

Received: 11.02.2014
Accepted: 28.09.2014

A – Study Design
B – Data Collection
C – Statistical Analysis
D – Data Interpretation
E – Manuscript Preparation
F – Literature Search
G – Funds Collection

DOI:10.5604/17307503.1124968

OCCUPATIONAL ACTIVITY AND SUBJECTIVE PERCEPTION OF THE QUALITY OF LIFE IN PERSONS WITH MOTOR DISABILITIES IN POLAND

Aleksandra Peplińska^{1[A,B,C,D,E,F]}, Karolina Wołoszko^{2[C,D,E]}

¹ Instytut Psychologii, Uniwersytet Gdański

² Blue Media sp z o.o.

Background:

The aim of the study was to verify the correlation between the undertaken occupational activity and the subjective perception of quality of life for individuals with motor disabilities, manifested as declared happiness, evaluation of one's own life and a sense of purpose in life.

Material/ Methods:

Research was carried out in Poland between 2012 and 2013. 103 subjects – individuals with motor disabilities, both occupationally active and inactive, took part in the study. 44.7% of the respondents had congenital disabilities; 55.3% were disabled due to a previous accident or illness. The respondents' levels of disability were relatively equally distributed between the groups. None of the subjects were medically incapable of working. Three tools were used to verify the research questions and hypotheses: the Purpose in Life Test, the Life Satisfaction Scale, and the Self – Anchoring Ladder.

Results:

We found a significantly positive influence of the occupational activity of individuals with motor disabilities on their perception of purpose in life and overall life evaluation, both in the present and in the future. There is also the significance of variables such as: the sex of the respondents and the reason and level of disability on the aforementioned correlations. For example we found that occupational activity (or lack thereof) had a stronger influence on men and the occupationally inactive individuals with congenital disabilities exhibited the lowest quality of life indices.

Conclusions:

It was found that taking action aimed at the occupational activation of disabled persons resulted in overcoming reservations and stereotypes among employers.

Key words: occupational activity, disability, quality of life

SUMMARY

INTRODUCTION

Quality of life is currently addressed in many areas of science, making it possible to consider this idea from an interdisciplinary perspective (Bańka 2005; Pačalska et al. 2012; Peplińska, Rostowska 2013; Tomaszewski et al. 2013; 2014). Hence, depending on the analysed dimension, one can talk about the medical, social, economic, philosophical or cultural aspects of an individual's quality of life (Rapley, 2003). All of these fields are linked by the fact that their main intent is to increase the quality of life across all these aspects (Daszykowska, 2006). The most commonly listed factors influencing the quality of life in adults include: physical, emotional, and intellectual factors, satisfaction in life, social functioning, vitality, energy, economic status, sexual activity, and the manner in which free time is spent (Bauman, 2006). The psychology of health and medical sciences started discussing the notion of the quality of life after 1948, when the WHO adopted a definition of health that extended beyond the traditional biomedical approach that focused on the negative measures of health (Schipper, 1990; Rapley, 2003). A transition occurred, moving from a concentration on mortality or morbidity to taking into account a state of complete well-being that is physical, psychological, and social, as presented in the biopsychosocial model (Doward, McKenna, 1998; Bidzan, Aponowicz, Bidzan, Szulman-Wardal, 2010; Bidzan, 2011). K. Denek (Daszykowska, 2006) supplements this definition with the dimension of perception of self-identity, that is, self-awareness, which has an influence on the integration of all the elements of health. The biopsychosocial model turned the scientific world's attention towards the fact that any illness not only leads to physical weakening of the organism but also significantly impacts the psychological, social, and spiritual elements (Sęk, 1993; Daszykowska, 2006; Bidzan, Aponowicz, Bidzan, Szulman-Wardal, 2010; Bidzan, 2011). According to WHO, it is possible to define categories from which one can estimate quality of life. These categories include: mental and psychological state, level of independence, social relationships, environment, and spiritual life (Gustavsson, Bränholm, 1999; Nakaoka, Singh, Takahashi, Otsuka, Juneja, 2012; Bidzan, Bieleninik, 2013). The social sciences largely concentrate on the universal meaning of the quality of life (Tobiasz – Adamczyk, 1996). A. Bańka (2005) defines the quality of life as a result of the development of an individual and stresses that an individual assesses their quality of life based on past experiences, current experiences, the expectations for the future, and public opinion. The perceived level of quality of life is subject to change, together with the stages of development in life. It is possible to highlight certain goals and roles to fulfil in every stage. For this, it is necessary to take into account the society that the individual lives in and the particular wealth of experience. Therefore, the quality of life can be associated with different categories at different stages of psychosocial development (Bańka, 2005).

There is also a distinction between the subjective and objective in terms of the quality of life (Rostowska, 2009; Peplińska, Rostowska, 2013). The objective approach allows for the assessment of the quality of life based on quantitative

and qualitative objective measures. The subjective approach gives the possibility of accounting for an individual's level of satisfaction, and the level to which their needs are met. The subjective approach also talks about correlations between the quality of goods or services and the satisfaction perceived by an individual. Among the most commonly listed factors shaping the subjective perceptions of quality of life are those of a sociodemographic character, such as gender, age, education, profession, prosperity, living conditions, marital status, children and also health or socio-economic status as determined by their professional occupation. According to J. Czapiński (1994) health is the most common predictor of happiness – though only the subjective assessment is significant. This influence might result from psychological issues that are concomitant with the illness – the acceptance of the illness or lack thereof, fear for life, lowering of self-esteem and sense of self-worth, or an increase in nuisances resulting from the lowering of activities of daily living and independence (Reaburn, Rootman, 1996; Gustavsson, Bränholm, 1999; Nakaoka, Singh, Takahashi, Otsuka, Juneja, 2012). Activities of daily living have the biggest influence, as they can change due to illness. Research shows that people suffering from illness can remain equally happy, but only if they remain active (Czapiński, 1994; Livneh, Antonak, 1997; Bidzan, 2008).

