Original Papers

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How does one conceive time? Measurement by means of Time Metaphors Questionnaire

Attitude towards time are usually expressed by means of metaphors. This paper presents phases of construction and validation of the Time Metaphors Questionnaire. This is a method for testing conceiving of time. An exploratory factor analyses yielded seven factor scales: Friendly Time, Hostile Time, Rapid Passage of Time, Significance of the Moment, Subtle Time, Wild Time and Empty Time. Results of correlations between scales of the Time Metaphors Questionnaire and with selected methods (Temporal Orientation Scale AION-2000, NEO-Five Factor Inventory) indicate, among other things, an ambivalence of psychological time and an importance of positive evaluation of current moment.

Introduction

"Time slips through my fingers", "Time runs away"- people often say about time. These expressions are metaphors. Most of wordings concerning time takes a form of metaphors, because time is a complex phenomenon (see Gorman & Wessman, 1977; Michon & Jackson, 1985; Lakoff & Johnson, 1980; Glicksohn & Ron-Anvi, 1997; Boroditsky, 1999; Nosal, 2000; Nosal & Bajcar, 2004). A metaphor usually defines a complicated object in terms suitable for a simpler object (Fletcher, 1965; Mooij, 1976; Lakoff & Johnson, 1980; Zdravko, 1995). Lakoff and Johnson (1980) defined the metaphor as a key to understand concepts that are not clearly drawn in our experience, such as the concept of time. According to the authors, metaphorical concepts give a structure to the reality by affecting our perception of the world and our activities based on the perception. Boroditsky (1999) as well as Aveni (2000), who uses a beautiful temporal metaphor writing about time as a melody which we hear all our lives and which, despite the flow of time, is getting more and more diverse, draw our attention to the meaning of metaphors in expressing complex phenomena such as time. Lakoff and Johnson (1980) defined metaphor as "rationality enriched with imagination" (p. 34). Metaphor plays an important role in the expression of a subjective sense of time. First of all, it enables to express such a complicated and obscure phenomenon as time in simpler terms and gives new and often original view on time. Temporal metaphors, preferring

by an individual, tell much about the way of perceiving time (Knapp & Garbut, 1958; Wessman & Ricks, 1966; Gorman & Wessman, 1977; Michon & Jackson, 1985; Lakoff & Johnson, 1980; Jackson & Michon, 1992; Glicksohn & Ron-Anvi, 1997; Sobol-Kwapinska, 2007; Sobol-Kwapinska & Oles, 2007). Time perceived by a human being is called a psychological time. Two of the key concepts in the description of the psychological time are a personal temporal perspective (time horizon) and temporal orientation. According to Zimbardo and Boyd (1999, 2009) time perspective is a fundamental dimension of psychological time. It develops due to processes of assigning a personal experience to temporal frames comprising the past, the present and the future. Temporal orientation can be defined as an attitude toward the three dimensions of time, and also as an attitude toward time generally (see Nosal, 2000; Nosal & Bajcar, 1999, 2004). There are two basic aspects of temporal orientation understood in this way:
- evaluation (of full time perspective, i.e. time in general as well as individual dimensions: the past, present and future),
- concentration of attention, feelings, behaviour on full time perspective and on individual components of time horizon.

As far as the evaluation of temporal perspective is concerned, researchers most often use the following criteria:
- positive time vs. negative time,
- important time that has significance vs. unimportant time, having no significance,
- long time vs. short time – perception of limits of individual

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time intervals, for example the present is a few days,

- coherent time vs. incoherent time – perception of the relation or the lack of the relation among individual dimensions of time, for example: "What I am doing at the moment will not have a significant influence on my future".

Other evaluation criteria are for example static time vs. dynamic time; objective time vs. subjective time; linear vs. cyclical; creative vs. destructive; fast vs. slow; well-ordered vs. chaotic, etc. (Knapp & Garbutt; 1958; Kurz, 1963; Gorman & Wessman, 1977; Lomranz, Shmotkin & Vardi 1991; Jackson & Michon, 1992; Glicksohn & Ron-Anvi, 1997).

