

SELF-ATTITUDE AND ATTITUDE TOWARD LIFE OF PERSONS WITH MOTOR DEFICIENCY

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Abstract: *Disability is a multidimensional concept that has the following components: medical, functional and social. This research proposed to test the hypothesis that self-attitude and attitude towards the life of motor deficiencies persons is independent of the level of studies. Thus, people with motor disabilities who have university studies: wish to be born a second time, get annoyed when they do not succeed; complain without reason, feel jealous of those who do not face the same deficiency, are satisfied with them, are fulfilled by their lives, do not believe that others are to blame for what is happening to them. People with motor disabilities who have gymnasia studies: feel the most dissatisfied with them, are not so fulfilled in their life, get angry when they fail, think the others are to blame for what's happening, have feelings of jealousy to people who do not face the same deficiency and do not complain without reason.*

Keywords: *people with motor deficiencies; attitude towards oneself; attitude towards life; perspective of graduate studies;*

1. Introduction

Disability is a multidimensional concept, with medical, functional and social components. For disabled people, we need to be able to quantify the need for specialists and support services, to study the course of life for people with disabilities, and to develop accurate strategies to prevent relapses and aggravations. We need to make sure that there is no confusion about cause and effect (attributing associated conditions as a result of disability when they are actually the cause of functional limitations) and those comparisons with typical (non-disabled) individuals is correct (S. McDermott, M.A. Turk, 2011). Physical deficiencies are visible and cannot be hidden. For example, one can see a person using a wheelchair and / or a person walking through a frame. While others may hide disabilities to avoid discrimination or stigmatization, it is not possible for this population to do so (Z.P. Nkabinde, F.E. Obiakor, M.T. Offor, D.J. Smith, 2010). Labeling and negative stereotypes associated with different causes of disability result in social exclusion, which also affects the individual's health.

2. Background

Central nervous system disorders, nervous system diseases and degenerative muscular illnesses often lead to significant physical impairment and disability. Adolescents with low motor skills have reduced the perception of their physical self and tend to avoid physical activity. Individuals with chronic physical disabilities participate less on paid and voluntary work and are less satisfied with their lives than with people without health problems. The results show that the relationship between happiness and work is different for people with chronic illness and physical disability compared to typical persons. Few people with chronic illness and disability have been classified as "thankful for work" (C. van Campen, M. Cardol, 2009). Children with disabilities, especially girls, have been found to be in danger of

participating in a more restricted variety of activities, which implies fewer social interactions (N. Schreuer et al., 2014). Adolescents with cerebral palsy and spina bifida interact weaker with colleagues. An on-line pilot intervention has provided interaction with colleagues. The participants of that pilot-study have reported more social contacts, reduced loneliness, increased social acceptance and confidence (M. Stewart, 2011). Children with physical disabilities are known to be at risk of participating in fewer activities, so fewer leisure activities which affect their quality of life (A. Bortolussi, W. Douglas Biggar, 1996, M.K. Bult, et al., 2011).

Alla S. et al. (2016) investigated the influence of demographic, clinical and temporal factors associated with disability. Higher level of disability was associated with advanced or younger age, longer duration of the disease, spinal cord syndromes with onset of motor involvement and a progressive onset type. Overall, the studied factors explained about one-third of the variation in disability, of which about two-thirds were represented by: age, onset and disease duration, and a third, of the nature of the first symptoms and type of illness: onset (progressive or recurrent). The current age, age at onset and duration of illness had all independent associations with disabilities, and their effects also interacted, contributing to the increase of disability level during the disease. The results of regression analysis showed that people with severe disabilities had a lower rate of participation in different screening activities, they also had significantly longer stays in hospitals and generally poor health status (Boyoung Jeon, Soonman Kwon, Hongsoo Kim, 2015; M. Rowland, 2014). Perinatal etiologies were dominated by the main cause: hypoxia in 6.3% cases; postnatal etiologies were dominated by neonatal infections such as meningitis and hyperthermia of unknown origin in 9.7% cases, seizures 4.2% and jaundice 2.8% of the cases; prenatal etiologies were dominated by reduced birth weight 16.7% cases, prematurity 2.8% of cases, multiple pregnancies 2.1% cases (S. Batoui, et al., 2015). Pain was one of the most reported symptoms for children with motor disabilities, especially during daily activities in institutions and during rehabilitation. Despite the care and attention of professionals, the presence of chronic pain persists in frequent care maneuvers. The most painful activities were: feeding, passive limb mobilization, orthostatic transfers, and clothing - stripping (J.S. Bourseul, 2016). People with motor disabilities often suffer from pain and fatigue secondary to physical disorders that may worsen over time, leading to increased disability and decreased quality of life (anxiety, depression) (E. Widerström-Noga, M.L. Finlayson, 2010).