In the health and medicine fields, quality of life is also considered in subjective and objective aspects (Reaburn, Rootman, 1996; Wołowicka, Jaracz, 1998). The state of health, functioning, and socio-economic status, as well as the levels of satisfaction with life of the ill person and their self-perceptions are all analysed (Tobiasz – Adamczyk, 1996; Schalock, 2000). An individual questioned about their quality of life and its determinants tends to put health in one of the top places, which makes it a very important condition for the perception of happiness. Health is therefore instrumental to the quality of life, as it helps to achieve life goals (Wołowicka, Jaracz 1998). H. Sęk (1993) treats the objective dimension of health as the overall quality of life of an individual informed by the properties of the natural world, items and culture and objectively assessed attributes of an individual, as indicated by the standard of living and social position. The subjective dimension is a result of the internal evaluation processes of individual areas of life and of life as a whole. The way a person assesses the individual spheres of life depends on their structure of needs and their value system, as well as what they understand as the notion of purpose and meaning in life.

J.M. Reaburn and L. Rootman (1996) portrays the essence of the quality of life as a subjective state of happiness as experienced by an individual. Illness or disability leads to a disturbance in the ability to enjoy a good mental, physical and spiritual state. When an illness or disability occurs in an individual's life, it significantly impacts their quality of life, as one must take into account all the losses that have occurred in the various aspects of their life (Tobiasz-Adamczyk, 1996). Disability or illness can lead to the loss of a sense of purpose and meaning in life, and through limiting independent actions and the ability to fulfil one's goals, they negatively affect the quality of life and cause an increase in a sense of adversity (Livneh, Antonak, 1997; Sierakowska, Krajeńska-Kułak, 2004). Dis-

ability and the associated individual's particular situation lead to a significant decrease in the standard of living, thereby lowering the sense of security, material condition and hindering social interactions (Sierakowska, Krajeńska – Kułak, 2004). In this case, the particular aspect highlighted in a person's subjective assessment of their disability is very important. This is because it may lead to becoming introverted, avoiding interactions with others, increasing in their sense of powerlessness and sadness that impinges on all the areas of an individual's functioning (Tobiasz-Adamczyk, 1996; Włodarczyk, 1998; Sierakowska, Krajeńska-Kułak, 2004).

A. Michalos presents the concept of a quality of life that directly concerns the disabled (Kowalik, 2000; 2007). It is a theory of multidimensional discrepancies, considering the real possibilities and desires within a given aspect; the current level of the quality of life and its highest level in the past, as well as the degree to which an individual's physical and psychological traits meet their environment's requirements. Research based on this concept shows that sometimes individuals with higher levels of disability perceive their quality of life as higher than those with lesser degrees of disability, depending on the severity of the aforementioned discrepancies (Wołowicka, Jaracz, 1998).

G.D. Bishop proposed a theory about the quality of life in illness and disability that is based on the assumption of a relationship between the degree of adaptation to the illness and disability as well as their acceptance; and the quality of life and satisfaction. An illness or disability affects many areas of life. It interferes with the functioning of an individual, which, in effect, lowers their overall quality of life. The will to adapt to a new situation and to go back to a quality of life that is as similar as possible to what it was before the illness is a standard reaction of an individual to changes caused by illness or disability (Kostrzewski, Zasępa, 2007; Bidzan, 2011).

The influence of disability or illness on the activities of daily living can be described in subjective and multidimensional models of the quality of life. Two factors, satisfaction modified by importance and the ability to exercise control, have a very important impact on the perceived quality of life.

Disability often leads to a decrease in the overall perception of the quality of life, as a disabled individual has a lower chance to derive satisfaction, especially in the important areas of life, and loses the sense of control over their actions. However, due to the adaptation mechanisms that come into play after some time, the quality of life can start to slowly return to the levels seen before the onset of disability or illness. The individual can reorganize their life in terms of values, giving more meaning to areas of life that used to be less important but which can now lead to great satisfaction (Kostrzewski, Zasępa, 2007).

It is worth remembering what was already mentioned before – one of the significant factors shaping the subjective perception of the quality of life is one's socio-economic status. Professional occupation is one of the determinants of socio-economic status. Up until now, many researchers concerned with occupational psychology, focused mostly on the issues of pathologies in the workplace

and their influence on an individual's life (Lubrańska, 2008). However, with an increased frequency due to the influence of positive psychology, the researchers' attention is directed towards the influence of occupation on the improvement in the quality of life (Rostowska, 2009). Work is one of the basic spheres of functioning for an adult individual (Czarnecki, 1985). It clearly shapes our identity, and, besides the material aspect, it influences the formation of social ties (Reaburn, Rootman, 1996). Due to the fact that work is such an important area of our life, it should give us satisfaction, which translates into an eagerness to constantly develop and thereby it determines our quality of life (Lubrańska, 2008). A body of research indicates that work has a great influence on the shaping of one's satisfaction with life. This influence is especially highlighted in cases of the loss or lack of work (Derbis, 2003). However, when discussing the influence of occupation on satisfaction with life, one needs to take into account the fact that the impact work has on one's level of happiness depends on the value they place on work and how engaged they are with it (Veenhoven, 1991; Czapiński, 1994).

The attitude of a disabled individual towards work may be shaped in two ways, depending on whether their disability is congenital or acquired (Skupiak, 2008). Acquiring a disability at an early age can interfere with the process of socialisation. This happens when an individual is surrounded by overzealous care from family and friends and has no opportunity to face and deal with many problems. Such individuals will not see the correlations between their own effort and the resulting benefits. They will not see the values that work might bring, which can result in a reluctance to undertake work. A different situation takes place when an occupationally-active adult individual is affected by disability. In such cases, the occupational sphere becomes disorganised and the individual might become excluded from the labour market. In subsequent attempts at returning to work, the range of choices for particular jobs may significantly decrease. The financial situation worsens and social independence is lost. This may lead to serious emotional disorders, especially when the disability makes returning to work impossible (Kowalik, 2007; Otrębski, Roźnowski, 2008). Occupation plays many roles in the life of an individual – in the case of a disabled person, it mainly has an economic, but also a rehabilitation and social function (Kowalik, 2007). According to R. Ossowski (2004), work is a value that allows an individual to fully participate in social life. It is a condition, an opportunity, but also a way of fulfilling many non-economic needs. In the case of illness or disability, one can notice its importance for the process of social rehabilitation (Ossowski, 2004). Disabled individuals that are occupationally active establish a number of relationships with others, developing their own social competences. They have to overcome a lot of barriers, fears, and difficulties. Even the term 'disabled' itself might be a reason for social exclusion. The additional label of 'unemployed' may aggravate or intensify the process of exclusion. Lack of employment can lead to the lowering of overall motivation, cognitive and emotional deficits, while at the same time negatively influencing the subjective perceptions of the quality of one's own life (Derbis, 2003; Maj, 2007).