Temporal metaphors are a rich source of knowledge about the evaluation of time.

There are types of time metaphors in our language. We have temporal metaphors which are common in everyday communication, for example "Time elapses", "Time comes". These kinds of wordings are defined as colloquial, worn out or dead metaphors. Other types of metaphors are poetic or living metaphors, for example Marvell's beautiful time metaphor: "But at my back I always hear / Time's winged chariot hurrying near." (as cited in Frasser, 1981, p. VII). Most often people use spatial metaphors to talk about time, which means that time is described with sue of terms from the domain of space (Lakoff & Johnson, 1980; Glicksohn & Ron-Anvi, 1997; Boroditksy, 1999, 2001). There are two dominant types of spatial time metaphors: the ego-moving metaphors (for example "We are coming up on Christmas") and the time-moving metaphors (for example "Christmas is coming up") (Boroditsky, 1999, p. 5). According to Lakoff & Johnson (1980) metaphors also can be based on a set of physical ontological concepts (for example "Time is a material in my hands") and a set of basic experience or actions (for example "Time is creation"). Very often time is personified as a positive or negative personage (for example "Time is the father of truth", "Time is a cannibal").

Time metaphors questionnaires are very interesting ways of application metaphors in psychological research. Knapp and Garbutt's (1958) and Wessman and Rick's (1966) Time Metaphors Tests are the most known. Knapp and Garbutt (1958) distinguished three groups of metaphors in their Time Metaphors Test: Dynamic, Passive and Humanistic (this scale consists of metaphors in which a human being and objects used by human beings are elements of metaphors). Metaphors from the test by Wessman and Ricks (1966) refer to: the harmony, the chaos, the creativity, the destruction, the purposefulness in time (dimensions distinguished on the bases of contents of items). Knapp and Garbutt (1958) tested a relationship between time imagery and the achievement motive. They demonstrated that a preferred selection of metaphors describing time as a swift, directional movement generally correlated positively with high achievement motivation. This method has been often applied by others researchers. For example, Kurz (1963) used it to exploration a relationship between time imagery and Rorschach human movement responses. He ascertained that people who prefer "dynamic" images of time had low capacity for delayed a need satisfaction. Mackay and Brown (1970) explored the preference for time metaphors and semantic

ratings of the passage of time. The results of their research indicated that the preference for "dynamic" images of time was closely related to the ratings time as fast and active.

Wessman and Ricks (1966) showed that happy men more often described time as ascending, a good person, a growth and a development, a harmony and an order. The unhappy men preferred metaphors that described time as descending, decomposing, a bad person, a monotonous, barren, empty, overpowering and enslaving.

The aim of this article is a presentation of a construction and validation of the Time Metaphors Questionnaire (see Sobol-Kwapinska, 2008). It is worth to note that time metaphors tests have not been applied in Poland on a large scale up till now. We have decided to construct a new test of metaphors of time instead of using for example Knapp and Garbutt's test, because we also wanted questionnaire items to be metaphors of time so popular in the Polish language. Furthermore, the initial amount of metaphors was numerous, so we were searching for as many metaphors of different emotional intensification as possible. The main subject of our analyses was the structure of metaphors of time, and that is why we wanted to present their numerous and representative kinds using various sources.

Study 1- Time Metaphors Questionnaire construction

Our test consists of 95 items. There are colloquial and poetic metaphors, and metaphorical similes in our questionnaire. These items were collected from many different sources, such as a philosophy, a belles-lettres, proverbs, a colloquial speech. We selected the metaphors and metaphorical similes which were popular, concise and which reflected possibly varied feelings towards psychological time.

An instruction of the method was as follows:

"People think about time in different ways. How do you imagine time? Below are listed time metaphors. Indicate on a 4-point scale how appropriate each metaphor is for your conception of time. (Scale: 1-very inappropriate, 2-inappropriate, 3-appropriate, 4-very appropriate)"

Participants

A group of 251 students (154 women and 97 men) of the John Paul II Catholic University of Lublin and the Maria Curie-Skłodowska University participated in this study. Mean age was 21.43, ranging from 19 to 30 years. There were first and second years students.

