SELF-ESTEEM OF INDIVIDUALS WITH CEREBRAL PALSY

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SUMMARY

Self-concept is a subjective assessment, based on personal and social experience, which serves as a cornerstone of personal identity formation. Self-development process begins already in the childhood, continues throughout life and has an important influence on a person's behavior.

Social messages and reactions, reflecting the impressions others have of us are being adopted, processed and structured in accordance with the already existing constructs. Factors such as positive support obtained by children from their parents and other persons to whom children are emotionally closely related, are considered to influence the development of the positive self.

Self-esteem is one of the key components of the self-concept, so that these two terms are considered as synonymous by many authors. Persons with cerebral palsy are often faced with social isolation and peer rejection. There is a number of barriers related to social environment that hamper participation of persons with CP, which has particularly negative impact on possibilities in the fields of education, employment, as well as on active participation in the community. This state has negative influence on the level of self-esteem and development of impoverished identity and integrity of these persons.

The study included 83 participants of both sexes. A number of participants (33) were individuals with diagnosis of CP without
associated disorders. The other subsample (50 participants) included individuals showing typical development.

During the data collection process, two subscales were applied, extracted from the Self Concept Assessment Scale- Global Self-Esteem Scale and Social Evaluation Scale.

Based on statistical analysis of obtained data, substantial differences between participants with CP and participants representing typical population were established only for some items of the subscale of self-esteem assessment and for the subscale of the social evaluation as a whole.

**KEY WORDS: self-esteem, cerebral palsy, self-concept**

**INTRODUCTION**

**Cerebral palsy- Definition, manifestation and prevalence**

The fact that the first description of the cerebral palsy (CP) clinical picture, and the term itself, historically appeared already in the literature of the mid-nineteenth century (Golubović et al., 2005), could not help substantially to homogenize opinions and resolve dilemmas about what this term really describes and which is the correct way to classify different manifestations of CP.

The group for the Surveillance of Cerebral Palsy in Europe (SCPE, 2000) suggested certain procedures that could help the process of defining and describing clinical CP that mostly consisted of recommendations of Much and collaborators, related to the five key points: CP is an umbrella term describing permanent but not unchangeable disorders of movement, posture and motor functioning, caused by non-progressive damage, lesions or abnormal development of the cerebral regions.

Due to the nature of the damage, the definition of CP is very general and encompasses broad spectrum of physical disabilities due to the damages during the brain development. CP is a universal term describing a plethora of chronic and non-progressive neurological symptoms that cause the impairment of the control of movement, balance and posture.

Trying to formulate a precise definition of CP that would be accepted worldwide, Bax and collaborators (Bax et al., 2005), suggested guidelines similar to those proposed by SCPE. This group of authors also defines CP as collection of permanent non-progressive disorders manifested in impaired development of movement and posture and
limited motor activities as a consequence of cerebral dysfunction during intrauterine period or during the first years of a child’s life. In addition to these, some other disorders can also occur, such as: sensory, cognitive, communication and behavioral impairments as well as epilepsy and some other bone and muscle disorders.

Based on the definitions presented here, it is clear that some general characteristics exist which are enabling the diagnosis of CP. It is not possible to diagnose CP in babies less than 6 months old, except for very severe cases. The patterns of different forms of CP appear gradually with earliest traces, and are reflected in delayed development and abnormal muscle tone, manifested as hypertonia or hypotonia. At age of 2 or 3 many of the early hypotonia progress to spasticity. In many cases, it is not possible to diagnose CP before age of 12 months. For mild cases, it can be necessary to repeat examinations and observations during a certain period of time, before it is possible to reach the final diagnoses (Ellison et al., 1985). It should be kept in mind that children and adults with CP represent a very heterogenic group, depending on their motor abilities and ways of functioning in everyday life. The individual authenticity depends on the type of the CP a person is diagnosed with (hemiplegia, diplegia, athetosis, ataxia or mixed form) (Žgur & Čuk, 2011), and on the type and severity of possible associated disorders (Krigger, 2006).