THE PROBLEM

The influence of occupation on the quality of life of an individual has been the subject of attention for many researchers. Most agree that occupational activity has a beneficial influence on our whole life. Introducing or reintroducing the disabled into occupational life, so that they can work in the same manner as the able-bodied is of great importance to the overall process of rehabilitation (Skupiak, 2008). The possibility of performing work gives a feeling of regaining control over one's own life and independence from other people. Tasks associated with the job require every day activity – both physical and mental. Their fulfilment gives a lot of satisfaction, which translates into overall satisfaction with life and the sense of purpose and meaning in life (Maj, 2007).

Therefore, the main goal of the presented study was to verify the influence of occupation on the subjective perceptions of quality of life of individuals with motor disabilities, exhibited as the perceived overall satisfaction with life, the sense of purpose and meaning in life, and an assessment of one's own life.

This objective of the study implies the following research questions:

- Does becoming occupationally active significantly influence the subjective evaluation of the quality of life by individuals with motor disabilities, manifested by the satisfaction with life, sense of purpose in life, and the overall assessment of their own life?
- Will sex be a significant factor in determining the differences in terms of the subjective evaluation of quality of life from individuals with motor disabilities that are or are not occupationally active?
- Does the cause of disability and the degree of disability determine significant differences in the subjective evaluation of the quality of life by individuals with motor disabilities that are or are not occupationally active?

The following research hypotheses (taking into account the justification of the choice of the research problem through literature review and the assumed theoretical basis for empirical research) were formed:

H1: Individuals with motor disabilities that are occupationally active will score higher than individuals that are not occupationally active in terms of the assessment of their own life, satisfaction with life and the sense of purpose in life. Research on healthy subjects (Czapiński, 1994) shows that occupational activity leads to an increased assessment of one's own life, increased satisfaction with life and an increased sense of purpose in life. Therefore we assumed that occupational activity will influence disabled individuals to the same extent, also taking into account the rehabilitation function of occupation (Otrębski, Rożnowski, 2008).

H2: In terms of sex, it was assumed that, in analogy to the first hypothesis, both women and men that are occupationally active will score higher than members of the same sex who are not occupationally active. When taking into account comparisons between sexes, we assumed that occupationally active women will score lower than men in the measures of quality of life. Previous research (Czapiński, 1994) had shown that women generally score lower than men

in assessments of the quality of life, satisfaction with life and sense of purpose in life. Therefore the differences in these dimensions should be similar for the individuals with motor disabilities. However, in the case of individuals who are not occupationally active, the relations will be the opposite - occupationally inactive men will score lower than women in terms of the quality of life. This is due to the still-prevalent role of occupational activity in shaping the self-esteem and the perception of self-worth of men. Such an explanation is in accordance with the theories of processes of socialisation and internalisation of gender norms.

H3: Individuals with motor disabilities that are occupationally active, whose disability is acquired, will evaluate their own life, satisfaction with life and the sense of purpose in life higher than occupationally active people with congenital disabilities. According to S. Kowalik (2007), people with congenital disabilities are frequently surrounded by overzealous care from their closest social environment, which is why they do not fully develop independence, which in turn translates into lower scores in the subjective assessment of their quality of life.

H4: Disabled individuals with low degrees of disability will score the highest for the indicators of quality of life, due to a smaller number of problems with adaptation to their environment and changes in terms of previous social relationships (Kowalik, 2007).

METHOD

This research was carried out between 2012 and 2013. 103 subjects with motor disabilities, either occupationally active or inactive, but with no medical incapacity for work took part in the study. All people in the occupationally inactive group could potentially work within the limits of their health and physical abilities. Given the assumed research hypotheses, the choice of subjects took into account variables such as sex, cause of disability (congenital or acquired) and the degree of disability. Individuals who were in the acquired disability group acquired their disabilities during adulthood.

63.1% of the subjects were women. 49.5% were occupationally active at the time of the study and they predominantly undertook white-collar work (68.0%). 44.7% of the respondents had congenital disabilities, the remaining 55.3% acquired the disability due to, for example, an accident or illness. The degree of disability was distributed relatively evenly, i.e. 32.0% of subjects had a mild degree of disability, for 45.6% the disability was moderate, and 22.3% were severely disabled, though not medically incapable of work. Subjects were aged between 22 and 56. The majority of them had university level education (48.5), 35.9% had secondary-school education, 9.7% vocational education, and 5.8% had finished their education at the primary level.

Three research tools were used to verify the posed questions and assumed hypotheses:

1. Purpose in Life Test (PIL) by J. Crumbaugh and L. Maholick adapted for Polish by Z. Płużek (Popielski, 1987), referring to the concept of noögenic neurosis

by V. Frankl and allowing for an assessment of the level of awareness of the purpose in one's own life as well as life goals, meaning of life, affirmation of life, self-evaluation, assessment of one's own life, sense of responsibility and freedom, and attitude towards death and suicide. The Cronbach's alpha reliability of the Polish version of the tool ranges between 0.64 and 0.70, depending on the investigated population.

2. The Satisfaction with Life Scale (SWLS) created by E. Diener, R.A. Emmons, R.J. Larson and S. Griffin, adapted for Polish by Z. Juczyński (2001). The Cronbach's alpha reliability for this tool is satisfactory and equals 0.81.
3. Self – Anchoring Ladder created by H. Cantrill, used to measure quality of life, happiness and wellbeing. The scale allows for an assessment of one's own life on a continuum from 0 (the worst possible life for you) to 10 (the best possible life for you). For the purposes of the current research, respondents were also asked to assess their own life in retrospect (assessment of life as it was 5 years ago) and as they expect it to be in the future (assessment of life as it will be in 5 years). Research in the Polish population established the Cronbach alpha coefficient to be 0.76 [8].

