Received: 30.04.2010 Accepted: 08.03.2011	INDIVIDUAL HAPPINESS IN TERMS
A – Study Design B – Data Collection	OF PROCESS NEUROPSYCHOLOGY
 C – Statistical Analysis D – Data Interpretation E – Manuscript Preparation F – Literature Search G – Funds Collection 	Maria Pąchalska ^{1,2(A,B,C,D,E,F)} , Marta Ziółkowska ^{3(B,D,E,F)} ¹ Chair of Neuropsychology, Andrzej Frycz-Modrzewski Cracow University, Cracow, Poland
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	SUMMARY
Background:	The aim of this work was to discover what happiness means to a sample of healthy persons as compared to persons with brain and spinal injury resulting from an automobile accident.
Material/ Methods:	Altogether 800 participants were examined; 300 (group A) were students, another 200 (group B) were persons randomly met by the authors in different social situations, and another 300 (group C) were patients with traumatic brain injury (TBI) or spinal cord injury (SCI). The Individual Happiness Scale was used in the study.
Results: Conclusions:	The great majority of participants found themselves generally happy, with healthy participants marking higher scores and disabled participants lower scores. Total happiness was most often understood as having a goal in life, a feeling of achieving the goal, and a close relationship. Losing a close partner was the main reason for unhappiness, along with loneliness, lack of love, lack of friends, loss of house or job, or being expelled from university. In group C, sickness, disability, pain and a feel- ing of insecurity (anxiety) related to death or dependence on others were listed as causes of unhappiness more often than in other groups. Disabled people feel subjectively less happy than students and random adults. Happiness can be understood as the fuel for human development (ontogenetic view) and evolution (phylogenetic view), whereas unhappiness supports the pro- cess of disorganization, entropy and involution.
	Key words: traumatic brain injury (TBI), spinal cord injury (SCI), quality of life (QOL)

INTRODUCTION

At the beginning of the 21st century we can find many competing theories about the real subject of investigation in psychology, as well as effective approaches to therapy. Nevertheless, none of the dominant frame theories takes happiness either as the beginning or as the aim of research or intervention. For those psychologists who are still fighting for recognition of the scientific character of their discipline, terms like happiness are obstacles on the road to a "real," i.e. empirical science of the mind (Dodge 1930). Although in terms of etymology "psychology" should be a science (*logos*) about the soul (*psyche*), the subject of happiness is marginalized in contemporary psychology, even though the concept of happiness needs the conceptualization of soul and the other way round. When psychology first emerged as a branch of science separate from philosophy, the teleological meaning of happiness was the subject of interest of philosophers, but modern philosophy, with its pessimistic turn, also seems to have lost sight of the problem.

Although the term happiness has been vanishing from psychological terminology, there is one quite obvious fact that should be noticed: most psychological or psychiatric patients would give "unhappiness" as their reason for therapy. They believe that psychotherapy can help them in the process of finding or recovering the missing happiness. For the psychotherapist, however, the feeling of unhappiness that the patient is facing is not a symptom itself, it is rather a result of the negative influence of other, real psychiatric symptoms, which are then the subject of the whole diagnostic and treatment process. In the medical model, health, including psychological health, is understood in terms of the zero hypothesis, which states that a person is healthy who has no symptoms. So if after psychotherapy the patient is happier than they used to be, then the feeling of happiness- as we can safely assume- is a side effect of the treatment process, which was aimed at "zeroing out" the empirical symptoms.

What should be noticed here is the difference between patient and therapist in the way they interpret symptoms. For a patient, symptoms are always unpleasant experiences, feelings or states causing unhappiness, without which there would be no reason to search for therapy. For the therapist, symptoms are clues that point to a diagnosis. They are useful to identify a state that can be labeled as an illness, which is measurably different from the state of health, i.e. a state of zero symptoms. The illness is cured when the symptoms are removed.

