This paper considers the problem of measuring social intelligence. Difficulties with the detection result from the fact that social intelligence is a multidimensional construct but a generally accepted definition is missing. Based on literary sources were analyzed several methodologies of social intelligence. We followed their commonalities as well as differences. This created a framework for the design of new methods based on different aspects of social intelligence. Data were obtained in the selection of university students. We used a range of social intelligence from Tromsø (TSIS) along with two new methodologies of social intelligence. The results showed that social intelligence has multiple pages and it is very important to identify the essential components to develop a methodology that would be concise and efficient.

Social intelligence. TSIS. Measuring.

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In spite of the fact that social intelligence seems to be “a real and influential individual characteristic, research has often failed to demonstrate the validity of it” (Silvera, Martinussen, Dahl, 2001, pp. 313). Silvera, Martinussen and Dahl (2001) pointed very thoroughly at the main difficulties and causes of inconsistencies in perceiving the construct of social intelligence:

1. Difficulties in defining social intelligence

The most appealing difficulties arise from different ways in defining social intelligence. Researchers have come to agreement that social intelligence is a multi-dimensional construct but a solid, universally acknowledged definition is still missing. The diversity of opinions and inability to find the consensus seem to be the origin of all other problems with measuring social intelligence. Distinctiveness and usefulness of the construct are questioned, as well. There are many similar, overlapping constructs, such as emotional intelligence, social competence, practical intelligence, etc. (Lupták, 2003, Orosová, Sarková, Madarasová Gecková, Katreniaková, 2004). The difference among them is not always clear and this fact contributes to the use of varying terminology among researchers. The great inconsistency lies in the emphasis on cognitive or behavioral components. Some authors consider almost any social skill component to be social intelligence, some authors apply a narrow interpretation of social intelligence, and some define social intelligence as adaptability in social performance.

2. Approaches to study of social intelligence

Similarly to inconsistencies in defining social intelligence, the approaches to study the construct differ significantly. One part of researchers inclines to the psychometric view, the other to the personality view.
of studying social intelligence. The **psychometric view** describes social intelligence as a general intelligence applied to social situations or the ability to understand and manage people measurable by tests. The **personality view** is based on the assumption that social behavior is intelligent and that individual differences in social behavior are the product of differences in the knowledge.

### 3. Issues in measuring social intelligence

Existing measures investigate different types of social intelligence and therefore they are often **not highly correlated with one another**. **Low reliability**, especially among nonverbal methods can be found. This is considered to be one of already mentioned consequences of fragmented definitions which provide the base for the measures construction. Many of them are **time consuming and difficult to administer**, e.g. video tests. Only **few tests are commercially available**. For example in Slovakia, there are no standardized tests which could be used by researchers or by professionals in commercial sphere. Similar situation is recognized in other European countries, as well (see Silveira, Martinussen, Dahl, 2001).

**Types and examples of existing measures**

The literature review revealed the existence of several types of measures dealing with social intelligence. First, **methods based on achievement characteristics**, which seem to be equivalent to classical intelligence tests put within the social frame. The examples can be seen in the table 1.1. Second, **methods based on self-evaluation** are probably the most frequently used for research purposes despite of the possible risk of bias. Table 1.2. shows the example of this type of methods. Third, particularly children’s social intelligence is often estimated by **methods based on evaluation by others**, usually parents, teachers or peers. Examples can be found in Table 1.3. Fourth, some of the **methods based on evaluation of behavior** by others are presented in the Table 1.4.

#### Table 1.1 Methods based on achievement characteristics

<table>
<thead>
<tr>
<th>Method</th>
<th>Authors (year)</th>
<th>Subtests, Factors or Dimensions SI</th>
</tr>
</thead>
</table>
| George Washington Social Intelligence Test  | HUNT (1928), MOSS (1931), OMWAKE (1949) and WOODWARD (1955) | - Judgment in social situations  
- Memory for names and faces  
- Observation of human behavior  
- Recognition of the mental states behind words  
- Recognition of mental states from facial expression  
- Social information  
- Sense of humor |
| Six factors test of social intelligence     | O’SULLIVAN (1966)                   | - Cognition of behavioral units  
- Cognition of behavioral classes  
- Cognition of behavioral relations  
- Cognition of behavioral systems  
- Cognition of behavioral transformations  
- Cognition of behavioral implications |
| Sternberg Triarchic Abilities Test          | STERNBERG et al. (1993)             | - Analytical abilities  
- Creative abilities  
- Practical abilities |