RESULTS

The analysis of differences between the groups was first carried out using the Student t-test in order to confirm the value of researching correlations between the occupational activity and subjective assessment of the quality of one's own life among individuals with motor disabilities. Results confirmed the value of the analyses conducted in the remaining part of the study. Whereas we observed no differences in overall satisfaction with life measured by the SWLS test between occupationally active and inactive subjects ($t=0.133$; $p\leq 0.894$), the remaining dimensions measuring the quality of life revealed some significant differences. It turned out that occupationally active individuals assessed both their current life ($t=2.79$; $p\leq 0.006$) and their life in a 5-year perspective ($t=3.60$; $p\leq 0.0001$) higher than the occupationally inactive individuals. Similar relations were observed in terms of the overall sense of purpose in life ($t=2.42$; $p\leq 0.02$), and its separate dimensions i.e. life goals ($t=2.93$; $p\leq 0.04$), affirmation of life ($t=2.01$; $p\leq 0.05$), evaluation of one's own life ($t=2.18$; $p\leq 0.03$), and sense of responsibility and freedom ($t=4.02$; $p\leq 0.0001$). Occupationally active disabled individuals scored significantly higher than inactive individuals. One can infer, referring to the previously assumed H1 hypothesis, that occupational activity contributes to a significant increase in the subjective assessment of one's quality of life. Therefore it can be an important factor in the process of rehabilitation and the stimulation of participation in social life for individuals with motor disabilities. However, it is worthwhile verifying the above for other variables that may be important moderators or change the direction of the observed relations i.e. sex, cause of disability, degree of disability.

Two types of statistical analysis were carried out for the sex variable: a between-sexes analysis of occupationally active and inactive individuals, and a

within-sex analysis of the same groups. Statistically significant relations in the sense of purpose in life were observed only in the group of men. Occupationally active men assessed the sense of purpose in life ($t=2.71$; $p\leq 0.01$), life goals ($t=2.84$; $p\leq 0.007$), meaning in life ($t=1.98$; $p\leq 0.05$), affirmation of life ($t=2.34$; $p\leq 0.03$), evaluation of one's own life ($t=2.30$; $p\leq 0.03$) and the sense of responsibility and freedom ($t=4.33$; $p\leq 0.0001$) significantly higher than the occupationally inactive men. The only significant differences in the group of women were observed for the assessment of current and future life. Occupationally active women assessed both their current ($t=4.11$; $p\leq 0.0001$) and future life ($t=2.83$; $p\leq 0.006$) higher than the occupationally inactive women. There were no significant differences between the groups for overall satisfaction with life. In the analysis of the between-group results for occupationally active individuals, the only differences were observed for the assessment of one's future life. Men assessed their future prospects higher than women did ($t=2.53$; $p\leq 0.01$). It is therefore possible to infer that sex is not an important factor for determining differences between the groups for occupationally active disabled individuals. However, these differences were clearly visible in the group of occupationally inactive disabled individuals. In this group, men assessed their life significantly lower and manifested a lower sense of purpose in life, both in terms of the overall score ($t=2.33$; $p\leq 0.02$), and the separate dimensions. After analysing all of these results, we find that the H2 hypothesis was only partially confirmed. The influence of the sex variable is not clear. There were no differences between men and women in the case of occupationally active disabled individuals. Differences between sexes appeared in the analysis within the occupationally inactive group. The within-sex analysis between the occupationally active and inactive groups revealed differences only in the case of men. One can therefore infer that the effect of the occupation variable is stronger in the group of men. Occupational activity has a beneficial influence on the subjective assessment of the quality of life of men (lack thereof causes a clear decrease in the subjective perception of the quality of life).

Bearing in mind the above preliminary analyses of group differences, we attempted to look for closer relationships between the occupational activity and the quality of life of the disabled, taking into account the causes and degrees of disability. We used one-way analysis of variance (one-way ANOVA) as well as post-hoc tests (Tuckey's-b and Bonferroni) to verify these relationships.

In terms of the cause of disability – acquired or congenital – once again no differences were observed between the groups for overall satisfaction with life. However, as in the comparative analyses between the sexes, those differences were observed with regards to assessment of one's own life and sense of purpose in life.

It turned out that occupationally inactive individuals with congenital disabilities assessed their current life the lowest, whereas the occupationally active individuals with congenital disabilities assessed it the highest ($p\leq 0.01$). These results are presented in Table 1.

Therefore, occupationally inactive individuals with congenital disabilities may be a specific risk group in terms of wellbeing, which is in line with the assumed hypothesis. On the other hand they may be the most promising group for the process of social rehabilitation if the activity occurs, which remains in conflict with the aforementioned H3 hypothesis. In contrast to the people with acquired disabilities, individuals with congenital disabilities may have the most sensible attitude towards their own disability, which consists not only of a relative acceptance, but also a successful adaptation to their environment with no signs of emotional disturbance resulting from the loss of the life and opportunities as they previously had known them. However, a conscious education/upbringing process, leading to a gradual transition to independent living, and away from the dependence of the child on the parent, is a condition for such an attitude. Such an upbringing gives opportunities to undertake a number of social roles and cope with difficulties. There was a significant effect of occupation, independent of the cause of disability, on the assessment of future prospects. The occupationally active individuals, both with congenital and acquired disability, assessed their life in a 5-year perspective higher than occupationally inactive subjects (Table 2).

Analogical relationships were observed for the sense of purpose in life measured by the PIL test. Significant differences between the investigated groups were observed for: the overall sense of purpose in life, life goals, affirmation of life, evaluation of one’s own life, sense of responsibility and freedom, and attitude towards death and suicide (Table 3).

Table 1. Assessment of current life, with regards to the ‘occupation’ and ‘cause of disability’ variables – Tuckey’s-b test (F= 3.71; p≤0.01)

Occupation / Cause	Subset for alpha = 0,05	
	1	2
unemployed / congenital	4.00	
unemployed / acquired	4.67	4.67
employed / acquired	5.53	5.53
employed / congenital		6.24

Table 2. Assessment of life in a 5-year perspective, with regards to the ‘occupation’ and ‘cause of disability’ variables – Tuckey’s-b test (F= 5.11; p≤0.003)

Occupation / Cause	Subset for alpha = 0,05	
	1	2
unemployed / congenital	4.30	
unemployed / acquired	4.44	
employed / acquired		6.50
employed / congenital		6.62

Table 3. Mean scores for sense of purpose in the life of people with motor disabilities with regards to 'occupation' and 'cause of disability' variables.