Factor analyses

On the basis of the principal components analysis (PCA) the appropriateness of a seven-factor solution was indicated by the scree plot and by the criterion of interpretability. Initially our test consisted of 160 items. 65 items which had the lowest loadings (less than .40) or had large loadings on several components were eliminated. Factors, which 95 metaphors produced, were named

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Table 1
Results of the exploratory principal components analyses of Time Metaphors Questionnaire.

Item	FT	HT	RAP	SIG	WIL	SUB	EMP
14. Time is an aspiration to achieve purposes	.55			.25	.29		
18. Time is a formation	.66			.19	.19	.12	-.23
27. Time is a creation	.59			.24	.21	.13	-.15
28. Time is a way to realization of intentions	.54		.10	.40	.27		.14
33. Time is a material in my hands	.57		-.10		.15		-.19
34. Time is an order	.46			-.16	-.19		
36. Time belongs to us	.58	-.20		.25		-.16	.12
42. Time is trustworthy	.54			-.19	-.11	.18	
47. Time is familiar	.57		-.11	-.17	-.16		
48. I hold time in my hands	.61			-.12			
49. Time is a father of truth	.55	.19		-.14	-.16		
50. Time is a best life teacher	.56		.20	.38			
53. Time is a voice of encouragement	.60			.11		.19	-.16
56. Ever-aging time teaches all things	.53	.16	.11		-.11		
57. Time is at my command	.58	-.13	.15	.17	-.12		
59. Time will reveal everything	.52	.10	.19	.19	-.15		.23
62. Time is a vault of chances	.58			.28	.18		-.11
64. Time is a finding of truth	.66			.14		.10	
66. Time is an ascending	.61				.12	.36	
67. Time is a good friend	.71			-.16		.20	
73. Time is a gift	.59	-.16		.41			
81. Time is a birth	.60				.12	.16	-.16
82. Time is a rest	.70						
78. Time is a chance	.55			.39	.18		-.10
84. Time is a pleasure	.67		.12				
86. Time is a hope	.65			.27	.16	.12	
88. Time cheers	.58			.22		.17	.13
89. Time is an ally of people	.61	-.16					.17
90. Time is a way to get to know me	.54			.48		.13	
91. Time is an effort	.53	.14		.25	.27		-.19
94. Time is like a soaring bird	.53				.11	.39	-.18
95. Time is soothing	.54						.21
2. Time is sombre		.49	.14		.24	.16	.17
3. Time is like a forest in which everybody get lost	-.14	.50	.22		.25	.24	
26. Time is like a labyrinth without an exit		.51	.14			.22	.18
30. Time is a cannibal		.46	.38				
31. Time is a constant repeating		.51	-.12	.11		-.10	.18
32. Time is an incurable illness		.54	.19				.11
40. I am a prisoner of time		.66	.27				
41. Time slips through my fingers		.48	.27	.30	.18	.10	
43. Time is a stairway to a tomb		.65	.16	.12		-.14	
44. Time flows beside me		.45		.11	.12	.13	.27
45. I feel an enormous power of time		.54	.22		.13		
46. Time devours all things		.70	.21				
52. Time is a constant thirst	.14	.49		.17	.19	.22	

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Table 1
Results of the exploratory principal components analyses of Time Metaphors Questionnaire.(continued)