In recent years the term Quality of Life (QOL) has emerged in the medical sciences as a substitute term for happiness. QOL studies are mostly conducted by interdisciplinary teams with a psychologist involved (Pachalska et al. 2000, Owczarek 2010). The reason for the interest in QOL is that the success of a physician who saves a person's life is not satisfying if the patient regrets being still alive. However, the basic problem with this research is the lack of commonly accepted, objective methods of examining the main issue: the quality of life (Pachalska 2007, Owczarek & Adamus 2010). Searching for methodology to avoid the subjectivity of the term happiness, we are back at the starting point. The happiness of an individual, family, social group or even the whole society is no longer a subject of scientific discussion. Happiness seems to be a matter of personal value, like religious belief or taste, which is, as the Romans put it, *non disputandum* - not to be discussed.

Nevertheless the subject of happiness has been an issue of concern ever since human beings developed the ability to reflect on their own mental states. In order to exist and maintain a critical mass of adherents, every religious or philosophical system, in ancient times or more recently, needs to give an answer to the basic questions: what is happiness, and what must we do to obtain it? Is happiness a state, feeling or mood? Does it belong to the qualitative traits of a certain person or to intrapsychological feelings? Is happiness the same as joy, pleasure, contentedness? Is happiness a reason for or a result of pleasant feelings? Is happiness something that develops from inside (an egocentric view of happiness) according to personal approach, free will and reasoning, or is happiness something what we get from outside, as a gift or blessing, or perhaps even something that we have a right to demand (an exocentric view of happiness)? Is unhappiness the lack of happiness, or is perhaps happiness the lack of unhappiness?

Warnings against purportedly false happiness are a typical feature of religious systems, which in this way indicate to the followers how following an inappropriate path towards happiness leads to the loss of real happiness, to purgatory and hell. There is, then, something that seems to be happiness but is not (cf. Whitehead 1985).

Real or potential conflicts between the happiness of an individual and the happiness of society or other individuals is also highly problematic, both in theory and practice. The happiness of the society seems to be of higher value, but still it cannot be an intrapsychic feeling, unless we compare human society to societies of ants or bees, where the community develops fast and well, although and even because of the ephemeral and hopeless existence of the community's individuals. In communism it was often said that an individual cannot be happy all alone. Happiness is only found in a happy group, e.g. family, community, nation. A focus on fulfilling one's own, individual needs was deprecated as an "eudaimonistic" understanding of happiness.

In recent years we have witnessed the giving up of all the efforts to enforce a common model of happiness or create utopia (at least in Western civilization). In capitalism there is nothing like the common happiness, and even if it exists, it is impossible to convince an individual that they should sacrifice their own happiness for that of the larger group. The only way to ensure the common good in a market economy is the accurate pursuit by every single person of their own wellbeing. One could remark that at this point there has been a change of focus from "happiness" to "wellbeing," which is another value. In capitalism happiness is a secondary, not even important product of a well-functioning system ensuring wealth.

The potential conflict between wellbeing and happiness is of course much older than the conflict between socialism and capitalism, and has an important teleological aspect. Is the goal of life to be a good person or a happy person? In this conception happiness can become tantamount to pleasure, which cannot stay in conflict with wellbeing, but can actually be in conflict with good. In terms of other religious and philosophical systems, one can argue that only a good person can be happy, and the happiness assigned to bad people is false. Otherwise we should state that a good person can be unhappy (presumably because of unpleasant feelings and experiences connected to the choice of higher morality), when many people of questionable morality show all apparent signs of happiness.

If someone finds the above discussion abstract and only of historical meaning, it suffices to spend a few hours in a clinic with patients after brain or spinal injuries to see that these and other questions are still of vital interest to all of us, not matter how trite or naive they may seem.

The aim of this work is not and could not be solving all these ancient and complex issues in the context of neuropsychological clinical practice. With all these reflections in the background, we posed an apparently easy question: what is happiness for the average person today, struggling with the various life situations that civilization brings? And is it the same for a patient with brain or spinal damage resulting from injuries suffered in a motor vehicle accident?

MATERIAL AND METHOD

For the purposes of this study 800 people were recruited, divided into three groups:

- Group A consisted of 300 persons (150 men and 150 women), who were students of psychology, speech therapy, physiotherapy, pedagogy, and philology.
- Group 2 was made up of another 200 participants (100 men and 100 women (group B) who were randomly met by the authors in different social situations;
- Group C included another 300 participants (150 men and 150 women), who were patients recovering from motor vehicle accidents resulting in damage to the brain or spine, under treatment in the Reintegration and Training Center of the Foundation for Persons with Brain Damage in Cracow, Poland in the years 2000-2004. All the participants were informed about the aim of the study and signed informed consent forms. The participants were asked to give their age, education and their own estimation of their current state of health. The characteristics of the participants are shown in Table 1.

