

## Perception of authorship in schizophrenia. Analysis of activity patterns in autonarrations

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### Summary

**Aim.** The paper presents the study of narrations of schizophrenic patients focused on the description of activities characteristics. The aim is to answer the question of how experiencing of psychotic crisis influences the perception of their authorship. Do the inherent characteristics of the activity differ with reference to the period of life which they relate to: the time before getting sick, or after falling ill with schizophrenia?

**Methods.** The material consisted of narrations of 26 people with schizophrenia about their life prior to the illness and after the psychotic crisis. Linguistic categories that make up the patterns of activity have been distinguished. The frequency of the occurrence was compared in both narrations.

**Results.** Self-descriptions after falling ill are more saturated with patterns of avoidance, motivation internally localized connected with attempts of coping with the disease and externally localized action control connected with a decreased sense of authorship in relation to experiencing symptoms and reduction of social competence.

**Conclusions.** The change of self-image after psychotic experience concerns the deeper planes of narrative, i.e. the patterns of activity hidden in connection between the content and narrative form. The research showed the decrease of the sense of agency associated with the disease experience.

**Key words:** narration, schizophrenia, patterns of activity

## Introduction

This work is immersed in the mainstream of narrative research in psychology. According to the concept of social constructionism social reality exists only when meanings are given to it [1, 2]. Identity is also socially constructed. It is created when an individual acquires knowledge about himself or herself during social negotiations or when he/she acts so as to confirm the convictions of others about him/her [3, 4]. The narrative identity – autonarrations – make a cognitive scheme in the form of a story, which contains the knowledge about oneself organized so as to give his/her life coherence, meaning and purpose [3]. Text of autonarration is a story – a longer statement containing monologues, important events, usually arranged chronologically, the main character of which is the narrator himself and his own descriptive characteristics. Descriptions of activity are of particular importance. Autonarrations characterize a person describing primarily his/her experiences. Descriptions of actions are used both to present characteristics as well as events in which the individual participated. It is primarily the activity of an individual that ensures a way of being part of the world, shapes identity, determines patterns of interaction, and leads to the formation of the image of the surrounding reality, which in return determines the behaviour. Thus, the analysis of patterns of activity has been the subject of the research.

Creating a narration is telling a story of one's own life, which is the process of interpretation and giving meanings to one's own experiences. Giving meanings is particularly important in relation to unusual and ground-breaking experiences that affect the course of life history [5, 6]. Crisis situations impose the intensification of processes involved in exploration of meanings, in order to implement them in one's own autonarration and include in the life history. Psychotic episode is a unique and unexpected event which is a strong experience of crisis. In publications on the subject, there are reports on its negative effects: a reduction of self-esteem, a sense of loss of meaning in life, collapse of life plans and the current line of life in its objective dimension, a sense of stigma, reduction of life quality [7-10]. In terms of narration we can talk about the breakdown of good stories parallel to a crisis of building autonarration identity [10, 11]. In earlier studies, the breakdown of self-esteem and a more negative perception of one's own life story has been demonstrated after the onset of the illness, which could indicate an identity crisis [12]. Therefore, the question arose whether the changes in the perception of one's own self also apply to the deeper layers of autonarration, i.e. patterns of activity. The patterns of activity are formal characteristics of human activities which are related to the motivation functions but also to the behaviour not organized subjectively [13]. They consist of personal beliefs about the activity connected with control, possibility, necessity, randomness of operations as well as their sources and causes. These may affect undertaking or desisting actions, pursuit of purpose or giving into environment pressure. Some dimensions of the activity patterns refer to the sense of authorship, i.e. the personal control of action [14]. The sense of authorship consists of sense of: freedom of choice, control of events and self-efficacy. The patterns of activity considered here include: the direction of motivation (pursuit vs. avoidance);

intrinsic and extrinsic locus of control and personal involvement in activities (personal vs. impersonal action control).