Item	C1	C2	C3	C4	C5	C6	C7
54. Time is death	-.13	.58	.12			-.11	
55. Time causes a pain		.55			.18	.15	.11
58. Time kills everything		.76	.18				
60. Memento mori		.57		.20			-.11
63. Time is devious		.49			.38		
65. Time is an old. bad cheat		.65	.12	-.13	.20	.12	-.12
69. Time destroys everything		.66					
75. Time is an anguish		.62		-.21			
77. Time is a poison		.62		-.17			.12
79. Time is like a withering tree	.14	.52		-.10	.11	.19	.19
80. Death skulks in each moment		.67		.20			
83. Time is a cruel teacher	.22	.60	.14			-.18	
85. Time is an anxiety	.22	.53		.18	.35		
92. Time is a disappointment	.28	.55			.25		
93. Time is an enemy of people		.69					
1. Time runs away and it is impossible to catch it up		.22	.46	.17			.20
8. Time is like a speeding car		.14	.71		.25		
12. Time is like a galloping horse			.69		.22	.22	
15. Time flies like an arrow			.69	.16			
16. Time is a race		.24	.63		.25	-.24	
21. I always hear time's winged chariot hurrying of my back		.26	.46			.32	.12
22. Time presses		.21	.54	.44			.16
23. Time is like a fast moving vehicle	.11	.23	.74	.11	.15	.12	
35. Time rushes	.14	.29	.45	.18	.15	.24	
68. Carpe Diem	.12		.39	.24			
29. Time flows	.14	-.11		.55			.24
38. Each moment is worth one's weight in gold	.10		.31	.46			-.17
39. Time elapses			.15	.62		-.17	
51. There is no moment to waste	.12	.14	.35	.51	-.13		
71. Each of the days is worth to experience as it would be the last day of life	.13		.19	.62		.29	-.14
76. Memento vitae	.30		.13	.56			-.17
87. When I postpone life on later. it goes by		.15		.53	.16	.17	
7. Time is like a lost hiker		.20	.21		.49	.30	
9. Time is intricate		.19			.68		
13. Time is a commotion		.26	.27		.61		
17. Time is chaotic	-.11	.33	.16		.58		.13
19. Time is like a storm ocean	.24	.12	.26		.51	.24	-.18
25. Time whirls		.32	.20		.51	.10	
37. Time is like a roundabout		.30	.22	.25	.47		
6. Time is like a cloud drifting lightly by a wind	.28				.19	.44	.19
10. Time is like a incense smoke	.13		.13		.33	.46	.12
61. Moment is like a sunbeam on my face	.34		.15	.33		.45	-.23
70. Time is like a babbling brook	.30	.13				.63	
72. Moment is like a song of a bird	.47		.13	.19		.53	-.18
74. Happy moments are like butterflies	.22		.15	.34		.46	
4. Time wears on	-.17	.14		.13	-.14		.65

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Table 1
Results of the exploratory principal components analyses of Time Metaphors Questionnaire.(continued)

5. Time is a monotony		.37					.55
11. Time is like a drowsy afternoon		.17			.16	.31	.52
20. Time is dull		.30		-.32			.46
24. Time is tiring		.19				-.12	.61
Eigenvalues	16.24	12.38	4.67	3.15	2.46	2.30	2.12
% explained variance	17.10	13.03	4.91	3.31	2.59	2.42	2.38
% accumulated explained variance	17.10	30.13	35.04	38.36	40.95	43.37	45.61

FT - Friendly Time
HT - Hostile Time
RAP - Rapid Passage of Time
SIG - Significance of the Moment
WIL - Wild Time
SUB - Subtle Time
EMP - Empty Time

as follows: Friendly Time (FT); Hostile Time (HT); Rapid Passage of Time (RAP); Significance of the Moment (SIG); Wild Time (WIL); Subtle Time (SUB); Empty Time (EMP) (see Table 1).