CP is an often encountered problem worldwide, and it is considered that its incidence is 2 to 2.5 babies per 1000 live births (Rosen & Dikinson, 1992). When Little first described CP, he stated that delivery trauma was the underlying cause of its appearance, the view that held for the several next decades. Despite development and new findings in neonatal and obstetric care, the incidence of CP was not decreased (Nelson, 2003). On the contrary, with newborn mortality rate drop, the incidence and severity of CP increased. The incidence for premature babies is much higher then for those born at term. For the large majority of infants born at term who develop CP, it cannot be stated that asphyxia or obstetric complications are the cause (MacLennan, 1999). According to the SCPE data (SCPE, 2002), gathered from thirteen different geographical areas in Europe, between years 1980 and 1990, incidence of children born with CP was 2.08 per 1000 live births.

**Self-concept**

Self-concept represents the subjective assessment serving as a basis for a personal identity formation and based on the personal and social experience, i.e. explicit and implicit learning. It is formed on the basis of judgment, perceptions and emotions a person has of him or herself and his or hers position related to others. Thus, it is a subjective idea, development of which is under considerable influence of the signals coming from the environment. The process of the self-picture
development begins in the childhood, continues throughout life and crucially influences one’s behavior. Social messages and reactions, based on other people impressions about us, are being adopted, processed and structured according to already existing constructs (Havelka, 2008; Schwartz, 2008). It is believed that the development of the positive self in the childhood and early adolescence is influenced by the factors such as: harmonious relations in the family and positive support obtained from the parents (Lam, 2005; McClun & Merrell, 1998, according to Schwartz, 2008), peers and educators. There is a high positive correlation between social acceptance, academic success and development of positive self and identity in total, especially in the early stages of the life of a person (Schwartz, 2008).

Self-concept represent a dynamic category and influences the behavior of person during the course of her life.

According to the social-cognitive theory (Bandura, 1991), the behavior is conditioned by compound, interactive relationship between belief of possessing, and real presence of personal abilities (motivation, self-regulation, self-efficacy) on one side, and social reactions to which a person is subjected, on the other. The notion of self develops through an array of activities a child engages, which enable the obtaining of new experiences related to personal capabilities, physical skills and previously formed system of beliefs. The process of socialization takes place exactly on the level of comparison of personal constructs with accepted standards in the social discourse of the surroundings. The changes of social requirements and opinions are reflected in the quality of self-development which leads to the higher level of differentiation of the self-notion, since the person engages more often in interpersonal relationships and takes larger number of social roles (Opačić, 1995).

Cooley believes that information based on subjective interpretation of the signals obtained from the others, is especially important for development of the notion of self, above all the information about the way others see us and about their opinion on what they see (Cooley, 1902., according to Krstić, 2008). The „important others” have a special importance for self-esteem development of a person, since only information coming from them is accompanied by strong emotional response of the recipient (Krstić, 2008). Self-evaluation of the feelings developed on the basis of this information represents the affective component of the notion of self, which is being defined as self-esteem (Opačić, 1995). Most of the theoreticians consider that self-esteem is one of the key components of the self-concept; therefore the opinion is almost accepted today that these two terms are synonymous (Cast, Burke, 2002).

Self-esteem has two dimensions. One is related to the competence (self-efficacy based on personal value), generated in the process o self-evaluation, and the other is related attitude of their own values,
developed in the process of self evaluation (Cast & Burke, 2002, Havelka 2008). High level of self-esteem is important predictor of good social adaptation, since it enhances the capacity or forming new relations with others while simultaneously exerting important protective function in the potentially stressful situations, which allows for optimal adaptation and self-efficacy in reaching one’s goals (Cast & Burke, 2002).

Taking the role of an adult comprises accepting the responsibilities of an adult, which include: independent lodgment, professional engagement, attaining financial independency, establishing lasting relationships with the opposite sex and reaching other goals based on which persons assesses themselves subjectively as successful or unsuccessful (Hrnjica, 1994). In the population of TD self-esteem during the adulthood is on the higher level than during the adolescence. Self-esteem level slowly starts rising in the early adulthood, only to reach its peak during the middle-adulthood (Trzesniewski et al., 2003). The way a person responds to the challenges of the period of life she is in, and the way he or she is perceived by important others from the social environment, influences the level of that person’s self-esteem.