#### Table 1.2 Methods based on self-evaluation

<table>
<thead>
<tr>
<th>Method</th>
<th>Authors (year)</th>
<th>Subtests, Factors or Dimensions SI</th>
</tr>
</thead>
</table>
| Matson Evaluation of Social Skills with Youngsters | MATSON, ROTATORI and HELSEL (1983) | - Appropriate Social Skills  
- Inappropriate Assertiveness  
- Impulsive / Recalcitrant  
- Overconfidence  
- Jelrousy / Withdrawal |
Social Skills Rating System (SSRS) by Gresham and Elliott (1990)
- Social Skills
- Problem Behavior
- Academic Competence
- Parent’s support

Inventory of social skills by Lorr, Youniss, and Stefic (1991)
- Social skills
- Empathy

### Table 1.3 Methods based on evaluation by others

<table>
<thead>
<tr>
<th>Method</th>
<th>Authors (year)</th>
<th>Subtests, Factors or Dimensions SI</th>
</tr>
</thead>
</table>
| Social Competence Scale - Parent Version | CORRIGAN (2003)                     | - Prosocial/communication skills  
- Emotional regulation skills          |
| Peer-Estimated-Social-Intelligence (PESI) | BJÖRKQVIST, ÖSTERMAN and KAUKIAINEN (1995) | - Perception of others  
- Social flexibility  
- Successful achievement of one’s goals  
- Behavioral outcomes             |
| WONG, DAY, MAXWELL and MEARA (1995) |                                       | - Social perception  
- Social insight  
- Social knowledge                   |

### Table 1.4 Methods based on evaluation of behavior

<table>
<thead>
<tr>
<th>Method</th>
<th>Authors (year)</th>
<th>Subtests, Factors or Dimensions SI</th>
</tr>
</thead>
</table>
| Act Frequency Approach (AFA)        | BUSS and CRAIK (1983)                 | - Generation of acts  
- Evaluation of the nominative acts  
- Act-prototypicality ratings  
- Self-reported/peer-reported evaluation |
| Video Test of Social Competence     | FUNKE and SCHULER (1998)              |                                                                         |
| HENDRICKS (1969)                    |                                       | - Divergent production of conative units  
- Divergent production of conative classes  
- Divergent production of conative relations  
- Divergent production of conative systems  
- Divergent production of conative transformations  
- Divergent production of conative implications |

The construction of new measures for the research purposes was a process that included analysis of several social intelligence measures, searching for common features and differences between them, specification of important aspects of social intelligence and finally formulation of new methods with possibilities for comparison with existing ones. The methods constructed and used in our research were based upon two definitions. First, social intelligence is the ability to understand other people and how they will react to different social situations (Silvera, Martinussen, Dahl, 2001). Second, social intelligence is individual’s fund of knowledge about social world (Kihlstrom, Cantor, 2000). The aims of this study were to verify the applied measures of social intelligence, to explore the relationships between new constructed measures and the existing one, and to identify possible critical points in measuring social intelligence.

Method
Subjects

Subjects were 150 undergraduate students of the Faculty of Arts at the University of Prešov. Mean age was 20.87 (std. dev. = 2.07). Research sample consisted from 54 males and 96 females.

Measures

Social Intelligence was measured using three self-report measures:

The Tromsø Social Intelligence Scale (TSIS, Silvera, Martinussen, Dahl, 2001).

This scale consists of 21 items. Respondents were asked the degree to which each statement described them on a scale from 1 (“describes me extremely poorly”) to 7 (“describes me extremely well”). TSIS involves three subscales:

    a) social information processing (e.g.: I understand other peoples’ feelings),
    b) social skills (e.g.: I am good at entering new situations and meeting people for the first time),
    c) social awareness (e.g.: I have often hurt others without realizing it).

Social Intelligence_Solution of Interpersonal Situations (SI_SIS, Vyrost, Vasilova, 2004).

The scale is divided into two parts. Both contain descriptions of 10 situations: part A – situations in which respondent initiates the action, part B – the same situations, but respondent only responds to the action of another person. Evaluations of stated solutions at three components (cognitive, emotional, behavioral) are found out with using of 5-point scale.

Social Intelligence_Behavioral Component (SI_BC, Frankovský, Baumgartner, 2004). This scale contains the description of concrete social situation:

At the street, you greet your good acquaintance, whom you have not seen for a long time.