Friendly Time (FT) scale (alpha = .93, 32 items) describes time as a good, trustworthy friend (for example "Time is familiar"), who can calm and teach and as a way directed toward a discovery of truth and a realization of purposes (for example "Ever-aging time teaches all things"). HostileTime (HT) scale (alpha = .94, 28 items) emphasizes the inevitability of death, depicts time in terms of disappointment, poison and a cruel enemy. This scale characterizes time as a prison and a sombre power, which is out of control (for example "Time causes pain", "Time is an enemy of people") . Rapid Passage of Time (RAP) scale (alpha = .85, 10 items) consists of items representing time as a vehicle which moves with an excessive speed (for example "Time flies like an arrow", "Time is like a fast moving vehicle"), "Carpe Diem" is one of the items of this scale. It means that students understood this famous maxim, first of all, as taking notice of a quick time passage. Significance of the Moment (SIG) scale (alpha = .77, 7 items) contains two kinds of items: metaphors which describe time as a river (for example "Time flows") and metaphors which indicate the necessity of making the most of each moment of life (for example "Each moment is worth one's weight in gold"). It means that an awareness of the passage of time induces awareness of the value of each moment. The relation between these two kinds of time metaphors points to an acceptance of time elapsing as an important characteristic of an ability to live in the present. This acceptance consists in giving a permission to the past for going and to the future for coming. When we live in the present we permit time to drift us. Wild Time (WIL) scale (alpha = .80, 7 items) consists of metaphors which describe time as turbulent, amazing and erratic (for example "Time is chaotic", "Time is like a stormy ocean"). Subtle Time (SUB) scale (alpha = .79, 6 items) characterizes time as light, peaceful and gentle (for example "A moment is like a song of a bird", "Time is like a incense smoke"). Empty Time (EMP) scale (alpha = .67, 5 items) represents time in terms of boredom, tiredness and monotony (for example "Time is a monotony", "Time is like a drowsy afternoon").

Study 2 – A validity of the Time Metaphors Questionnaire

In Study 2 we explored the validity of the Time Metaphors Questionnaire. This included the analyses of intercorrelations between the subscales of the Time Metaphors Questionnaire to evaluate interal validity. We also examined the associations between the Time Metaphors Questionnaire and another test pertaining to the concept of time (AION-2000) to evaluate convergent validity, and between the Time Metaphors Questionnaire and a personality inventory (NEO-FFI) to estimate divergent validity. Additionally, canonical analyses were performed to uncover the main relationships between preference for time, types of temporal orientation and five dimensions of personality.

Participants

In this study the sample comprised 171 adults (87 men and 84 women) from the general population. Mean age was 32.10 (SD=10.88), ranging from 19 to 65 years, 96 subjects had higher education, 70 had secondary and 5 had primary education. We applied a random selection and we tried to obtain a sample of participants possibly varying with regard to age, education and profession. We recruited this sample at universities, at places of work and residence. Participants usually received methods with appropriate instructions by post.

Methods

Temporal Orientation Scale AION-2000 by Nosal and Bajcar (Bajcar, 2006; Nosal, 2006) assesses dimensions of temporal orientation. We used eight subscales of this method: Past (measures a person's concentration on the past, alpha = .70), Present (concerns a hedonistic attitude toward the present, which links with a neglecting the past and the future, alpha = .70), Future (concerns the direction of thinking and activity inclined to the

Table 2
Intercorrelations between Time Metaphors Questionnaire scales.

	FT	HT	RAP	SIG	WIL	SUB	EMP
HT	.06	1					
RAP	.22 ***	.47 ***	1				
SIG	.39 ***	.22 ***	.47 ***	1			
WIL	.13	.54 ***	.51 ***	.24 ***	1		
SUB	.57 ***	.22 ***	.34 ***	.43 ***	.29 ***	1	
EMP	-.08	.41 ***	.15*	-.05	.13 *	.05	1

*** p < .001
** p < .01
* p < .05
FT - Friendly Time
HT - Hostile Time
RAP - Rapid Passage of Time
SIG - Significance of the Moment
WIL - Wild Time
SUB - Subtle Time
EMP - Empty Time

future, alpha = .75), Telicity (describes an exactness of goals and a persistence in achieving them, alpha = .82), Planning (alpha = .82), Detalness (refers to the meaning of particulars in performance, alpha = 0,80), Use of Time (diagnoses the efficiency of the usage of personal time, alpha = .66), Time Pressure (describes the subjectively perceived pressure of the passing of time, alpha = .81). The internal consistency level of the AION-2000 ranges rfom 0.67 to 0.89. Nosal and Bajcar distinguished also three clastering dimensions of temporal orientation factors: Temporal organisation of behaviour (consisted of four scales: Telicity, Planning, Detalness, Use of Time), Temporal extension (Past, Present, Future), Sensing time pressure (Time Pressure, Use of time – with negative loading) (Bajcar, 2006).