Building the professional identity of people with motor disabilities shows an identity formation process that starts with a sense of failure and exclusion at the beginning of life, continues through a turning point and ends with a feeling of self-efficacy (N. Dvir, 2015). Chronic illness, disability and social inequality intersect, unfortunate. New ways are needed to counteract the social determinants of health and disability. Employment opportunities, employability, employment decisions and employment discrimination are under the control of managers of companies / institutions and human resources specialists, informed and motivated specialists who can make the difference (R. Klimoski, L. Donahue, 1997).

Access to information technology is of vital importance to people with disabilities. In this context, changing and replacing standard devices (keyboard and mouse), and providing alternative techniques using switches would be welcome (G.F. Shein, 1992). The use of robotic technology in support devices opens new opportunities for people with severe disabilities (tetraplegia, spinal cord injuries and so on) at work and in their homes. It can reduce social exclusion and contribute to social and professional integration (Ch. Bühler et al., 1995).

People with physical disabilities not only integrate better in society but have significant achievements in the sports world. It is now a routine for tetraplegia athletes to complete marathons in less than 2-3 hours. A research by: C.J. Gaskin, M.B. Andersen and T.

Morris (2010) shows Ben's history of life, illustrating the benefits and costs of trying to compensate for disability through sport and physical activity. By engaging in sports and physical activities, these achievements have not compensated for his feelings of inferiority, but he has set tougher goals for himself after he has passed the euphoria of accomplishing his previous goals (C.J. Gaskin, M.B. Andersen, T. Morris, 2010). The Romanian tennis experience shows great potential for social integration of people with disabilities (R. Stănescu, 2014).

Research has also been carried out on the attitudes of parents who have encouraged the physical activity of children with disabilities and their participation in sports activities. Although they did not see their children as particularly skilled, they appreciated that the little ones enjoyed physical and sports activity. In conclusion, parents' support for sport and physical activity of children does not depend on their physical capacity, but on the encouragement offered (J.J. Martin, Y.S. Choi, 2009). Music has been also successful as a therapeutic intervention for people with physical disabilities. Motor coordination and driveability can be enhanced by many musical experiences. The results highlighted the effect of musical therapy on sensory motor reactions (R. Hatampour, 2011).

There are researches that explore how people with motor disabilities want access to natural areas and protected areas. They ask themselves: *Do they share the same desires and values in terms of access to natural areas and protected areas as typical people?* The conclusion was: the mobility disability group has expressed a stronger desire for increased access in such environments. Managers of these environments have been among the last to have accessed these environments to the needs of tourists with motor disabilities - partly because of the physical difficulties and costs of doing so, but also because of the desire to preserve the natural and wild nature of these areas (B.A. Lovelock, 2010). Participating in recreational activities is a fundamental human right and an important factor in the quality of life. Participating in recreational, community and school activities for children and young people with physical disabilities presents a number of environmental barriers. Barriers to participation have been encountered in school and work environments, physical and built environments, governmental institutions, service and assistance institutions (M. Law et al., 2007). Adults with physical disabilities often have limited opportunities to participate in leisure activities, so virtual reality technologies (VRs) can serve to broaden the recreational activities repertoire. VR seems to offer varied and motivating opportunities for leisure activities among young adults with physical disabilities.