An Individual Happiness Scale designed by the authors was used in the study. The participants' task was to mark their current state of happiness on a scale from 0 to 10, where 0 was defined as unhappiness and 10 as total happiness. They were also asked to describe what a score of 0 and a score of 10 would mean to them. Thus 800 individual scales were collected and then analyzed in both quantitative and qualitative terms. Additional comments in verbal and written form were also collected. This publication reveals only some of the information obtained from this material.

	Group A	Group B	Group C
Number of participants			
Male	150	100	150
Female	150	100	150
Total	300	200	300
Average age	29.6	31.9	28.4
Education (number of partici	pants)		•
Primary	0	55	78
Secondary	300	120	185
Higher	0	25	37
Health (self estimated, numb	er of participants)		
Good	210	99	25
Moderate	80	73	37
Bad	10	28	238
Individual Happiness Scale(min 0 max. 10 points)		
Self estimated score	7.6±1.2	7.4±1.3	7.3±1.1

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Table 1. Demographic characteristics of participants

RESULTS

Quantitative analysis of the results shows that the majority of the participants, i.e. 234 in group A (78.0%) and 158 in group B (79.0%) considered themselves rather happy, and estimated their state as 7 points on the scale. Many participants asked if they were allowed to mark 1/2 of a point, as they felt "3/4" of the way to complete happiness, and were confused by the fact that the scale only provided for full points. In group C the answers were more differentiated, which could be observed in a higher standard deviation; nevertheless - contrary to our expectations – the majority of the participants (198 persons, 66.0% of the group) also marked "7 points," despite their serious health problems. The number of participants in all three groups who estimated their state below 5 was relatively small, which is not consistent with the stereotype of the "sad Pole." None of the participants marked 0 or 10 points on their Individual Happiness Scale, but often, while describing their "full happiness," they expressed wishes, such as "Maybe one day I will be so happy," or "Fate will make me win a million in the lottery and I'll be very happy," or "Maybe heaven will send me full happiness one day." In describing unhappiness people commented: "I have not been that unhappy yet", or "It is a poor person who has 0 points on the happiness scale," or "God save me from unhappiness like that."

The study results concerning the participants' definitions of "0" and "10" on the scale are shown in Figs. 1 and 2.

Our analysis of these results reveals that participants from all groups most often named having a goal in their life, achieving the goal and being in a close relationship as the essence of full happiness. In the comments it was more often stated that it is extremely important "to have someone close to share happiness with" than "to be in love."

In group A, many participants stressed that the criteria for full happiness include completing their education, having a good job, family, love and friendship. One person, a man aged 56, wrote: "I built a house for my family and I was happy. My wife left me, I lost the house, I got married for a second time and built a house again and I was happy. As soon as I finished the house my second wife also left me and took the house. I don't know if I'll marry again but I would like to build another house, because only then am I happy. A finished house is always the end of my happiness."

In group B, more often than in group A. the main criteria for full happiness were connected to financial wellbeing: having money, a house, a job, and comfort (understood as a comfortable life). One person wrote that the only and sufficient criterion for full happiness is having money. There was a note at the bottom of the answer sheet: "As soon as I have the money I can buy the rest!"

In group C, the criteria for full happiness chosen by most participants included having a family or a caregiver, and recovering different skills lost as a result of the accident and illness. They also named such things as the ability to walk, speak clearly, remember, eat and take care of physiological needs without anyone's help.