Dimension of sense of purpose in life	Employed / Congenital	Employed/ Acquired	Unemployed/ Congenital	Unemployed/ Acquired	F	P
Life goals	28.00	26.13	22.19	24.74	4.06	.009
Life meaning	16.05	15.20	13.54	15.48	1.93	.130
Affirmation of life	21.14	20.03	16.62	20.26	3.94	.01
Self-evaluation	10.95	10.77	10.23	10.52	.54	.66
Evaluation of one's life	10.81	10.67	8.96	10.44	3.50	.02
Responsibility and freedom	11.29	10.50	8.42	9.85	7.89	.0001
Attitude towards death and suicide	10.71	9.33	8.85	10.96	6.41	.001
Purpose in life (Overall Index)	108.76	102.87	88.77	102.19	4.28	.007

The conducted analysis, which included the Tuckey's-b test, revealed that occupationally inactive individuals with congenital disabilities manifested the lowest overall scores for the sense of purpose in life. They scored the lowest on several subscales: meaning in life, affirmation of life, evaluation of one's own life, sense of responsibility and freedom; and they signalled a positive attitude towards death and potential suicidal thoughts most frequently (the lowest score on the attitude towards death and suicide subscale). Analogically to the scores for the assessment of one's own life, occupied individuals with congenital motor disabilities scored the highest for the overall sense of purpose in life, the sense of responsibility and freedom subscale, and they also least frequently declared potential suicidal thoughts. Statistical analysis aimed to verify the overall level of satisfaction with life revealed no significant differences between the investigated groups.

The same methods of statistical analysis were used to verify the influence of the degree of disability on the relations between the occupational activity and subjective perception of the quality of life in individuals with motor disabilities. We took into account three variants of the degree of disability variable: mild, moderate and severe. Again, no differences were observed between the investigated groups for the overall satisfaction with life dimension measured by the SWLS test. However, similarly to the previous analyses, some differences were revealed for the assessment of one's own life (though not in retrospect) and sense of purpose in life. Occupationally inactive individuals with severe degrees of disability scored the lowest for the assessment of current life ($F=2.84$; $p\leq 0.02$) and life in a 5-year perspective ($F=4.51$; $p\leq 0.001$) whereas occupationally active individuals with a mild degree of disability scored the highest in these regards. Therefore the H4 hypothesis was confirmed (Table 4 and 5).

We also observed some significant relationships between the groups for particular dimensions of sense of purpose in life: life goals, affirmation of life, evaluation of life, self-evaluation and sense of responsibility and freedom (Table 6).

Table 4. Assessment of current life, with regard to 'occupation' and 'degree of disability' variables – Tuckey's-b test (F= 2.84; p≤0.02)

Occupation /Degree of disability	Subset for alpha = 0.05		
	1	2	3
Unemployed / severe	3.27		
Unemployed/ mild	4.58	4.58	
Unemployed/moderate	4.73	4.73	4.73
Employed/moderate	5.72	5.72	5.72
Employed/mild		7.29	7.29
Employed/severe			7.42

Table 5. Assessment of life in 5-years perspective, with regard to 'occupation' and 'degree of disability' variables – Tuckey's-b test (F= 4.51; p≤0.001)

Occupation /Degree of disability	Subset for alpha = 0.05	
	1	2
Unemployed / severe	3.27	
Unemployed/ mild	4.53	4.53
Unemployed/moderate	4.73	4.73
Employed/moderate	5.44	5.44
Employed/mild	5.67	5.67
Employed/severe		6.64

Table 6. Mean scores for sense of purpose in life for individuals with motor disabilities with regard to 'occupation' and 'degree of disability' variables.

Dimensions of sense of purpose in life	Employed/ mild	Employed/ moderate	Employed/ severe	Unemployed/ Mild	Unemployed/ moderate	Unemployed/ severe	F	P
Life goals	26.29	25.64	30.75	22.21	21.41	24.73	5.01	.0001
Life meaning	15.93	14.80	16.67	15.47	13.86	13.91	1.22	.31
Affirmation of life	21.71	19.56	23.83	19.32	17.55	16.73	3.91	.003
Self-evaluation	11.36	10.32	12.50	10.37	9.55	11.36	4.37	.001
Evaluation of one's life	11.57	10.32	11.08	9.63	9.77	8.91	2.35	.05
Responsibility and freedom	11.50	10.12	11.67	9.21	9.68	7.73	6.18	.0001
Attitude towards death and suicide	9.50	10.04	10.08	9.95	10.18	9.27	.36	.88
Purpose in life (Overall Index)	107.86	100.80	116.58	96.16	92.00	92.64	2.07	.07

The analysis of these results (including the Tuckey-b test) revealed interesting relationships between the professional activity and the degree of disability of the respondents. It turned out that people diagnosed with a severe degree of disability who are not occupationally active scored the lowest in terms of affirmation of life, evaluation of life and sense of responsibility and freedom. However, occupationally active individuals with the same level of disability scored the highest in this regard. Additionally, they scored the highest for self-evaluation and life goals. Interestingly, all of the unoccupied people, independent of the level of disability, scored significantly lower for the life goals' dimension. Occupationally active subjects diagnosed with a mild degree of disability scored the highest for assessment of one's own life. Nevertheless, it is worthwhile contemplating the high results for individuals with a severe degree of disability. It is clearly visible that the influence of occupational activity on the subjective perception of the quality of one's own life is strongly positive for individuals with a severe degree of disability.

Bearing in mind the presented results, we decided to conclusively verify the relationship between the occupational activity of individuals with motor disabilities and the subjective assessment of one's own quality of life. To achieve this goal, we carried out a path analysis of a structural model. The satisfaction with life and sex variables proved insignificant or of low significance for the analysed relationships, so they were not included in the theoretical model established as a basis for this analysis. Results are presented in the diagram below.