Ease of use and adaptability make it a feasible option for this population (S. Yalon-Chamovitz, P.L. Weiss, 2008). Currently, commercial computer games offer few software options and access devices that are flexible enough to meet the needs of children with disabilities. There have been developed peripheral access devices and a 3D computer game that does not require action to shoot, click, or activate various keys at the same time. This method offers a range of action that can be adapted to different types of motor deficiencies (A. Oppewal et al., 2015).

For people with disabilities, robotics assisted with motor disabilities can be a relevant alternative as it offers new opportunities for action on the environment. However, a number of studies show the existence of problems with the acceptance of robotics assisted by people with disabilities. Therefore, it is recommended to consider disabled people in the design of assisted robotics (R. Khomiakoff, G. Czternatsy, L. Vandromme, 2009).

3. Methodology

The *purpose of the research* was to investigate the self-attitude and attitude towards the life of persons with motor deficiencies according to the level of graduated education:

gymnasium, high school, university. **Research hypothesis:** we anticipate that self-attitude and attitude towards the life of motor deficiencies is independent of graduate level. The survey based on the questionnaire was the main method used in the research. The questionnaire was elaborated on two dimensions: leisure and attitude towards the world and life. The questionnaire was developed and validated specifically for this research (Alpha Chronbach coefficient = 0.802). The **research group** comprised 93 subjects with motor disabilities (para, tetra, hemi (pleats), para, tetra, hemi (paresis), myopath, amputated limbs and so on). Of these, 60.2% (56 subjects) were male and the remaining 39.8% (37 subjects) being female. Depending on the origin, there were 73 subjects (78.5%) from the urban area, the remaining 20 subjects (21.5%) living in rural areas. If we look at the age group, we have 14 subjects (15.05%) aged up to 20 years; 29 subjects (31.18%) aged 21-30 years; 17 subjects (18.27%) aged 31-40; 18 subjects (19.35%) aged 41-50 years and 15 subjects (16.12%) aged over 50 years. Another criterion for differentiation was the level of education of the subjects: 16 subjects (17.2%) who graduated gymnasium/secondary school, 41 subjects (44.1%) who graduated from the high school, 22 subjects (23.7%) who graduated from the school post-secondary and 14 subjects (15.1%) who graduated from higher education (faculty). Employment was another aspect of the batch characterization, so only 26 subjects (28%) work (have a job), the remaining 67 subjects (72%) not having a job. If we look at the subjects from the point of view of the nature of the deficiency, we have 32 subjects (34.4%) with inherited deficiency and 61 subjects (65.6%) who have acquired the deficiency during their lifetime.

4. Results

The main research hypothesis consists in our anticipation that *self-attitude and attitude towards life of motor deficiencies is independent of the level of education*. Self-attitude and attitude towards life were investigated through 8 items of the questionnaire, for which a high-value of Alpha Chronbach coefficient (.880) was obtained. The items were: *Sometimes I get angry when I cannot do what I propose; Others are to blame for what's happening to me; I was surprised to have feelings of jealousy towards people who do not experience the same deficiency; Sometimes I cry without reason; I'm a person happy with my life; I'm happy; I think I'm fulfilled with my life at the moment; I wish I was born the second time.*

Table 1. Mean values of self-attitude and attitude towards life for persons with motor disability

Education level	Mean	St. Dev.	Education level	Mean	St. Dev.	Education level	Mean	St. Dev.
<i>Sometimes I get angry when I can not do what I propose</i>			<i>Others are to blame for what's happening to me</i>			<i>I wish I was born the second time</i>		
gymnasium	3,38	-1,025	gymnasium	2,13	1,408	gymnasium	3,38	1,360
m high-school	3,24	1,090	high-school	1,85	1,236	m high-school	2,78	1,370
post-secondary	3,14	,941	post-secondary	2,18	1,259	post-secondary	2,23	1,110
education	3,29	,469	education	2,00	0,784	education	3,43	1,222
university			university			university		
<i>I'm a person happy with my life</i>			<i>Sometimes I cry without reason</i>			<i>I'm happy</i>		
gymnasium	2,88	1,204	gymnasium	2,13	,957	gymnasium	3,25	,447