S/He won’t answer. What would you do?

Then 18 behavioral variants are presented. Respondents express acceptance or rejection with them on a scale from 1 (“strongly agree”) to 6 (“strongly disagree”). Examples of behavioral forms:

    - I will stop him/her and ask him/her what is the matter with him/her,
    - I will not take any notice of it and continue walking,
    - I will complain about him/her to our common acquaintances.

Factor analysis identified a 3-factor structure underlying SI_BC: a) communication, b) revenge, c) social support.

Results

Means, standard deviations and Cronbach’s alpha coefficients as an indicator of internal reliability for the three TSIS subscales are shown in Table 2. Values of Cronbach’s alpha are adequate. Mean values are above midpoint of the scales, mainly with regard to social information processing and social awareness scales.

Table 2 TSIS subscales - means, standard deviations and Cronbach’s alpha coefficients

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Mean</th>
<th>Std. dev.</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
</table>


Pearson correlation coefficients between TSIS subscales are presented in Table 3. Three subscales are significantly correlated with each other.

**Table 3 TSIS subscale correlations**

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Social information processing</th>
<th>Social skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social skills</td>
<td>0.469***</td>
<td></td>
</tr>
<tr>
<td>Social awareness</td>
<td>0.213*</td>
<td>0.262**</td>
</tr>
</tbody>
</table>

Gender comparisons for the three TSIS subscales are shown in Figure 1. Significant differences revealed in scales social awareness ($t=4.6$, $p<0.001$) and social skills ($t=2.17$, $p<0.05$). In both cases females score higher than males.

**Figure 1: TSIS subscales means in females and males**

Next Table 4 presents correlations TSIS subscales with subscales SI_SIS. Scale social information processing significantly correlates with cognitive and emotional components of SI_SIS, scale social skills significantly correlates with emotional component.

**Table 4 Correlations of TSIS subscales with subscales of SI_SIS**

<table>
<thead>
<tr>
<th>Inform.</th>
<th>Skills</th>
<th>Awar.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>4.98</td>
<td>4.48</td>
</tr>
<tr>
<td>Males</td>
<td>4.71</td>
<td>4.02</td>
</tr>
</tbody>
</table>
Correlations for three TSIS subscales with indicators of SI_BC are shown in Table 5. Significant correlations were found out in relations between social awareness and communication, social awareness and revenge (in negative direction) and also between social skills and social support (negative direction).

Table 5 Correlations of TSIS subscales with subscales of SI_BC

<table>
<thead>
<tr>
<th>TSIS subscales</th>
<th>SI_BC subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td>Social inform. process</td>
<td>0.148</td>
</tr>
<tr>
<td>Social skills</td>
<td>0.090</td>
</tr>
<tr>
<td>Social awareness</td>
<td>0.295***</td>
</tr>
</tbody>
</table>

**Conclusion**

The results indicate adequate psychometrical attributes of TSIS, but process of its validation in Slovak population will continue. Similarly, two new constructed measures will be verified in future research. The described findings yielded that social intelligence is a multifaceted construct. It is important to recognize which facets of social intelligence explain different aspects of social performance in different social situations.

It is necessary to highlight the fact, that measures of social intelligence should be concise and effective for the needs of practice and survey research, therefore it is needful to identify the essential components and to design these methods. On the other hand, particular aspects of social intelligence should be measured not only by self-report scales, but also by different types of methods.

**References**


Prečo je ťažké merať sociálnu inteligenciu?

Abstrakt

Príspevok sa venuje problematike merania sociálnej inteligencie. Ťažkosti s jej zistovaním vyplývajú z faktu, že sociálna inteligencia je mnohorozmerný konštrukt a všeobecne prijímané vymedzenie chýba. Na základe literárnych prameňov boli analyzované viaceré metodiky sociálnej inteligencie. Sledovali sme ich spoločné znaky, ako aj rozdiely. Tým sa vytvoril rámec pre konštruovanie nových metod orientovaných na rozličné aspekty sociálnej inteligencie.

Dáta boli získané vo výbere univerzitných študentov. Použili sme Škálu sociálnej inteligencie z Tromsø (TSIS) spolu s dvoma novými metodikami sociálnej inteligencie. Výsledky poukázali na to, že sociálna inteligencia má viaceré stránky a je veľmi dôležité identifikovať jej podstatné komponenty s cieľom vytvoriti metodiku, ktorá by bola stručná a efektívna.