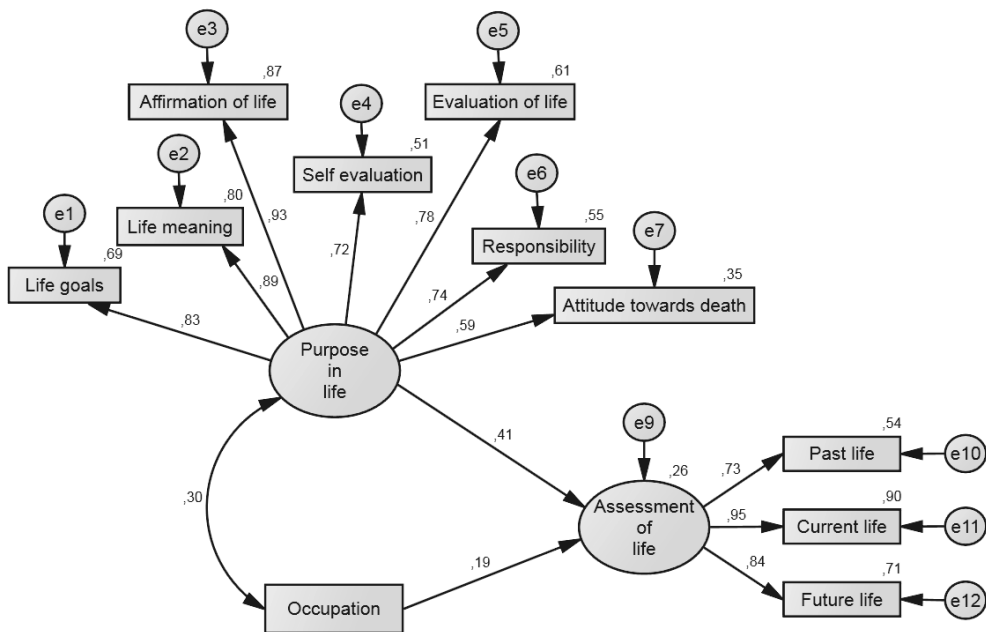


Fig. 1. The relationships between occupational activity, level of education and sense of purpose in life and the assessment of one's own life for individuals with motor disabilities

Analysis of the fit of the model to the data ($\text{Chi}^2(42)=57.80$; $p=0.06$; $\text{RMSEA}=0.06$; $\text{GFI}=0.93$; $\text{AGFI}=0.88$; $\text{CFI}=0.89$) allows us to state that the model satisfactorily represents the true relationships between the variables, and it allows us to predict the levels of individual variables with an acceptable precision. The model explains about 90% of the empirical variability in the variance-covariance matrix for the group of all the disabled individuals (the relationship of occupational activity, sense of purpose and meaning in life, and evaluation of one's own life). We can therefore see a strongly positive correlation between the undertaking of occupational activity and both the sense of purpose in life, and assessment of one's own life for individuals with motor disabilities.

DISCUSSION

Occupational activity that allows the full use of occupational skills and fulfilment of important needs is an imperative issue for every individual, independent of the level of physical fitness. The presented results show that occupational activity is also important for individuals with motor disabilities, as it influences their subjective assessment of their quality of life. Occupational activity is strongly correlated with the assessment of one's own life as well as a sense of purpose in life, as manifested in the following dimensions: life goals, affirmation of life, self-evaluation and evaluation of one's own life, sense of responsibility and freedom and, finally, attitude towards death and suicide. The results of comparative analyses indicated that occupationally active individuals with motor disabilities assessed their lives significantly higher than occupationally inactive individuals with motor disabilities. They also manifested higher levels of sense of purpose in life, therefore confirming the H1 hypothesis. These results are in line with previous research regarding the impact of occupational status on the level of satisfaction with one's own life among the disabled (Chmielewska, 2007; Kostrzewski, Zasępa, 2007; Maj, 2007; Skupiak, 2008; Rostowska, 2009). However, most importantly, they are in line with the postulates about the need to undertake actions for the occupational activation of disabled individuals, and they confirm the need for programmes implementing these principles. Indeed, work helps disabled individuals not only to achieve a level of economic independence, but also to comprehensively develop in the physical, psychological and social dimensions. Thus, it is an important factor in the process of rehabilitation (Daszykowska, 2006; Kowalik, 2007).

Verification of the assumptions about the role of the sex of the subjects, revealed that occupational activity (or lack thereof) had a stronger influence on men. Occupationally active men with motor disabilities assessed their current lives as well as their future prospects significantly higher than occupationally inactive men. They also manifested a higher sense of meaning in life, affirmation of life, life goals and sense of responsibility and freedom. The negative influence of a lack of occupational activity was also visible in the comparative analyses of men and women. The group of occupationally inactive men exhibited significantly

lower indices of the quality of life than the group of women. One can therefore state that while occupation has an overall strongly positive influence on the perception of the quality of one's own life, this effect is stronger in men. This fact is closely related to cultural norms and gender stereotypes that are still functioning in our society, where unemployment among women, who often seek alternative forms of activity such as housekeeping, is more accepted (Derbis, 2003). Moreover, traditional gender ideologies put a much bigger responsibility on men to provide and be the head of the family. Lack of employment can result in strong emotional reactions from men who cannot fulfil these roles (Peplińska, Rostowska, 2013). Inability to fulfil those roles stereotypically assigned to men, influences their self-image and lowers their self-esteem, often leading to the aforementioned emotional problems (Peplińska, Rostowska, 2013).

Apart from the sex variable, the cause and degree of disability also determined the significant relations between the occupational activity and subjective evaluation of one's own life. It turned out that, in accordance with the assumed H3 hypothesis, the occupationally inactive individuals with congenital disabilities exhibited the lowest indices of the quality of life. According to S. Kowalik (2007), individuals with congenital disabilities are very often surrounded by overzealous care from their social environment – especially their parents who frequently manifest overprotective attitudes. Unfortunately these kinds of parental attitudes, independent of the health or illness of the child, interfere very strongly with the process of the child's development. Excessive care from the environment, leading to the *de facto* absolution of the child of responsibility and precluding their independence may lead to a lack of resourcefulness, an inability to deal with problems, a lack of faith in their own abilities, reliance on external control, and often a full dependence of the child on their parents. Such situations have very negative effects on the wellbeing of a young individual. Children (especially those with disabilities) coming from the described environments, exhibit a large number of emotional deficits which may bring about future perceptions of a low quality of their own life (Bidzan, 2011). It is, however, interesting that in the presented results, occupationally active individuals with congenital disabilities frequently exhibited the highest scores for the quality of life, which had not been assumed in the previously mentioned hypothesis. It is therefore possible to confirm the strong effect of occupational activity on people with congenital disabilities. In comparison with individuals with acquired disabilities, they had the favourable situation of being successfully adapted to their environment, without the signs of sorrow associated with their loss. However, a reasonable education/upbringing and an environment that is supportive, but does not render emancipation impossible, are necessary conditions for such an attitude.