**Self-concept of individuals with CP**

Self-concept is based on generalization of social and individual experiences. Therefore a physical handicap can influence self-awareness since the affected individual is prevented from gaining certain experiences (Lawrence, 1991). Self-esteem of children and adults with CP can be influenced by different factors: the way other people perceive motor impairments and the person with CP, physical and socio-psychological barriers the person encounters in everyday life and the person’s perception of how successfully she or he overcomes them, the comparison with individuals showing typical development (TD) and many other personal and environmental factors.

Adults with CP, but children with CP in particular, are often confronted with social isolation and peer exclusion. In the childhood, as well as later in life, participation of these persons is made difficult by a number of barriers in social environment which is particularly negatively reflected on possibilities for education, employment and participation in the community (Krigger, 2006). High number of adolescents and adults with CP, although without pronounced cognitive impairments, encounters important limitations in daily life functioning, like decreased motility, difficulties in performing the activities related to practical life skills, finding an employment, taking on the responsibilities of an adult, engaging in social contacts and leisure (Donkervoort et al., 2007).

It is considered that numerous failures in everyday life, caused by personal limitations, but also by the social attitude of the surroundings,
Svetlana Kaljac, Gordana Odovic and Bojan Ducic

induce permanent increase in level of anxiety over rejection, frustrations and social self isolation. As a consequence of this state the impoverished identity and integrity develops and unfavorable picture of self and self's life perspectives forms in these persons (Hrnjica, 1986 according to Živković, 1991), which can largely influence general quality of their life in future and the subjective level of satisfaction with different aspects of life discourse.

Analyzing three influence types on the self-esteem level: the doctor’s assessment of the level and the type of damage, then person’s perception of own impairment and parents’ attitudes towards their children’s’ limitations, it was established that only personal estimate of one’s impairment has an influence on self-esteem level in children with CP aged 9 to 18 (Manuel et al., 2003). These results are confirmed by the studies where self-esteem of participants with CP was assessed by the participants themselves and by their parents. Comparing the way participants with CP see themselves with the way they are seen by their parents, it was shown that assessment of these two groups differs for four out of five dimensions of self-esteem. The only considerable level of agreement of assessment between the two groups exists for domain of physical impairment (Dunn et al., 2009).

The influences of school environment on self-esteem were studied by comparing the children with CP attending school together with children of TD and children with CP attending special schools. The group comprising school children with physical disabilities was subdivided into further groups, school children attending regular schools in US (n = 53), children attending regular schools in Czech Republic (n = 14) and children attending special schools in Czech Republic (n = 117). Control group consisted of 184 children attending regular schools in Czech Republic. Based on the obtained results, the difference between self-concept of the school children with CP attending regular schools in US and Czech Republic and children with TD from Czech schools was not established. No other differences were established between children with CP from regular schools in both countries, except in the domain of aggression expression, which is seen by the authors as a consequence of different cultural norms. It was, however, established that school children with CP attending regular schools have more positive self-concept compared to the children with CP going to special schools (Mrug et al., 2002).

Meta analysis of the published studies determined that less pronounced physical impairments have greater influence on the global level of self-esteem compared to major physical damage. This result indicates non-linear relationship between level of physical damage and the level of physical damage influence on the self-esteem. The authors discuss three possible explanations for lower level of influence of the more severe physical impairment. The first assumption is that major physical
impairments are very obvious, and because of that the affected persons are rarely exposed to the negative social experiences. The other states that the persons with major physical impairments more successfully deploy strategies for avoiding difficulties associated with their condition compared to the individuals with less visible impairments. And the third assumption is related to the existence of comorbid conditions, such as intellectual impairment (II), more often for the persons with major motor deficits, which diminishes the influence of the present deficit on the level of their self-esteem (Miyahara et al., 2006). This finding was corroborated by empirical research conducted in Netherlands, which included 80 participants with CP. It was established that the general level of self-evaluation and self-assessment in children with CP is not under direct influence of the level of motor functioning (Schuengel et al., 2006). Neither does the level of impairment show linear correlation with the quality of life of children with CP, at least not in all domains, as corroborated by the study of Arnaud and collaborators, who interviewed 818 children with CP, of chronological age between 8 and 12 years, and based on results concluded that children with milder manifestations in clinical picture scored less for the domains of emotional development and personal perception of social position and acceptance, while the children with major disabilities had more problems in the domain of physical well-being, independence and keeping social relations with peers (Arnaud et al., 2008).

