Knowing teacher’s skills in Slovakia: Summary of research results of lower and upper secondary teachers
Olga Zelmanová, Zuzana Wirtz, NICEM, 24.3. 2022
OECD Education and skills Online (PIAAC online)

A. Cognitive skills: Literacy, Numeracy and PSTRE

B. Non cognitive skills: Behavioral competencies, Career interest (RIASEC) and intentionality

GOAL - To grasp deeper view of competencies of Slovak lower and upper secondary teachers aged up to 65 years using OECD tool Education and Skills online tool (PIAAC online) and then to recommend Ministry of Education how to improve education and lifelong training of teachers.

**Cognitive items** include existing PIAAC items as well as newly developed items (40 %)

**Behavioral competencies:** personality assessment, 208 statements – 13 personality traits – 5 dimensions of the Big Five.

**Career interests (RIASEC):** O*NET Interest Profiler Short Form, 60 items – 6 RIASEC profiles

**Career intentionality:** 26 items, focused on job seek, active steps in job seeking
Slovak Sample

Slovak voluntary teachers up to age of 65 years
(N = 2016)

- LOW. SEC – ISCED II (958): Lower secondary
- UP. SEC – ISCED III (1 058): VOC Vocational upper secondary (713)
  and GYM general upper secondary (345)
- 22% Men (447), 78% Women (1569)
Cognitive skills of teachers by type of schools
Cognitive skills by age and gender of all teachers
Behavioral characteristics of all teachers

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization, order</td>
<td>63</td>
</tr>
<tr>
<td>Self-Discipline</td>
<td>57</td>
</tr>
<tr>
<td>Assertiveness, dominance</td>
<td>56</td>
</tr>
<tr>
<td>Collaboration</td>
<td>54</td>
</tr>
<tr>
<td>Diligence, achievement</td>
<td>54</td>
</tr>
<tr>
<td>Responsibility</td>
<td>53</td>
</tr>
<tr>
<td>Optimism</td>
<td>63</td>
</tr>
<tr>
<td>Intellectual Orientation</td>
<td>53</td>
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<tr>
<td>Creativity</td>
<td>52</td>
</tr>
<tr>
<td>Generosity</td>
<td>49</td>
</tr>
<tr>
<td>Inquisitiveness</td>
<td>46</td>
</tr>
<tr>
<td>Stability</td>
<td>47</td>
</tr>
<tr>
<td>Friendliness</td>
<td>45</td>
</tr>
</tbody>
</table>

Conscientiousness: 57
Agreeableness: 52
Openness to Experience: 51
Extraversion: 52
Emotional Stability: 52
Behavioral characteristics by type of schools

- Diligence, achievement
- Organization, order
- Responsibility
- Self-Discipline
- Assertiveness, dominance
- Friendliness
- Generosity
- Collaboration
- Stability
- Optimism
- Creativity
- Intellectual Orientation
- Inquisitiveness

Upper Secondary
- Diligence, achievement: -0.11
- Organization, order
- Responsibility
- Self-Discipline
- Assertiveness, dominance
- Friendliness
- Generosity
- Collaboration
- Stability
- Optimism
- Creativity
- Intellectual Orientation
- Inquisitiveness

Lower Secondary
- Diligence, achievement: 0.12
- Organization, order
- Responsibility
- Self-Discipline
- Assertiveness, dominance
- Friendliness
- Generosity
- Collaboration
- Stability
- Optimism
- Creativity
- Intellectual Orientation
- Inquisitiveness

Cohen's d
Behavioral dimensions by type of schools

Conscientiousness
Extraversion
Agreeableness
Emotional Stability
Openness to Experience

Type of school
LOW
VOC
GYM

Percentile
30 35 40 45 50 55 60

Conscientiousness
Extraversion
Agreeableness
Emotional Stability
Openness to Experience

Upper Secondary
Lower Secondary

Cohen's d
-0.2 -0.1 0.0000 0.1

-0.14 0.11 -0.21
Behavioral characteristics by gender of all teachers

- Woman
- Man

Graph showing percentiles and Cohen's d values for various behavioral characteristics.
Behavioral dimensions by gender of all teachers