The aim of the study is to answer the question of how the experience of a psychotic crisis influences the perception of one's own authorship. Of course, in search for such an answer, it would be necessary to compare the narrations created before and after the onset of the illness. Unfortunately, there is no such a possibility. Thus, the question arose whether such a big crisis as suffering from schizophrenia is not reflected in the narration due to its content. Language indicators of the activity patterns refer to the deep – semantic text layer, and thus to the connection between the formal characteristics of the text and its content [15, 16]. Thus, the research question arose whether the inherent characteristics of activity are different due to the period of life which they refer to: the period before getting ill, or after falling ill with schizophrenia?

### Material

The study group consisted of 26 people with schizophrenia, during at least a partial remission of psychotic symptoms, treated in the Department of Psychiatric Rehabilitation of Institute of Psychiatry and Neurology. Descriptive statistics of the study group are shown in Table 1.

Table 1. Descriptive statistics of demographic data of the study group

	Min	Max	Average	SD
Age	22	63	34.2	12.2
Duration of illness (years)	4	32	11.9	9.7
Number of hospitalizations	1	11	5.4	3.3
Total hospitalization time (months)	3	39	17.1	11.7
Age of onset	15	31	22.4	5.0

The subjects were aged 22-63 years, mean age was 34. The majority of subjects had secondary education (65%) and were single (85%). In the study group there were 9 men (35%) and 17 women (65%). Patients suffered from schizophrenia on average of 12 years, during which they were hospitalized on average of 5 times. The total mean length of hospitalisation was 17 months. The mean age of the onset of the illness was 22 years of age. This is a specific study group – people with critical attitude towards the illness, who are aware of their illness, cooperate in treatment, remain in long-term therapeutic relationship, who can create stories about themselves from the period before the onset and later.

### Method

The research material consisted of autonarrations – subjects' stories about themselves and their life experiences. The narrations were gathered using semi-structured narrative interviews. Each tested person gave two interviews. "I as a healthy person"

and “I as a person with schizophrenia”. During the interview the subjects answered the questions concerning the description of themselves, their abilities, actions taken, interests, interpersonal contacts and experience of those two periods of life. Responses were recorded and then transcribed.

The text obtained from the subjects were subjected to formal and semantic analysis. At the level of sentences, some operators of activity patterns were distinguished. Text analysis for the patterns of activity refers directly to the predicate-argument structure as the characteristics of the language connected with the descriptions of action [16, 17]. Forms of predicates (which describe the activity) were analysed together with personal objects (personal arguments). The detailed description of the research method is included in another publication [13]. There are some permanent features of motivation described in general psychology – which have a large range of generalization in terms of situation and content. This study focuses on the following dimensions: intrinsic and extrinsic locus of control, personal involvement in activities (personal or impersonal action control), and the direction of motivation (pursuit or avoidance).

Motivation is reflected in the text through the phenomenon of modality. Modality is understood as a metatextual phenomenon, referring to the subjective world of narrator’s meanings, determining the possibility and necessity of overlapping events in the world. Deontic modality (from the Greek “Deon” – an obligation, duty) is connected with the necessity or possibility of actions described in sentences. Human activities are classified as mandatory, permitted and prohibited. Motivation, as a way of organizing human activity also refers to their necessity or possibility. Generally, linguistic means expressing motivation include verbal expressions describing order, prohibition, permission, will, commitment, plan, intention and request [17–19]. For example, the expression like: I can,, I must, I should, I am allowed to ,I have a goal, I do not need,, I do not bother, it is prohibited, I do not aspire to. Motivational pattern is the frequency of references to the motivation in the narrative (in other words: the frequency of talking about the phenomenon of motivation using text modality) operationalized variable “modal”. The value of the variable “Modal” is the number of all modalized verbal expressions divided by the total number of verbs in personal form and for the transparency of the calculation multiplied by 1 000.