Education level	Mean	St. Dev.	Education level	Mean	St. Dev.	Education level	Mean	St. Dev.
m high-school	2,59	,948	high-school	2,22	1,037	m high-school	2,73	1,073
post-secondary education	3,68	,839	post-secondary education	2,05	1,133	post-secondary education	3,27	,985
university	3,00	,961	university	3,00	1,240	university	3,29	,726
<i>I think I'm fulfilled with my life at the moment</i>			<i>I was surprised to have feelings of jealousy towards people who do not experience the same deficiency</i>					
gymnasiu	3,00	,730	gymnasium	3,00	1,265			
m high-school	2,63	1,080	high-school	2,22	1,235			
post-secondary education	3,50	,802	post-secondary education	2,00	1,234			
university	3,29	,726	university	2,86	1,027			

In the table 1 are presented the values of the self-attitude and attitude towards life variables for persons with motor disability, viewed from the education level perspective (gymnasium, high-school, post-secondary education and university).

We might think that if people are more educated, then they could also have a positive attitude toward themselves and towards life, to a greater extent than those with fewer studies. Thus, in the item *I wish to have been born the second time*, the persons with university studies register the highest average value: 3,43 with a standard deviation of 1,360, compared to the lowest average, recorded by graduates post-secondary school (2,23 with a standard deviation of 1,110). But the above-stated reasoning is not fully verified: gymnasium and high school graduates are placed in an intermediate position. Returning to the high values of those with university studies, this could be explained by their desire to have a second chance to capitalize otherwise.

Thanks to them, in the presence of motor disabilities, there are people with post-secondary studies (average value: 3,68 with a standard deviation of ,839) and those with university studies (average value: 3,00 with a standard deviation of ,961). On the opposite side are people dissatisfied with them, and these are those with high school education (average value: 2,59 with a standard deviation of ,948) and the most dissatisfied are the persons with secondary education (average value: 2,88 with a deviation standard of 1,204). It seems that education can increase the ability to understand the presence of the disease. In agreement with self-esteem, happiness also comes. On the first positions we find those with higher education (average: 3,29 with a standard deviation of ,726) and post-secondary (average: 3,27 with a standard deviation of ,985). Low values are recorded by those with gymnasium and high school education. In the item *I think I'm fulfilled with my life at the moment* the persons with higher education are placed in a second position (the average value: 3,29 with a standard deviation of ,730), being overtaken by those with post-secondary studies average: 3,50 with a standard deviation of ,802). Again, we find those with secondary and lower secondary education.

For the other four items the situation is reversed. Thus, to the question *Sometimes I get angry when I cannot do what I propose*, people with higher education are annoyed, the mean is 3.29 with a standard deviation of abnormality, 0,469 being overtaken by those with gymnasium studies, 3,38 with a standard deviation of - 1.025. Self-control of care is weak

doubles with *I happen to cry without reason*. At this post, the people with higher education are detached (mean: 3.00 with a standard deviation of 1,240), followed by those with higher education (mean: 2.22 with a standard deviation of 1.037). Also, for the item *I was surprised to have feelings of jealousy towards people who do not experience the same deficiency*, people with higher education are in the first positions. Thus, the persons with higher education rank second with an average value of 2.86, with a standard deviation of 1.027; on the first position being the persons with secondary education (average value: 3.00 with a deviation standard of 1.265). People with higher education are better positioned when it comes to answers to the item *others are to blame for what's happening to me*. They are to a greater extent aware that others are not to blame, the third place, as it can be seen in table no. 2 (mean: 2.00 with a standard deviation of 0.784). Those who accuse the most are the people with post-secondary studies (mean: 2.18 with a standard deviation of 1,259), and the least accuse those with higher education (mean: 1.85 with one standard deviation of 1,236). Following the ANOVA test, the following results were obtained: $F(3) = 6,095$, $p < 0,01$ between *I'm a person happy with my life* and the studies of people; $F(3) = 4,743$, $p < 0,04$ between *We consider that I think I'm fulfilled with my life at the moment* and studies of people.