- **Conscientiousness**
  - Man: 57
  - Woman: 54

- **Extraversion**
  - Man: 51
  - Woman: 47

- **Agreeableness**
  - Man: 52
  - Woman: 51

- **Emotional Stability**
  - Man: 49
  - Woman: 54

- **Openness to Experience**
  - Man: 49
  - Woman: 55

Cohen's d:
- **Conscientiousness**: -0.25
- **Extraversion**: -0.17
- **Agreeableness**: 0.23
- **Emotional Stability**: 0.23
- **Openness to Experience**: 0.29
Behavioral characteristics by age of all teachers

- Diligence, achievement
- Organization, order
- Responsibility
- Self-Discipline
- Assertiveness, dominance
- Friendliness
- Generosity
- Collaboration
- Stability
- Optimism
- Creativity
- Intellectual Orientation
- Inquisitiveness

The graph compares the behavioral characteristics of older (<55-65) and younger (<23-35) teachers. The Cohen's d values indicate the effect size of the differences between the two age groups.
Behavioral dimensions by age of all teachers

Older vs Younger

Conscientiousness
Extraversion
Agreeableness
Emotional Stability
Openness to Experience

Percentile

Age <23 - 35) <55 - 65>

Cohen's d
Correlations of cognitive skills with behavioral dimensions

- Conscientiousness
- Extraversion
- Agreeableness
- Emotional Stability
- Openness to Experience

Legend:
- Literacy
- Numeracy
- PSTRE
Career interest – RIASEC profiles of all teachers and comparison by type of schools

- Social: 66%
- Artistic: 54%
- Investigative: 51%
- Enterprising: 51%
- Conventional: 46%
- Realistic: 35%

Type of school: VOC, LOW, GYM
Career interest – RIASEC profiles by age and gender of all teachers

RIASEC profiles **by age**

RIASEC profiles **by gender**
Career intentionality – Active job seeking

Level of taking active steps in job seek by age

Level of taking active steps in job seek by gender
Relationships: Job fit and RIASEC, Job seek and RIASEC

Job fit and RIASEC profiles (all teachers)

- Social
- Artistic
- Investigative
- Enterprising
- Conventional
- Realistic

Job seek and RIASEC profiles (all teachers)

- Social
- Artistic
- Investigative
- Enterprising
- Conventional
- Realistic
Active job seek and teacher’s relative wage compared with wage of university educated people
Key findings and implications for policy makers in Slovakia

1. Teacher’s main personality characteristic were: organization, self-discipline, assertiveness, collaboration and diligence (dim. Consciousness) and less dominant were friendliness (dim. Extroversion) stability (dim. Emotional Stability) inquisitiveness (dim. Openness to new experience).

Life long training and education of teachers should emphasizes behavioral characteristics such as inquisitiveness, creativity, intellectual orientation especially in times of new digital era and online education as well as characteristics such as emotional stability and generosity (positive impact on teaching and students' achievement).

2. The youngest teachers (up to 35 years of age) didn’t achieve significantly higher cognitive scores than older teachers (no age acceleration)-necessity to strengthen the cognitive skills during preparation of new teachers.

It is important to make teaching profession and status of teachers in Slovakia more attractive so we can have the best possible students in teaching profession and then have good dedicated young teachers.

3. Active steps in job seeking were taken predominantly by young teachers and males.

Higher activity in seeking new job was linked with men, young teachers and also those with Realistic and Enterprising profiles (least preferred by our teachers).

Teachers with higher job fit showed lower level of active job seeking. Only half of teachers had high job fit.

It is important for management of schools to create environment, conditions where teachers feel satisfied and appreciated, which is associated with further professional development and training.

Wage was also linked with active steps of seeking new job. In districts where wage of teachers was significantly lower than average wage of people with university education, teachers sought for new jobs more actively. To reduce fluctuation it would be helpful to adjust wages of teachers to a comparable level of average wages of people with university education.

4. It is important to attract more men in teaching profession, as it was also indicated in international survey of teachers such as TALIS.

Men manifested lower job fit and higher level of active job seeking. In comparison with women teachers, men showed higher preference to inquisitiveness, intellectuallity and stability. They also more inclined to technical skills. manual work with material (Realistic profile). Having more men as teachers can more motivate students for technical, scientifical areas of studies (STEM subjects).
Thank you for your attention

- RNDr. Olga Zelmanova  
  olga.zelmanova@nucem.sk
- Mgr. Zuzana Wirtz, PhD  
  zuzana.wirtz@nucem.sk