The study by Donkervoort and collaborators included participants with CP and without intellectual impairment. Almost all of them took on the role of an adult or were in the transition state. It was estimated that level of motor functioning, education, general level of functioning and the age have mild to moderate influence on the success of transition. The connection was confirmed between higher level of education and prolonged time of financial dependency on parents and later finding of employment, such that attaining of independency effectuates later for persons with CP who obtain higher education (Donkervoort et al., 2009). A longitudinal study followed the level of self-esteem in 22 participants with CP, from adolescence into adulthood. Mild but significant increase of the level of self-esteem was established for the persons with CP as they approach the adulthood. The authors assume that the higher level of independency that the adult possess enables persons with CP to choose the environment and the activities that bring about more positive social experiences. It was also established that female participants with CP are more self-critical than male and that the level of self-esteem of persons with CP is relatively stable and not very different from the level of self-esteem of the individuals with TD (Magill-Evans et al., 1991). The presence of multiple handicaps and disturbances (impaired salivation control, synkinesis, sensory, communication and cognitive disturbances) that often accompany CP can significantly influence self-esteem of these persons.
A group of authors performed a study of influence of the reduced control of salivation on the self-esteem level of persons with CP. According to the report of parents that participated in the study, in less than 50% of their pre-school and school children with CP increased salivation had influence on their social contacts (Burg et al., 2006a). Another study showed that treatment decreasing the problem of salivation control led to the increase in frequency of social contacts with peers and had positive influence on satisfaction with own physical appearance (physical self). The authors of this study believe that parents show less preoccupation with increased salivation, because their children attend special schools, that represent the environment with higher level of tolerance, nevertheless, the treatment of this problem would increase the level of self-esteem of children with CP and lead to their better acceptance by the peers and the adults in the broader social community (Burg et al., 2006b).

This pilot study was conducted with the aim to establish whether the connection exists between cerebral palsy and the two components of the self-concept: self-esteem and social evaluation.

**METHOD**

**Sample**

The sample comprised 83 participants, 33 with CP and 50 participants showing typical development (TD). The age of participants with CP ranges from 23 to 43 years (AS 30.03, SD 4.29). The youngest participant with TD was 23 years old and the oldest 33 (AS 22.16, SD 2.14).

There are no statistically significant differences between participants with CP and TD in the domain of education χ²(2)=4.716 (p=,059); and living with others χ²(2)=2.244 (p=,326); while the two groups differ for the employment status χ²(2)=37.981 (p=,000); (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>CP (N 33)</th>
<th>TR (N 50)</th>
<th>CP TR (N 83)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>N 20</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>% 60,60%</td>
<td>16,0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Female</td>
<td>N 13</td>
<td>42</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>% 39,39%</td>
<td>84,0%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>N 3</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 1. The sample description
Scale for assessment of the self-concept (Opačić, 1995) contains 10 subscales: Global competence, Physical attraction, Physical self, Social evaluation, Global self-esteem, Intellectual self, Emotionality-rationality, Misanthropy, Externality, Moral negativity. For assessing self-esteem, subscales of Social evaluation and Global self-esteem were employed. Each of the subscales consist of 10 statements. The participants answers are ranked on the five-degree scale (1-not at all, 2-no, 3-neither yes or no, 4-yes, 5-yes, completely). Subscale Global self-esteem is used to assess the level of content with oneself, personal abilities and features. Higher score on the subscale of Global self-esteem indicates the lower level of self-esteem. Subscale of Social evaluation is used for assessing the way a person believes to be seen by others, i.e. the extent to which a person believes to be accepted and appreciated by others. Higher score on the subscale of Social evaluation indicated that a participant considers himself to be more valued by others. The number of items, reliability and the item with the highest degree of correlation with the scale as a whole are given in the table 2. The authors wish to bring to attention that the items in the Tables 3 and 4 do not correspond formally to the original statements contained in the subscales of the Global self-esteem and Social evaluation of the author Opačić, but that they are rather equalized with them in their essential meaning related to the goal of the assessment.