Similarly interesting results were observed in terms of the degree of disability. The assumption was that occupationally active individuals with a mild degree of disability, due to the smaller number of adaptational problems as well as the larger scope for potential activities in the labour market, would exhibit the highest indices of quality of life. It turned out that, while in terms of the evaluation of their

own life these assumptions were confirmed, they were not confirmed for the separate dimensions of sense of purpose in life. Occupationally active but severely disabled individuals scored the highest for the life goals, affirmation of life, self-evaluation and sense of responsibility and freedom dimensions of a sense of purpose in life. Whereas occupationally inactive individuals with the same degree of disability had the lowest scores in that regard.

Therefore we see a strong effect of occupational activity on the individuals diagnosed with a severe degree of disability. Permanent and severe disability, very large limitations on physical fitness, significant changes in life and social relations have a very significant negative impact on the psychological wellbeing of an individual, which can lead to serious emotional disorders. Undertaking an occupational activity not only can nullify these influences, but also creates an opportunity for building new, satisfying relations, gaining faith in one's own abilities, and overcoming barriers and limitations; *ipso facto* leading to an increase in satisfaction with one's own life and acquiring a sense of purpose and meaning in life.

The presented results allowed us to draw clear conclusions about the positive impact of occupational activity on the quality of life of individuals with motor disabilities. However, answering some questions leads to the formation of new ones. For example, about the influence of additional variables such as: level of education, previous experience with work, attitudes towards work, system of values, or sense of satisfaction with one's work. Therefore it seems reasonable to further research the factors that may be moderators or mediators of relations between occupational activity and the quality of life of disabled individuals. However, the current results are enough to draw conclusions about the appropriateness of taking action aimed at the occupational activation of disabled individuals, and overcoming reservations and stereotypes among employers. One should remember that problems associated with the lack of occupation of disabled individuals often arise as consequences of an inimical attitude from, and a lack of preparations by, the entities that constitute the labour market.

CONCLUSIONS

It was found that taking action aimed at the occupational activation of disabled persons resulted in overcoming reservations and stereotypes among employers.

REFERENCES

- Bańka, A. (2005) Jakość życia a jakość rozwoju. Społeczny kontekst płci, aktywności i rodziny. In: A. Bańka (ed.), *Psychologia jakości życia*. Poznań: Stowarzyszenie Psychologia i Architektura, 11-78 [in Polish].
- Bauman, Z. (2006) *Liquid Times: Living in an Age of Uncertainty*. Cambridge: Polity Press.
- Bidzan, M. (2008) *Jakość życia pacjentek z różnym stopniem nasilenia wysiłkowego nietrzymania moczu*. Kraków: Oficyna Wyd. Impuls [in Polish].
- Bidzan, M. (2011) *Jakość życia dzieci z chorobą przewlekłą i niepełnosprawnością ruchową i ich rodzin*. In: M. Bidzan, W. Budziński (eds.) *Rozwój przez terapię. Interdyscyplinarne aspekty pedagogiki leczniczej*. Gdańsk: Wyd. GWSH, 126-159 [in Polish].