The direction of motivation: pursuit – avoidance is a fundamental dimension characteristic for motivation. Reykowski [20] defined it as: “the process of psychological adjustment which determines the direction of human activities and the amount of energy a man is willing to sacrifice in order to complete it. Thus, motivation is an internal process, conditioning striving toward specific goals.” In this sense, the direction obtains the base importance – which creates motivation and its character. The objectives of an individual are divided into two types: positive – which an individual aims to achieve and which determine the positive motivation or “pursuit”, and negative – which is avoided by the person, thus they lead to negative motivation or “avoidance”. Positive motivation is related to desires, plans and intentions. In contrast, negative motivation refers to the fear and aversion. The indicator of a variable “Pursuit” will be the frequency of occurrence of expressions which in the narration of the subject describe motivation and indicate a positive objectives (the number of expressions like:

“I can, I want, I should” is divided by the total number of verbs in a personal form and for transparency of the calculation multiplied by 1000). The indicator of the variable “Avoidance” will be occurrence of the phrases indicating the negative goal (e.g., I cannot, I do not have to, I avoid) in the narration of the subject, calculated analogically.

Intrinsic and extrinsic locus of control describes generalized expectations of a subject in relation to the existence of a connection between their own behaviour and received reinforcements. Intrinsic locus of control is a belief that the effects depend on the actions and the efficiency of an individual in pursuit of the goal. It is characteristic for people pursuing their own goals, intentions and internalized norms, which the subject wants and considers worth following. Extrinsic locus of control is the belief that reinforcements received by an individual are independent of their behaviour. It is characteristic for people whose actions are driven by requirements, external patterns in the form of constraint, suggestions and norms, which the person must follow or believes that he should follow [17,21,22]. Locus of control, can be traced in the narration through the analysis of modality operators activities – mainly deontic modality. They are phrases like: “I can go, I do not have to be afraid, I ought to think, I’m trying to win” (internal locus of action control sources) and “I have to take medication, I should know, it’s necessary to sleep, you cannot win” (external locus of control sources). The indicator of the variable “Intrinsic and extrinsic locus of control” will be the frequency of occurrence, in the subject’s narration, of internal (external) operators of action control locus (calculated as in the direction of motivation).

Personal involvement in actions: personal vs. impersonal action control refers to the active influence on the surroundings as opposed to passive influence of the surroundings. This distinction stems from the division of the needs into proactive and reactive [23]. Proactive people provide stimuli, initiate actions, follow the goals and internal needs. Reactive actions occur in response to external stimuli as a reaction to changes in the surroundings. In the narration, personal commitment to action is expressed through the use of nominalization and impersonal forms. In the simplest form, nominalization is a noun, derived from a verb, corresponding to a name of function, condition, feature, event, abstract notion (e.g. waiting, thinking, singing). In such a structure the person is reduced from the subject to object – subordinate in relation to an action name. This phenomenon is action deagentization – it is separated from the subject, cannot be controlled or influenced. By nominalization the subject’s active position of an agent is shifted to the role of a passive subject – a recipient of actions and powers [24]. The indicator of the variable “Nominalizations” will be the frequency of occurrence of expressions in the nominalized form in the narrative of the subject. The use of passive constructions, without the subject is of similar importance. Then the position of the subject and the object is changed. The result is that the one who was an active agent – the perpetrator, in the passive voice becomes patients – a passive recipient. The indicator of the variable “Nonpersonal” will be the frequency of occurrence of impersonal verbs and the passive voice in the subject’s narration (calculated as the above mentioned variables).

## Results

In order to answer the question whether the experience of a psychotic crisis affects the sense of one's own authorship, the means of variables describing patterns of activity obtained in interviews about themselves before illness (I as a healthy person) and after falling ill (I as a person with schizophrenia) were compared. The results of comparisons are presented in table 2.

Table 2. Mean results for activity patterns in the narrations describing patients themselves before and after a psychotic crisis

Activity pattern	Variable	I as a healthy person		I as a person with schizophrenia		t*	p <sub>v</sub>
		Mean	SD	Mean	SD		
Impersonal action control	Nonpersonal	181.4	85.9	210.9	108.5	-1.23	0.208
	Nominalizations	213.1	114.4	235.6	133.4	-1.1	0.304
Potivation direction	Pursuit	134.6	50.7	152.0	54.5	-1.5	0.139
	Avoidance	42.6	18.8	59.7	20.3	-3.2	0.004
Locus of control	Intrinsic	66.3	28.0	79.1	26.9	-2.4	0.023
	Extrinsic	36.4	17.0	60.4	23.3	-4.7	0.000
Pattern of motivation	Modal	102.7	38.3	139.5	36.6	-4.9	0.000