Table 2: The reliability of the subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Number of items</th>
<th>Cronbach’s alpha</th>
<th>Representative item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global self-esteem</td>
<td>10</td>
<td>.707</td>
<td>Failures from the past make me doubt in the future successes</td>
</tr>
<tr>
<td>Social evaluation</td>
<td>10</td>
<td>.891</td>
<td>People fully trust me</td>
</tr>
</tbody>
</table>
Procedure

This research was conducted during April 2012 in the area of Municipality of Belgrade. Two subscales extracted from the Self-concept Assessment Scale (Opačić, 1995) Global self-esteem scale and Social evaluation scale were applied for members of the association of people with CP and students of the Faculty of special education and rehabilitation. All participants included in the sample filled the subscale form in the presence of the authors of the study. The participants were informed that the aim of data collection was solely the pilot study, and that interviewing was anonymous.

RESULTS

Table 3: Results of the T-test of independent samples for the subscale of Global self-esteem

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doubt in achieving at least minimal success</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>2.24</td>
<td>.56</td>
<td>79.8</td>
<td>4.56</td>
<td>.000</td>
</tr>
<tr>
<td>TD</td>
<td>1.58</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased level of self-efficacy in solving problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>2.61</td>
<td>.659</td>
<td>60.1</td>
<td>4.22</td>
<td>.000</td>
</tr>
<tr>
<td>TD</td>
<td>2.02</td>
<td>.553</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased level of self-confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>1.58</td>
<td>.561</td>
<td>81</td>
<td>3.49</td>
<td>.001</td>
</tr>
<tr>
<td>TD</td>
<td>2.14</td>
<td>.808</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belief that the others are more capable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>2.36</td>
<td>.742</td>
<td>81</td>
<td>2.48</td>
<td>.015</td>
</tr>
<tr>
<td>TD</td>
<td>1.88</td>
<td>.940</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global self-esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>22.8</td>
<td>4.36</td>
<td>81</td>
<td>1.21</td>
<td>.227</td>
</tr>
<tr>
<td>TD</td>
<td>21.7</td>
<td>3.91</td>
<td></td>
<td></td>
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</table>

Applying T test of the independent samples no statistically significant differences were found for the subscale of Global self-esteem CP (M 22.8, SD 4.36), TD (M 21.7, SD 3.91), t (81)=1.21, p=.227.

Four items of the Global self-esteem subscale showed significant differences between participants with CP and TD. Persons with CP have more doubts about achieving at least minimal results CP (M 2,24, SD .56), TD (M 1,58, SD .75), t (79,8)=4,56, p=.000,. they have lower level of efficacy in solving problems CP (M 2,61, SD , 659), TD (M 2,02, SD ,553), t (60,1)=4,22, p=.000 and, in contrast to persons with TD, they have a more pronounced feeling that others are more capable than them CP (M 2,36, SD ,742), TD (M 1,88, SD ,940), t (81)=2,48, p=.015. The only item for which the persons with CP scored better than persons with TD was the one related to the self-confidence CP (M 1,58, SD ,561), TD (M 2,14, SD ,808), t (81)=3,49, p=.001. The results of the T test for the subscale of Global self-esteem are shown in Table 3.
The existence of the statistically significant differences between participants with CP and those with TD on the subscale social evaluation was established using the T-test of the independent samples CP (M 35.3, SD 3.82), TD (M 38, SD 4.65) t (81)=2.8, p=.006. The established differences were in favor of the participants with TD, i.e. the TD participants generally believe more than participants with CP that they are highly valued by others.