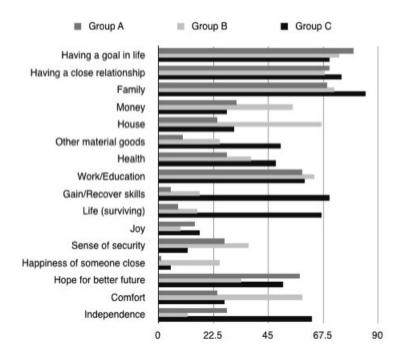
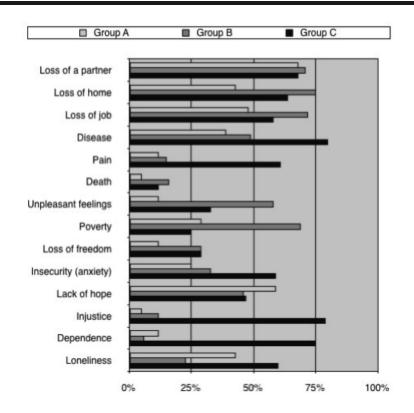


Fig. 1. Factors listed by participants from groups A,B and C as important for happiness



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Fig. 2. Factors listed by participants from groups A, B and C as causing unhappiness

Many people from all three groups named having a good family as a criterion of happiness. Nevertheless only in group C was the statement made that "I can be happy only with my family, because I am not able to live on my own." In group A, it was rather "I will be happy, if I get married happily," and in group B most of the time we read, "I will be happy only if my children are healthy and have everything they need," so their own happiness was depending on the happiness of others.

As the main cause of unhappiness participants from all three groups chose losing a partner in a close relationship and loneliness (both as a result of splitting up the relationship and death), lack of love, lack of friends, losing a house, losing a job, or being dismissed from the university. The majority of the participants thought that losing a goal in life makes people unwilling to live any more. The lack of a goal in life was marked as "0" more often in group B than A and C. In group C, more often than in A and B, the main reason for unhappiness was disease, disability, pain and the threat (anxiety) of death and being dependent on others.

To sum up, we should stress that health was mentioned rather rarely as necessary for happiness, although in Polish culture the saying that "Health is the most important thing in life" is almost obligatory. On the other hand, disease is often marked as the "0" point on the scale and associated with unhappiness. Many patients from group C commented that the idea of happiness changes in life, and is something different for them now than it used to be before, when they were healthy. One patient wrote an additional remark: "Before my accident I was really happy, I just didn't know about it. Now I know what I've lost."

What is specially interesting is the fact that there was rarely a logical connection between the "10" and "0" points on the scale. For example, none of the participants wrote under "0" point only the opposites of the criteria chosen for "10," even though it would seem logical that if "health" is marked as "10" on the scale, then "disease" should be marked "0," or that "poverty" should be "0" if "wealth" is "10," and so on. This rarely occurred, and was never done systematically.

DISCUSSION

Happiness is not a binary trait, or a permanent value in a person's character. It is fluctuating in time and is rarely present in full, though sometimes it is absent. Most of the participants after being directly asked the question "Are you happy?" or "What does happiness means for you?" were confused. Yet it was not difficult for them to mark their state on the Individual Happiness Scale from "0" to "10" points. It is still difficult to assess what the scale measures. A scale is a line defined according to two points. If a scale is to be useful, the two points should lie on one semantic dimension, with the distance between them able to reflect all other values that we want to measure. In the case of our Individual Happiness Scale it is not certain where the two points are, and to be honest their distribution differs much for different people. Nevertheless they are rarely something unusual. It is difficult to imagine how perfect happiness or total unhappiness might look. However in most cases it is possible to assess whether movement is toward the minus, so in the direction of unhappiness, or toward the plus, so in the direction of full happiness. It is much easier to measure and assess the direction of the changes than the possible permanent states in question (Pachalska et. al. 2001).

One of the most important observations from the analysis of our material is the paradox that for majority of participants from all groups happiness is connected mostly to having needs and goals. It should be emphasized that it is not fulfilling the needs and reaching the goals that seems to give happiness, but rather just having goals. The paradox is that fulfilling the needs and reaching the goals brings only the result of a lack of an aim in life. In traditional psychology, this fact is interpreted most often as a cause or symptom of neurosis, which is defined by continuous unhappiness with the current state. In process psychology, on the other hand, continuous pursuit is the engine of all behavior and activity, and the key to human psyche. The English poet Robert Browning wrote, "Ah, but a man's reach should exceed his grasp, or what's a heaven for?"