\* t – the value of Student's t-test

The frequency of referring to motivation (variable “modal”) in narrations about themselves before the illness was 102.7‰ (10% of the activities described by the subjects were bearing the modality operators). However, in the narrations about themselves after the psychotic crisis 139.5‰ (14% of the actions are motivated activities). This is a statistically significant difference. The increase in frequency of internally motivated actions is observed (from 66.3‰ to 79.1‰ respectively). However, the increase in use of the pattern of external locus of action control in narrations is relatively higher :from 3.6% (36.4‰) in the narrations of healthy life to 6% (60.4‰) in the stories about life after falling ill. The avoidance pattern also undergoes changes. After a psychotic crisis, actions characterized by avoidance and following negative objectives are significantly more frequent (59.7‰, i.e. 6% of all activities) than before the illness (42.6‰, i.e. 4.3%). Differences in autonarration saturation before and after the onset of the illness with patterns of impersonal action control and descriptions of pursuits are statistically insignificant.

Searching for the answers to the question of whether the activity patterns are influenced by factors related to the course of the illness and personal situation, the regression analysis has been used. The activity patterns referring to self-image after falling ill have been selected as dependent variables. The set of independent variables includes demographic characteristics and the course of the disease: age, sex, age of onset, duration of illness in years, total hospitalization time in months, the number of hospitalizations. Only in the case of the variable “modal” referring to narration saturation with

motivation for actions indicators proved to be significant. Table 3 shows the results of the regression analysis for the variable “modal”.

Table 3. The results of the regression analysis for the variable “modal”

Dependent variable: Pattern of motivation – Modal				
Adjusted R <sup>2</sup> = 0.52; F = 5.841; p <sub>v</sub> = 0.032				
	B	Beta standardized	t	p <sub>v</sub>
(Constant)	84.8		2.1	0.072
Age	4.2	1.3	2.3	0.050
Duration of illness (years)	-7.19	-1.8	-3.1	0.017

Approximately 52% of the variability of the variable “modal” are explained by variables: age and duration of illness. Age has a positive impact on the frequency of use of the motivational patterns operators in the narration. This means that older patients often refer to motivation of action. In contrast, the impact of the duration of illness on the narration saturation with motivated actions is negative. Thus, the longer the illness, the less frequent the use of references to motivated actions in the narrations. Duration of illness affects the describing the actions including their motivation stronger than the age of the subject. Demographic and course of the illness related characteristics have no significant effect on other – specific patterns of activity.

## Discussion

Healthy subjects, compared with patients with schizophrenia appear to be less likely to refer to the motivation in activity descriptions included in the narrations. In this study, the means of motivation patterns in the narrations are 10-14%, while similar studies on healthy subjects showed results at the level of 20-30% [13]. This is quite an evident result in relation to the motivational deficit in schizophrenia, widely discussed in publications, which results in negative symptoms (including lowered activity) and anhedonia [25, 26]. In the search for detailed nature of deficits in motivation, a reduction of goal oriented behaviour is described, problems with executive functions such as reaction selection, initiating activity, maintaining and changing activity programs, which are connected with disturbances in the functioning of the prefrontal cortex [25]. The aim of this study was to search for a detailed nature of activity disorder at the level of narrative identity, i.e. patterns of activity included in the story about oneself and their life. The importance of individual perspective included in the autonarration, which affects the motivation for action is emphasized [27]. On one hand, patients seem to pay less attention to motivation than healthy people, on the other hand, in stories about themselves after getting ill there are more motivational patterns than in stories about themselves as healthy individuals. Furthermore, the frequency of referring to external sources of action control is increasing as well as actions motivated internally. This seems to be contradictory, however, connections of text form are important, i.e. it's saturation with descriptions of motivated actions and content. It