The statistically significant difference is present on four items of the subscale of the Social evaluation. For the item that investigated the participants’ beliefs about the way other accept them in their company, the persons with CP consider they are less wanted than persons with TD, CP (M 3.48 SD .566), TR (M 3.78, SD,.679), t (81)=2.06, p=.042. For the item that examines whether participants believe the others consider them quality persons, participants with CP showed belief that they are seen as persons of the less quality than persons with TD, CP (M 3.58 SD ,502), TR (M 3.98, SD ,553), t (73,1)= 3.44, p=.001. For the item related to the capability to realize positive socio-emotional relations participants with CP assess to be seen by others as persons with this capability less developed than persons of TD, CP (M 3.67, SD ,479), TD (M 3.98, SD ,589), t (81)= 2.55, p=.013. The statistically significant difference in favor of participants showing TD was found for the item related to the assessment of participants if the others consider them trustworthy, CP (M 3.76 SD ,435), TD (M 4.12, SD ,558), t(81)=3.14, p=.002 . Participants with CP believe that other people trust them less compared to the TD participants (Table 4).

| Table 4: Results of the T-test of independent samples for the subscale of Social evaluation |
|---------------------------------------------|------------|-------|-----|-----|
|                                             | M         | SD    | df  | t    | p    |
| The others accept me willingly in their company | CP 3.48  | .566  | 81  | 2.06 | .042 |
|                                             | TD 3.78  | .679  |     |      |      |
| Most of the people consider me a quality person | CP 3.58  | .502  | 73,1| 3.44 | .001 |
|                                             | TD 3.98  | .553  |     |      |      |
| The other have a positive socio-emotional relation to me | CP 3.67  | .479  | 81  | 2.55 | .013 |
|                                             | TD 3.98  | .589  |     |      |      |
| People trust me                             | CP 3.76  | .435  | 81  | 3.14 | .002 |
|                                             | TD 4.12  | .558  |     |      |      |
| Social evaluation                           | CP 35.3  | 3.82  | 81  | 2.8  | .006 |
|                                             | TD 38    | 4.65  |     |      |      |
DISCUSSION

The comparison of total score of participants with CP and participants showing TD on the scale of Global self-esteem during our study didn’t establish statistically significant difference between the two groups, although the four items of the scale did show statistically significant difference. Persons with CP have a more pronounced doubt about achieving success in life and belief that others are more capable. These results of our research are in line with the qualitative study of King and collaborators (King et al., 2000). Applying the competitive method, the authors of this study determined in which way the older adolescents (chronological age of eighteen to twenty years) with CP define success in their lives and which are the most important factors this success depends on. The participants stated that success in life was equivalent to the feeling of happiness experienced and they named the following three as the most important psychosocial factors: believing in oneself, being believed in by others and being accepted by others, that is, having the sense of social belonging. The other qualitative study by the same authors (King et al., 2006) analyzed the factors of social support for the adults with chronic conditions (CP, spina bifida, attention deficit disorder) where several types of support emerged as the most important: emotional support that would provide a higher level of person’s self-satisfaction, instrumental support that would be directed towards adoption and application of different strategies for solving the problems in life and cognitive support that would diminish the sense of isolation while facing different life challenges.

The only item in our study that ranked participants with CP higher than participants with typical development was related to the assessment of the level of self-confidence. We suppose that this item stands out because it is related to the influence of the external factors on the self-esteem level, as stated by the author himself, according to whom the global level of self-esteem correlates highly with the degree of development of the internal locus of control, e.g. with tendency of a person to consider own personal abilities and the way of conduct rather than the influence of different external factors to be the bases of the perspective for success in life (Opačić, 1995).

Concerning the self-concept, a survey of existing studies established that the global self-concept of individuals with CP does not differ from that of the individuals with TD. Based on the results of a meta-analysis of six studies, one cannot state that children with CP have lower global self-concept then children showing TD, although there are differences for certain domains that produce variations of the global self-concept (Shields et al., 2006).
This finding is in consent with the results of King and collaborators who compared adolescent participants of average intellectual abilities with cerebral palsy, spina bifida and cleft palate and/or lip and their typically developing peers. They could establish no differences between these two groups related to the global self-esteem assessment. Adolescents with physical impairment do not consider themselves different from general population. Differences were not established in the domain of self-evaluation neither when the three subsamples of the participants with physical impairment were compared, nor when the total sample of participants with physical impairment was compared with the control group (King et al., 1993).