NEO-Five Factor Inventory by Costa and McCrae (1992) assesses five basic personality dimensions: Neuroticism (in Polish version alpha = .80), Extraversion (in Polish version alpha = .77), Conscientiousness (in Polish version alpha = .82), Agreeableness (in Polish version alpha = .68), and Openness (in Polish version alpha = .68) (Zawadzki, Strelau, Szczepaniak & Sliwinska, 1998). This method is composed of 60 items. We used NEO-FFI translated by Zawadzki et al. (1998).

First, we expected that the positive attitude toward time (FT) would be related to the concentration on the future (Future) and on the past (Past), with planning (Planning), with striving for aims (Telicity), and with the efficiency of the use of time (Use of Time).

Second, we assumed a strong relationship between the sense of pressure of the passing of time (Time Pressure) and perceiving time as rapid (RAP) and chaotic (WIL).

Intercorrelations between Time Metaphors Questionnaire scales indicated some interesting relations (see Table 2).

Table 3
Interdependence between subscales of Time Metaphors Questionnaire and AION-2000.

method/variable	coefficient	canonical variables	
		1	2
TMQ:			
Friendly Time		-.04	.85
Hostile Time		-.83	-.08
Rapid Passage of Time		-.87	.31
Significance of the Moment		-.28	.57
Wild Time		-.68	.21
Subtle Time		-.22	.19
Empty Time		-.38	-.05
	Ad	31.41%	17.52%
	Rd	14.34%	3.49%
	CR	.44	.24
	p<	.001	.05
AION-2000:			
Past		.16	.21
Present		-.44	.27
Future		.47	.45
Telicity		.09	.82
Planning		.21	.63
Detalness		.01	.65
Use of Time		.09	.66
Time Pressure		-.91	-.03
	Ad	16.57%	28.28%
	Rd	7.56%	5.64%

There were no negative correlations between the positive and the negative evaluations of time. Positive correlations between Significance of the Moment (SIG) scale and positive evaluation of time (Constructive Time scale) indicates that a concentration on the present connects with positive emotions. Significance of the Moment (SIG) scale correlated positively also with the negative evaluation of time (Hostile Time scale). Positive correlations between Wild Time (WIL) scale and negative evaluation of time indicate the importance of an order in time. Empty Time (EMP) scale correlated positively only with a negative evaluation of time.

Table 3 presents relations between perceiving time and attitudes toward past, present and future.

Two of the seven pairs of canonical variables were associated with significance levels of p < 0.05. Results indicate that those who rarely perceive time in terms of enemy, rapid, and wild characteristics seldom feel the strong pressure of the passing of time and think rather about the future than about the hedonistic present. The second pair of canonical variables showed that people who often perceive time as friendly and important in each moment, often concentrate on goals and are persistent in achieving them, plan their future, often take note of particulars, appreciate the value of personal time, and think about their bright future.

Table 4 presents interdependency between perceiving time and the main five dimensions of personality.

We obtained two pairs (of the five piars) of canonical variables which have significant correlations (p < 0.05). The first pair indicates that people who are friendly, open to other people

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Table 4
Interdependence between subscales of Time Metaphors Questionnaire and NEO-FFI.

method/variable	coefficient	canonical variables	
		1	2
TMQ:			
Friendly Time		.55	.51
Hostile Time		-.68	.49
Rapid Passage of Time		-.17	.89
Significance of the Moment		.34	.56
Wild Time		.29	.73
Subtle Time		.22	.51
Empty Time		-.51	.27
	Ad	18.72%	35.23%
	Rd	6.23%	6.60%
	CR	.43	.30
	p<	.001	.001
NEO FFI:			
Neuroticism		-.67	.52
Extraversion		.57	.38
Openness		.46	-.22
Agreeableness		.69	.21
Conscientiousness		.58	.37
	Ad	36.51%	12.63%
	Rd	12.16%	2.36%

and to the world, who are calm, even-tempered, and reliable, usually have positive attitudes towards time and conceive time as rich with interesting occupations. The second pair of canonical variables consisted of high level of neuroticism, extraversion, reliability and, first of all, perceiving time as speed, wild, chaotic but also as friendly, charming and important in each moment. This interdependence can be described as attitudes towards the world and time characteristic of the type A personality – living under time pressure, with excessive ambitions, and hostility (Eysenck, 1990). This pair of canonical variables also showed ambivalence in psychological time.

