTW ORIENTED APPROACH

- **Individualized approach** → evaluation of vocational skills and interests → job matches → better performance → longer engagement - benefit of both the employee and the company
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- An occupational **gender segregation** was found
- Differences in **vocational interest** were identified for different **levels of education** and **occupational groups**

Gender-dependent vocational interest



Vocational interest according to levels of education and occupational groups



Discussion

- Identifying the key influencing factors for work participation allow targeted and documented approach
- **Gender, marital status, residence, level of education and occupation** were correlated with **longer working experience**
- **Residence, multiple qualification and good job matching** were favorable features for a **shorter interruption of the activity** ("off-work" periods)
- Investigative **profile** was found in higher education and intellectual jobs while social profile was associated with lower level of education and unskilled jobs
- Men had a significantly higher percentage of realistic and investigative profile
- Women had a significantly higher artistic and conventional profile

Limitations of the study

Low number of participants

- The results should be validated by further research on larger population groups and updated by different generations
- Other additional factors might have not been considered in this study (Relevant variables missing?)

Conclusions

- A **vulnerable population** for disengagement from the labor market emerged from this study: women, population from rural area
 - Some **job related factors** were identified for a lower rate in the labor force participation: lower education, less skilled or unskilled occupations
- The VR programs must primarily address these groups
- Effective VR programs should be focused on **vocational interests**:
 - a dominant three-letter code identified by this study: **RSC**
 - Differences according to **gender**:
 - two-letter interest code – **RI** for men, **AC** for women
 - Differences related to the **level of education** and **occupation**:
 - first interest code – **I** in higher education, **S** in lower education

The active population aged 50s-60s

| Landmarks | Baby Boomers 1946-1964 Aged 50s - 60s | Generation X 1965-1979 Aged 30s - 40s |
|----------------------|--|---|
| Music | Rolling Stones | Nirvana |
| TV | Colour TV | MTV |
| Events | Vietnam War (65-73) | Berlin Wall (89) |
| Training focus | Technical Data Evidence | Practical Case studies Applications |
| Learning Format | Relaxed Structured | Spontaneous Interactive |
| Learning Environment | Classroom style Quiet atmosphere | Round-table style Relaxed ambience |
| Financial Values | Long-term needs | Medium-term goals |
| Ideal Leaders | Commanding Thinkers | Coordinating Doers |

RSC interest profile of active population aged 50s-60s in Romania

- Born in the communist era in large numbers called "the decrees", as a result of decree no. 770/1966 which strictly limited the abortion
- The way they were raised may explain their work values
- The educational system prepared them mainly for technical professions, necessary for the planned process of building socialism
- Personal skills and interests were not taken into account
- Women received a traditional education, focused on altruism and sacrifice

List of occupations for RSC three-letter interest code*

Cafeteria Attendants and Bartender Helpers, Fast Food and Counter Workers
Animal Control Workers
Personal Care Aides
Library Assistants
Telephone Operators
Radiologic / RMI Technologists and Technicians
Radiation Therapists
Dental Hygienists, Dental Assistants, Medical Assistants, Nursing Assistants
Ophthalmic Medical Technicians
Librarians and Media Collections Specialists

(<https://www.onetonline.org/explore/interests/Realistic/Social/Conventional/>)

*Proposed to be piloted in vocational retraining programs based on a dominant three-letter interest code identified by this study: RSC

Implications for practice

Good evidences allow targeted allocation of funds for the development of training and education programs (financing policies for : 1. training for professional staff - "employment assistant", "labor expert "; 2. diversification of job offers and job coach methods ,3. making labor market more accessible,3. interest the employers to support vocational rehabilitation programs at work place, etc.)

Increasing the employment rate will have positive effects on both:

- ✓ individuals – increased job satisfaction and job performance
- ✓ society as a whole – increased productivity, higher GDP