By comparing the results for 47 participants with CP aged 8 to 16 years, obtained for the Profile of self perception for childhood with the results of the control group, no significant differences were found for the global level of self-esteem, although for dimensions Physical competence, Social acceptance and Scholar competence significant differences were established, while for dimensions of General self-evaluation, Physical appearance and Behavior major differences were not determined (Shields et al., 2007).

The study by Magill and collaborators established that participants with CP aged 13 to 18 years, of average intelligence level do not differ significantly neither for the majority of subscales for self-esteem assessment, nor in total result of self-esteem assessment. Only the girls with CP had lower scores compared both to the boys with CP and TD boys and girls (Magill et al., 1986). We have to emphasize that all three studies included adolescents with CP, while in our study participants were younger adults. Complying of our results with research of King, Shields and Magill confirms the findings of the longitudinal studies result of which was the finding that the level of self-esteem of persons with CP does not change significantly from the adolescence until the adulthood (Magill-Evans et al., 1991). The similar finding was the result of an Arnold’s research (Arnold & Chapman, 1992), who was assessing the level of self-esteem, and aspirations and expectations in the future of 15 adolescents with motor impairment. The control group consisted of their peers without impairment. Statistically significant correlations between these two groups were not established. In addition, the presence of correlation between motor limitations and the level of self-esteem and aspirations and expectations in the experimental group could not be seen, while in the control group a significant negative correlation was present related to their physical state and evaluated variables.

The study which had the aim to assess the quality of the life experience of adults with CP in Norway (Jahnsen et al., 2002) showed that they had lower level of sense of coherence than the population of typical development. Inferiority was expressed related to possibility of
controlling their lives, perception of life meaning and possibility of comprehension, as a consequence of the sense of having life perspective less predictable than persons without development disorders. The early experiences of predictability, the balance between the challenges and the personal capabilities to respond to them and to find the new ones are the prerequisites for developing the sense of coherence. According to this study, personal coherence is mostly influenced by level of education, marital status, life satisfaction and fatigue. Sex, age, employment, presence of pain and the severity of the disorder have considerably less influence on this dimension of psychosocial development.

Applying the T test on independent samples in our study, it could be established that the significant difference exists on the subscale Social evaluation as a whole, between participants with CP and TD participants.

Starting with the opinion that social participation is one of the most important predictors of the development of the good self-concept and with the fact that persons with CP spend the most of their free-time, more or less socially isolated, King and collaborators (Kang et al., 2010) wanted to find the determinants of importance for the development of more dynamic, higher quality relationships of these persons with their friends and others who are not members of their families. Based on the answers obtained from 209 persons with CP, aged 13 to 21, it was established that, considering the sample as a whole, they had 4.4 activities shared with their friends and 1.9 activities shared with the persons not belonging to their family surroundings during past four months. However, 22% of participants have not been engaged in any shared activity with their friends during this period, and 30% had no chance to share their free time with persons outside their families. The authors stated that some factors, such as: participation in sports and physical activities, better adaptive skills, lesser problems in communication and the type of schooling, marked out as the positive predictors for better social participation with friends. The most social participation showed adolescents that attained regular schools for typically developing population, while the most isolated were their peers exposed to homeschooling. Parental level of education proved to be important factor negatively influencing dynamics and frequency of social relationships of their children with persons outside the family. The authors believe this to be the consequence of the parents being the insufficiently informed and incapable to provide their children with the access to different recreational and other leisure activities offered by the community (Kang et al., 2010). The same group of researchers repeated their study, omitting youths with intellectual disability, as well as those who were not fully able to answer without assistance the questions from the scale used to assess the level of realization of the social roles (Kang et al., 2011). The final sample in this study consisted of 135
participants with CP and their parents. The obtained results showed the high positive correlation between the quality of social relationships (frequency and diversity of activities) with friends and the level of self-evaluated personal competence of the participants. It is interesting that the sense of competence was not influenced by sex, age or level of preserved motor functions. The majority of participants in this study ranked high their competence in the relations with their friends. As an explanation for this, the authors suggested possibility of well developed efficient strategies that these persons elaborated in order to solve problems of personal limitations in social relations. Besides, the self-perception of competence may be based on selective experience and assessment only of those social relations with close persons, which could reduce the pressure and possible frustration (Kang et al., 2011).