- Bidzan, M., Aponowicz, I., Bidzan, L., Szulman – Wardal, A. (2010) Health- Related Quality of Life in rheumatoid arthritis from bio-psycho-social perspective. In: J. Bergier (ed.) Environmental factors shaping wellness in sickness and disability. Lublin: Wyd. NeuroCentrum, 21-35.
- Bidzan, M., Bieleninik, L. (2013) Conditions of the Quality of Life and Life Satisfaction of Mothers of Preterm Babies in Poland, *Journal of Socialomics* 2:e117. doi:10.4172/2167-0358.1000 e117 [in press].
- Chmielewska, A. (2007) Stymulacja rozwoju zawodowego osób niepełnosprawnych. In: E. Rutkowska (ed.) Pracownik z niepełnosprawnością. Lublin: Wyd. Norbertinum, 153-174 [in Polish].
- Czapiński, J. (1994) Psychologia szczęścia: przegląd badań i zarys teorii cebulowej. Poznań: Wyd. Akademos [in Polish].
- Czarnecki, K. (1985) Rozwój zawodowy człowieka. Warszawa: Instytut Wydawniczy Związków Zawodowych [in Polish].
- Daszykowska, L. (2006), Jakość życia w koncepcjach związanych ze zdrowiem. *Przegląd Medyczny Uniwersytetu Rzeszowskiego*, 2, 122-128.
- Derbis, R. (2003) Jakość życia z pracą i bez pracy. In: R. Derbis (ed.) Niepokoje i nadzieje współczesnego człowieka. Człowiek w sytuacji przełomu. Częstochowa: Wyd. Wyższej Szkoły Pedagogicznej w Częstochowie [in Polish].
- Doward, L., McKenna, S. (1998) Evolution of Quality of Life Assessment. In: R. Rajagopalan, E. F. Sheretz, R.T. Anderson (eds.) Care Management of skin Diseases. Life Quality and Economic Impact. New York: Marcel Dekker.
- Gustavsson, A., Bränholm, I.B. (1999) Experienced Health, Life Satisfaction, Sense of Coherence and Coping Resources in Individuals Living with Heart Failure, *Scandinavian Journal of Occupational Therapy*, 10, 3.
- Juczyński, Z. (2001) Narzędzia pomiaru w promocji i psychologii zdrowia. Warszawa: Pracownia Testów Psychologicznych PTP [in Polish].
- Kostrzewski, J., Zasępa, E. (2007) Jakość życia osób z niepełnosprawnością intelektualną. In: E. Zasępa, S. Ślaski (eds.) Jakość życia osób niepełnosprawnych i ich rodzin. Kraków: Wyd. Nauk. AKAPIT, 19-42 [in Polish].
- Kowalik, S. (2000) Jakość życia psychicznego. In: R. Derbis (ed.) Jakość rozwoju a jakość życia. Częstochowa: Wyd. WSP, 11-31 [in Polish].
- Kowalik, S. (2007) Psychologia rehabilitacji. Warszawa: Wydawnictwa Akademickie i Profesjonalne [in Polish].
- Livneh, H., Antonak, R.F. (1997) Psychosocial adaptation to chronic illness and disability. Gatherberg: Aspen Publishers.
- Lubrańska, A. (2008) Psychologia pracy. Podstawowe pojęcia i zagadnienia. Warszawa: Wyd. Difin [in Polish].
- Maj, K. (2007) Przełamywanie oporów, obaw i stereotypów w pracy: szkolenia i edukacja osób pełnosprawnych i niepełnosprawnych. In: K. Maj (ed.) Szkolenia z udziałem osób niepełnosprawnych. Warszawa: Academica Wyd. SWPS/EFS, t.2, 9-21 [in Polish].
- Nakaoka, T., Singh, R.B., Takahashi, T., Otsuka, K., Juneja, L. et al. (2012) Globalization of Social and Environmental Determinants of Health. *Journal of Socialomics*, 2:101. doi: 10.4172/2167-0358.1000101.
- Ossowski, R. (2004) Jakość życia – efektywne pełnienie ról rodzinnych i zawodowych jako wyznacznik udanej rehabilitacji. In: M. Kościelska, B. Aouile (eds.) Człowiek niepełnosprawny, rodzina i praca. Bydgoszcz: Wyd. Akademii Bydgoskiej im. Kazimierza Wielkiego [in Polish].
- Otrębski, W., Rożnowski, B. (2008) Sytuacja psychologiczna osób z niepełnosprawnością na rynku pracy. Badania percepcji pracodawców, pracowników i poszukujących pracy. Lublin: Instytut Rynku Pracy [in Polish].
- Pąchalska M., Mańko G., Chantsoulis M., Knapik H., Mirski A., Mirska N. (2012) The quality of life of persons with TBI in the process of a Comprehensive Rehabilitation Program. *Medical Science Monitor*. 8(13) CR432-442.
- Peplińska, A., Rostowska, T. (2013) Quality of Life and Relations Between Work and Family. *Acta Neuropsychologica*, Vol. 11, No.1, 77-92.

- Popielski, K. (1987) Testy egzystencjalne: metody badania frustracji egzystencjalnej I nerwicy noogennej. In: K. Popielski (ed.) Człowiek – pytanie otwarte. Lublin: RW KUL, 237-262 [in Polish].
- Rapley, M. (2003) Quality of life research: a critical introduction. London: Sage Publication.
- Reaburn, J.M., Rootman, L. (1996) Quality of life and health promotion. In: R. Renwick, I. Brown, M. Neglar (eds.) Quality of life and health promotion and rehabilitation. New York: Sage.
- Rostowska, T. (2009) Aktywność zawodowa małżonków a jakość ich życia. In: T. Rostowska (ed.) Psychologia rodziny. Małżeństwo i rodzina wobec współczesnych wyzwań. Warszawa: Wyd. Difin, 60-80 [in Polish].
- Schalock, R.L. (2000) Three decades of quality of life. Focus on Autism and Other Developmental Disabilities. 15 (2).
- Schipper, H. (1990) Quality of Life: Principles of the Clinical Paradigm. Journal of Psychosocial Oncology, 8.
- Sęk, H. (1993) Jakość życia a zdrowie. Ruch Prawniczy, Ekonomiczny i Socjologiczny, 2 [in Polish].
- Sierakowska, M., Krajeńska – Kułak, E. (2004) Jakość życia w chorobach przewlekłych – nowe spojrzenie na pacjenta i problemy zdrowotne w aspekcie subiektywnej oceny. Pielęgniarstwo XXI wieku, 2(7), 23-26 [in Polish].
- Skupiak, B. (2008) Niepełnosprawni na rynku pracy. Dlaczego i jak skłaniać do pracy zawodowej sprawnych inaczej. In: I. Ramik – Mażewska, G. Leśniewska (eds.) Aktywizacja społeczno-zawodowa osób niepełnosprawnych ruchowo. Poczucie jakości życia osób niepełnosprawnych. Szczecin: „Pedagogium” Wyd. OR TWP w Szczecinie, 39-47 [in Polish].
- Tobiasz-Adamczyk, B. (1996) Jakość życia w naukach społecznych i medycynie. Sztuka Leczenia, 2(2), 33-40 [in Polish].
- Tomaszewski W., Mańko G., Ziółkowski A., Pąchalska M. An evaluation of the health-related quality of life of patients aroused from prolonged coma when treated by physiotherapists with or without training in the “Academy of Life” program. Ann Agric Environ Med 2013; Vol. 20, No 2, 319-323.
- Tomaszewski W., Buliński L., Mirski A., Rasmus A., Kowalczyk J., Bazan M., Pąchalska M. An evaluation of antisocial behaviour in children after traumatic brain injury: The prospect of improving the quality of life in rehabilitation Ann Agric Environ Med 2014; 21(3): 649–653.
- Włodarczyk, K. (1998) Znaczenie psychoterapii dla poprawy jakości życia osób z trwałą dysfunkcją narządu ruchu. Postępy Rehabilitacji, 2, 99-106 [in Polish].
- Wołowicka L, Jaracz K. (1998) Jakość życia warunkowana stanem zdrowia w badaniach własnych. Postępy Pielęgni Prom Zdrow, XIII: 81-85.
- Veenhoven, R. (1991) Question on happiness: classical topics, modern answers, blind spots. In: F. Stack, M. Argyle & N. Schwarz (eds.) Subjective well – being: an interdisciplinary perspective. Oxford: Pergamon Press, 7-26.

Address for correspondence:

Aleksandra Peplińska
Instytut Psychologii UG,
Bażyńskiego 4
80-126 Gdańsk
e-mail: psyape@ug.edu.pl