A total score of results was obtained for responses investigating attitudes towards oneself and towards life of people with disabilities. Next, the average value for this total result is identified. It had value: 21.76 (minimum - 8 and maximum - 34). It was divided into three categories of the obtained interval.

Thus, the category: low level had the values below 17, the category: average level, between values 17-27 and the category: high level, values over 27. The results were as follows: 10 cases (10.8%), for the average, most of the cases - 77 (82.8%) and for the high level, only 6 cases (6.5%).

Next, we wanted to analyse these results in terms of the criterion: completed studies.

Table 2. Distribution of results on three categories

<i>Studies</i>	<i>Low level</i>	<i>Average level</i>	<i>High level</i>
Gymnasium	0 subjects (0%)	14 subjects (15,05%)	2 subjects (2,15%)
High-school	10 subjects (10,75%)	27 subjects (29,03%)	4 subjects (4,30%)
Post-secondary education	0 subjects (0%)	22 subjects (23,66%)	0 subjects (0%)
University	0 subjects (0%)	14 subjects (15,05%)	0 subjects (0%)

And from these results, we notice that we cannot speak of people with a certain level of education that have a higher level for the self-attitude and attitude towards life than the others. All four variants of studies have the same distribution of results: most on average and the remainder disposed on low and high levels in relatively equal proportions.

Calculation of Spearman correlations identified the following: high level correlations - between *I'm a person happy with my life* and *I think I'm fulfilled with my life at the moment* (.721 with $p < 0.01$); *I think I'm fulfilled with my life at the moment* and *I'm happy* (.662 with $p < 0.01$); between *I'm a person happy with my life* and *I'm happy* (.653 with $p < 0.01$) and middle-level correlations - between *I was surprised to have feelings of jealousy towards people who do not experience the same deficiency* and *Sometimes I cry without reason* (.546 with $p < 0.01$); between *I was surprised to have feelings of jealousy towards people who do not experience the same deficiency* and *Sometimes I cry without reason* (.546 with $p < 0.01$); *I was surprised to have feelings of jealousy towards people who do not experience the same deficiency* and *I wish I was born the second time* (.513 with $p < 0.01$); *I wish I was born the second time* and *Sometimes I cry without reason* (.498 with $p < 0.01$).

5. Conclusions

A portrait of self-attitude and attitude toward life of persons with motor deficiency looks as follows:

- **persons with university studies:** are pleased with them (mean: 3.00 with a standard deviation of 0.961); fulfilled with their life (average value: 3.29 with a standard deviation of 0.726), do not think others are to blame for what is happening to them (mean: 2.00 with a standard deviation of 0.784). However, they get angry when they fail (mean: 3.29 with a standard deviation of 0.469); complain without reason (mean: 3.00 with a standard deviation of 1.240); (mean of 2.86, at a standard deviation of 1.027) and want to be born a second time (mean, highest: 3.43 with a standard deviation of 1.360);

- **persons with gymnasium studies:** are the most dissatisfied (mean: 2.88 with a standard deviation of 1,204); are not so fulfilled in their lives (mean: 3.00 with a standard deviation of 730); they get nervous when they fail (mean: 3.38 with a standard deviation of - 1.025); believe that others are to blame for what is happening to them (mean: 2.13 with a standard deviation of 1.408); presents a feeling of jealousy to people who do not experience the same deficiency (the value of the highest mean - 3.00, at a standard deviation of 1.265) and we can say that they do not complain without reason (mean: 2.13 with a standard deviation of 0.957).

The ANOVA test had the following results: $F(3) = 6,095$, $p < 0,01$ between *I'm a person happy with my life* and people's studies; $F(3) = 4,743$, $p < 0,04$ between *I think I'm fulfilled with my life at the moment* and the studies of people.

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