**RECOMMENDATIONS**

During the late childhood and throughout adolescence, the self-concept becomes very important. The self-picture, self-esteem and self-confidence are based on the way the adolescents see themselves. Since self-confidence and self-esteem are related to the efficient functioning (Gurney, 1988) and personal satisfaction (Coopersmith, 1967), the understanding of this aspect of persons with CP is necessary when planning therapeutic interventions. With the intention to suggest potential therapeutic models of self-concept we are going to present a number of studies dealing with this topic, and at the same time represent the scientific base of the recommendations to the experts, special education teachers, how to work on developing of self-esteem.

The studies can be found in the literature that are indicating the positive effects of the hippotherapy and riding therapy on the motor and psychological domains, especially on motivation and self-confidence (Horster, et al., 1976). The report on the study conducted by Bertoti (Bertoti, 1988) represents the most complete report on reviews and goals of this therapy. The mentioned study on posture followed 27 children (spastic diplegia and quadriplegia) with repeated measurements. First, the pretest 1 was performed, followed by the period of 10 weeks without riding; then the test 2 was performed and the 10 weeks of riding followed, with testing performed afterwards. In this way all children represented their own controls. The riding was applied twice per week during one hour sessions. The specific protocol followed each session and posture evaluation. The result of sessions was reduced spasticity, improvement of the weight shift, better balance and rotation skill, as well as improved postural control. In addition to objective measurements, other subjective improvements were recorded, such as improvement of self-confidence, diminished fear of movement and position change; the reduce extensor muscle hypertonus and hip
adductor muscle spasticity; improvement of movements important for sitting, walking and posture.

In addition to this therapy, the application of group intervention for improvement of self-esteem gave positive results. Hughes and collaborators (Hughes et al., 2004) had the aim to determine the efficacy of group intervention for improving the self-esteem of women with physical handicap. In one group of participants, only Center of independent living services were applied while in the other group, in addition to those, the interventions for self-esteem were also applied during the period of 6 weeks. The results demonstrate significant improvement related to self-esteem, self-efficacy and depression for the participants in the intervention group.

Gross (Gross, 2006) states that global self-esteem increases as we confront our fears and learn from our experiences. The help of the psychotherapist may be needed for this, but his opinion is that self-help has also an important role, and he states the following:

Be sober. The help is offered through 12 steps in groups in order to stop self-destructive behavior.

Practice of self-care. The person makes new choices of the lifestyle by joining the self-help groups and practicing of the positive health care.

Identification of the triggers of the low self-esteem. People tend to personalize the stress events (e.g. criticism) by drawing negative conclusions about themselves, often followed by a self-defeating action. Instead of this, every event can be seen as an opportunity to learn about ourselves, if we face our fear.

Slowing down of personalizing. Targeting of personalizing in order to slow down impulsive responses. One can begin to interfere with these automatic overreactions by using relaxation and stress management techniques.

Stopping and noticing. It is very important to pay attention to the similarity of impulses. People tend to approach every incident in the same manner. Being aware of this similarity could be a signal for slowing-down of the reactivity.

Acknowledge reaction. Verbalization, active and conscious doing of something instead of passive bearing in mind. The result that is achieved is a slowing-down of the impulse and making possibilities of choice of the reaction.

Choosing a response. Holding back the self-defeating impulse.
Accepting the impulse. Knowing the advantage of overreaction (e.g. protection).

Developing of skills. It is possible to provide for our own safety, hope, tolerance of confusion, and raise of self-esteem by learning and using these essential life skills: experience feelings, optional thinking, detachment, assertion, receptivity.

LIMITATIONS

The sample of participants with CP contains less female participants which could influence the results obtained for the subscale of Self-esteem, since the previous studies showed that women with CP have lower level of self-esteem compared to the man with CP (Magill-Evans et al., 1991, Shields et al., 2006).

REFERENCES