turns out that in descriptions of events after the psychotic crisis internally motivated action primarily expresses claims about desires and attempts to cope with the illness such as: “I want to be like before”, “I prefer not to remember this period”, “I’m trying not to listen to voices”, “I’m trying to be sociable”. However, extrinsic locus of control refers to descriptions of failures in coping with symptoms (e.g., “I cannot force myself to get up”, “I have to take medication”, “I cannot get rid of the fear”) and the deterioration of social skills (e.g., “I cannot be the same again”, “I cannot talk to people”, “I should go out to people”). Thus, the narration about the illness and the living with it has a higher saturation with motivational patterns, which may be connected with awareness of motivational deficits and declaring attempts of coping with it rather than taking motivated and organized more frequently. This awareness is important as well as claims for coping attempts. They can be the starting point for psychotherapy focused on internal motivation strengthening, which is connected with personality traits, metaknowledge about oneself and which reduces negative symptoms in schizophrenia [28-30].

This study shows that in narrations describing the period after a psychotic crisis, avoidance pattern referring to the avoidance of failures, threats, their own fears, resentment, defensive posture appears to be more frequent [31]. Therefore, people suffering from schizophrenia often begin to avoid failures rather than to pursuit of target in comparison to the period before the illness. In contrast, focusing on pursuit is independent of the narration content. In relation to actions motivated by positive goals it can be concluded that there are differences between healthy and ill subjects. In this study, the level of pursuit description was 13-15% of all activity descriptions while for the healthy people it was approximately 22% [13]. This is consistent with the negative symptoms mechanism formation, which emphasizes low reactivity for pleasure, accompanied by reduced behavioural activity of activation system – affecting the “pursuit”. Then the importance is assigned to behavioural inhibition system connected with avoidance [26].

In previous studies on changes in self-image, the authors pointed to the phenomenon of self-esteem breakdown, negative perceptions of life experiences after the onset of the illness, which is associated with modifications at the level of narration content [12]. Results of this study indicate the changes of self-image in deep layers of the narration – the identity characterized by patterns of activity. The system of activity patterns can infer the reduction in sense of their own authorship in the period after the onset of the illness, which is manifested by focusing on avoidance patterns, external and internal action control and overall motivation for trying to cope with the symptoms. Differences in the use of nominalizations, an impersonal form and descriptions of pursuits were not statistically significant. The most common nominalizations were different denotation of the illness and its symptoms. Hence the hypothesis that in the descriptions of the illness experience (and not the whole life after falling ill) patterns of impersonal action control will be dominant, was made.

Only motivation pattern, out of all the examined activity pattern (related to references to general motivation in the narration) is influenced by demographic characteristics and characteristics of the illness course, such as age and the duration of illness.

The older the patients, the more often they refer to descriptions of motivation in narrations. In contrast, the longer they suffer from the illness, the less frequently they use modal operators in their stories. This can be explained by more severe motivation deficits in people who suffer longer. In contrast, greater motivation involvement in activity descriptions of elderly people is quite surprising. Perhaps this is related to greater self-awareness and self-narration richness – because of the diversity of life experiences. The fact that none of the detailed patterns of activity was affected by demographic variables as well as variables describing the course of the illness, indicates their personal and individual character as characteristics of identities. They are determined by individual experience and personal way of giving meanings to them rather than by the general characteristics such as age, gender, duration of the illness or number of hospitalizations.

### Conclusions

1. Change of self-image after psychotic experience refers to deeper layers of narration, i.e. patterns of actions hidden in relation of narrative form and its content. After falling ill motivation for action becomes more important: intrinsic locus of control connected with attempts of coping with the illness and extrinsic locus of action control connected with the decreased sense of authorship in relation to symptoms experiencing and reduction of social competence.
2. The dominant pattern is to avoid the action.
3. No greater saturation with impersonal action control was demonstrated. There is a resulting hypothesis of increased impersonal action control only in relation to descriptions of the experience of being ill, the emergence of symptoms, neglecting other events in this period of life such as treatment and therapy.
4. With age, people with schizophrenia more often refer to motivation in the descriptions of activity. In contrast, the longer the illness, the smaller the importance of motivation in the narration.
5. Patterns of activity related to its particular characteristics: the location of sources of action control, direction of motivation and impersonal action control are not related to demographic characteristics and the course of the illness. As the identity characteristics, they seem to depend more on individual experiences and a personal way of giving meanings to them.

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