In this process the role of perception is very important. The need or state must exist as a figure coming out of the background. It is so for happiness and unhappiness. That is the reason why participants did not point to unhappiness as simply the inverse of happiness. Threat and danger are separate qualities, which gives an explanation for choosing disease as "0" more often than health as "10."

It is noteworthy that none of the participants chose being mortal as a reason for unhappiness, though some participants (especially in group C) under "0" wrote "fear of death." Nevertheless the same participants never said that the fact of being alive is 10 on their scale. Some of the participants put "surviving the accident" under "10" as a criterion of happiness (often adding a note "I am so happy that I didn't die in the accident"), but then they did not put death or fear of death under "0."

In the case of factors connected to unhappiness, there is a highly complex relation between unsatisfied needs, unreached goals, and threats at different levels of functioning, from basic physiological functions to intellectual and spiritual aims. It is not true that satisfaction at higher levels is possible without regard to troubles at a physical level, such as as pain or discomfort, but it is also not true that pain or discomfort prevents us from growing intellectually or spiritually. Physical comfort is not an absolute condition of functioning at higher levels, but discomfort is certainly a disturbance. All simplifications, such as saying that a sick person cannot be happy or that sickness has no influence on happiness, would be deceptive.

On the other hand fear and intellectual or spiritual anxiety can lead to serious physical disease and not only in the form of hysterical or psychosomatic disease. In any psychophysical process, disturbance in one phase destabilizes the whole process, although in the next phases the influence of the disturbance can be minimalized, compensated or hidden – unless the process is totally disorganized or stopped (Brown 1988, Brown & Pachalska 2003).

Happiness itself is an aim, which like any other evolutionary aim can be fully reached only by its own annihilation. In other words, when the process reaches its goal, it loses its rationale and comes to an end. In the Gospel according to Saint John (19.30), the crucified Jesus said, "It is finished" (in Greek: teteleito, literally "It has been perfected") and gave up the ghost.

Not without reason the main goal of Socrates was philosophy, the pursuit of wisdom, and not wisdom itself. In ancient Greece, persons who believed that wisdom was a commodity that could be acquired, bought and sold were called "sophistes" – that is, "sophist," but rather literally, "wiseacre." For the same reason, the author of the United States Declaration of Independence, Thomas Jefferson, changed "property" in Locke's canonic triad of natural human rights into "the pursuit of happiness," and not "happiness". In other words, a human being does not have a natural right to happiness, but does have a right to search for happiness. Assuring happiness is impossible, because by guaranteeing happiness we eliminate it.

In reality it is impossible to state whether in the moment of speaking a person is totally happy or not. It is rather a comparison, if the person is now more happy than before (Pąchalska et al. 2001). Reaching happiness is a sign of transformation. The happiness that we feel in the moment of fulfilling a goal or avoiding a threat is just an emotion, lasting only for the time that the hormones responsible for the emotion are active in the organism. If we identify happiness as pleasant emotions, then the complaint that happiness is changing (stated by many participants) is reasonable.

However, happiness seems short lasting because in the moment of reaching a goal or avoiding a threat, that goal or threat is no longer a criterion of happiness or unhappiness, having been rendered obsolete by the course of events.

Winning a game means the end of the game when we get the final results. In the final of Sophocles' *Oedipus the King* the chorus sings:

Count no mortal happy till he has passed the final limit of his life secure from pain (1643-1670).

This fragment makes us aware that if we understand happiness as fulfilling all goals and satisfying all needs, then reaching the state is tantamount to death. The results of the game can be established only when there is no continuation.

In Whitehead's process philosophy (1985), happiness is understood not as something that we possess or not, but rather as something that we pursue, a magnet that pulls us forward. In reality evolutional processes, in contrast to games, have no goals in the popular meaning of the word, but only nodes and ends. There is no simple linear sequence of phases in evolution. The upper branches of the evolutionary tree do not start at the end of the lower branches, but somewhere before the end (Brown 2000), where the new branch is separated and heads its own direction. The branch has its end, but the tree does not. The tree's size and life is dependent on new branches. In the spirit of this parallel, happiness is what the sun is for a tree, that is, something that motivates and enables upward growth.