General Discussion

The aim of this article was the presentation of the new method – Time Metaphors Questionnaire. This questionnaire may be a useful method for testing experience of time. Time Metaphors Questionnaire measures one of the two basic aspects of temporal orientation (distinguished in the Introduction) – evaluation of full time perspective, i.e. time in general. Statistical analyses yielded satisfying results – clear and reliable subscales were obtained, which represent basic dimensions of time concepts. All the presented results of statistic analyses are results of preliminary research on the method which is to be continued in the immediate future. This method distinguished, among others, time metaphors questionnaires, by the variety of dimensions of time metaphors. Thanks to this Time Metaphors Questionnaire can investigate the broad range of time attitudes. On the basis of the factor analyses we distinguished seven scales of the Time Metaphors Questionnaire: Friendly Time, Hostile Time, Rapid Passage of Time, Significance

of the Moment, Wild Time, Subtle Time, and Empty Time.

Using Time Metaphors Questionnaire together with the methods to measure the temporal orientation and five main personality dimensions we yielded some interesting results, which confirm the validity of our questionnaire.

There were no negative correlations between the positive and the negative evaluations of our metaphors of time. Lomranz et al. (1991) obtained similar results. They found that participants who characterized time as destructive more often described time as constructive than participants who did not evaluate time in terms of destruction. These relations show an ambivalence – an important feature of psychological time.

The experience of an entanglement in the wild, rapid time links with the negative evaluation of time. People who usually experience time in this way feel the strong time pressure and have a hedonistic attitudes toward the present. These results indicate the importance of a sense of the order in time. Perceiving time as chaotic may mean a disorientation in time – a sort of a temporal discord (Bajcar, 2006). This kind of perceiving time often links with the high level of neuroticism. Probably anxiety is of the base of this attitude (see Freisse, 1963; Rychlak, 1972; Sobol-Kwapinska, 2008).

Perceiving time as a friend links with the appreciation of the significance of each moment in life and with the involvement in planning and realization of goals. People making and revising plans experience a sense of keeping time under control. Their future is full of plans therefore, it can be said that there is no place for death. Abilities to organize time are associated with perceiving the importance of a concentration on the present (but not in a hedonistic way) and owing to this capability one can avoid an experience of confusion and boredom. An ability to live in the present is very important for creativity (see Maslow, 1999; Csikszentmihalyi, 1999). Csikszentmihalyi (1999) described an experience of the "flow", which involves an absorption in the present and which can be achieved in physical, mental or emotional involvement. This experience is characteristic for artists. It is also worth mentioning that the experience of "here and now" in Gestalt Therapy (Kepner, 2001). The concentration on the present links with the ability of perceiving a lot of subtle details in the current moment. Considering each moment as important correlated positively also with the negative evaluation of time, perceiving time as wild and quick. It can mean that an awareness of time slipping by increases the necessity of making the most of each moment in life (see Sobol-Kwapinska, 2007, 2009).

The results of our investigation show that the perception of time as emptiness and boredom are exceptionally destructive. Some people say that boredom is the worst of all, and this utterance summaries the obtained correlations very well.

Finally it can be useful to characterize the most satisfying attitude toward time. It consists in positive evaluation of, it is necessary to emphasize, current time - perceiving time as friendly, creative, important, as orderly and something we can control. Experiencing a confusion in time and boredom is especially disturbing.

It is worth noting that ways in which we express our attitudes towards time influence our experience of time. Cultural differences in perceiving time are examples of this (Meade, 1971; Hall, 1990; O'Connor & Seymour, 1990; Block, Buggie, & Matsui, 1996; Abi-Hashem, 2000). So it could be very interesting to put our Time Metaphors Questionnaire into practice to use during a psychotherapy session, for example for the cognitive analysis of perceiving time and for reformulating beliefs concerning time.

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