In the claim that "happiness exists when there are no reasons for unhappiness" there is an apparent discrepancy. Happiness in this definition is the "lack of lack," whereas it is not true that in a happy life a person possesses everything, but rather that the person does not feel the existence of lack as the absence of something wanted. When we lack something that is considered important for our happiness it is like a wound, "a hole in the entirety." By aiming to fill the hole we aim for happiness. For Western people this seems obvious, but for Buddhists it is the height of folly. The Buddha taught that the one obstacle to happiness is suffering, and suffering is the effect of unsatisfied desires. Therefore a person in order to be happy needs to learn how not to desire (Brown 2000).

In our Western way, happiness is becoming something of a commodity, so that dealing with the problem of unhappiness involves increasing the supply or decreasing the demand, which is to say, reduce the level of desire. This remark is the basis not only for philosophical or religious systems, but also therapy programs aimed at quality of life. When, for example, a paraplegic patient is highly unhappy with his situation after the injury, so has poor results in the QOL scale, we can try to minimize the discrepancy between the patient's desires and possibilities. We can do this by increasing the patient's possibilities, or if this is impossible, by decreasing the expectations, or both at one time.

In rehabilitation practice this work is split between physiotherapists, who deal with the patients' capabilities, and psychologists, who work with the expectations and attitudes (Pachalska 2003). However, given the lack of a generally accepted

model of happiness in psychology, this division of responsibility leads to chaos and rarely gives satisfying results. In clinical practice with TBI patients there exists a theoretical possibility of joining these two functions in the work of the neuropsychologist, but again, with no accepted model of happiness, the single therapist, relying on personal preferences, focuses on one or the other side of the issue, with no salient decision made according to proper strategy, which needs to be implemented in work with this patient. It is often the case that with the growing cognitive possibilities of the patient as a result of therapy, the level of unhappiness is also growing. Patients realize that they are unhappy and become depressed. It is then necessary to implement proper goal-directed rehabilitation. Getting new goals in life can restore the patient's wellbeing, giving new hope and increasing the level of happiness.

Based on these results, we can state that the most important factor for happiness, for the majority of participants, is having a goal in life. The results contain different unexpected observations. In process neuropsychology, happiness is a dynamic term, more connected to pursuit of a goal than to achieving it. Happiness is something that motivates development and change, and not brain traits or states that we try to specify, even if they do not really exist. Here neuropsychology can bring an important contribution to a dialog about happiness between science and the humanities.

This research enabled us to see more clearly the process of life and the role of happiness, and also explained some of the mechanisms underlying behavior oriented towards happiness. It also built a base for defining the nature of happiness and unhappiness in process psychology. Happiness can be understood as something that draws every psychophysiological process foreward. Happiness is the engine for development (in the ontogenetic view) and evolution (in the phylogenetic view), whereas unhappiness is something that pulls in the direction of disorganization, chaos, entropy and involution

This way of understanding happiness makes it possible and necessary to restore the term to a central position in the teleology of psychotherapy. It creates a basis for a better understanding of the human being and how to help in the case of sickness or threat.

CONCLUSIONS

- 1. Most people named having a goal in life, a feeling of reaching the goal, and having a close relationship partner as full happiness.
 - In group A (students) many participants stressed that the criterion of happiness is completing education, having a good job, family, love and friendship.
 - In group B (random adults) people chose as a criterion of happiness financial wellbeing (possessing money, house, job and life comfort).
 - In group C (patients after brain or spinal injury) having family and a caregiver, as well as recovering different abilities lost as a result of the accident, were most often mentioned as criteria of happiness.

- 2. As the main cause of unhappiness, the participants gave losing a close relationship partner and the attendant loneliness, lack of love, friends, loss of home or job, or being expelled from university.
 - The lack of a goal in life was indicated somewhat more often in group B in comparison to group A and C. In group C more often than in A and B the main reason for unhappiness was disease, disability, pain and threat (anxiety) of death, and being dependent on others.
- 3. Disabled people feel subjectively less happy than students and random adults. There are different subjective ways of understanding happiness declared by patients after brain or spinal injuries, students and random adults.
- 4. Happiness is the engine for development (in the ontogenetic view) and evolution (in the phylogenetic view), whereas unhappiness is something that pulls in the direction of disorganization, chaos, entropy and involution.

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