JPNU
scientific journal

PSYCHOLINGUISTIC CHARACTERISTICS OF AUTISTS AND THEIR PROTOTYPES IN AMERICAN CINEMA DISCOURSE (BASED ON THE FILMS *RAIN MAN* AND *THE REAL RAIN MAN*)

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Abstract. The article focuses on the study of the main characteristics of people with autistic spectrum disorders. The comparison between the famous American savant, Kim Peek, and his prototype in the American cinema discourse has been made on the basis of the films *Rain Man* and *The Real Rain Man*. With the help of psychographological analysis, the speech of the man and his fictional prototype has been examined. The analysis showed that the difference between the two persons is indubitable, which can be explained by the fact that the savant syndrome was caused by different disorders.

Keywords: psycholinguistics, autism, savant, American cinema discourse, psychographological analysis.

1. INTRODUCTION

Autism is one of the problems that are rarely discussed but often stereotyped in public; these people are often ignored and forgotten in society. Among the most prominent scientific researches of our country focused on this issue are the works of Tetiana Skypnyk and Iryna Mamaichuk, who concentrate on examining specific features of autists. Nevertheless, these studies remain unavailable for the general public. One of the most effective means of dealing with stereotypes about this disorder might be cinema discourse. It can positively contribute to spreading information about autism and certain behavioral patterns of people with autistic spectrum disorders. Unfortunately, in Ukraine such activity is limited to production of documentaries, which contain only interviews with parents of autistic children. Although in April, 2013, the *1+1 TV channel* produced series of special reports *Beyond oneself* («Вихід із себе») dedicated to the problem under the study, it is only a small step in the process of educating the Ukrainians about this disorder. To improve methods of informing people, it would be reasonable to follow the example of other countries, namely the USA, where the issue of developmental delay is being studied by numerous researchers and is discussed in mass media. Taking into account the popularity of this topic in various discourses, there may appear some doubts about the credibility of portraying people with disabilities on the screen or in a literary work as there exist many stereotypes about this issue.

The aim of out paper is to study psycholinguistic characteristics of autists and their prototypes in American cinema discourse. This problem is not new to our country, but we lack proper investigation of this disorder and its appropriate coverage in media, which proves its topicality.

The main objectives of this research are to create a psycholinguistic portrait of a person with autistic spectrum disorders; to analyze psycholinguistic features of the fictional character, Raymond Babbitt, and to compare it with the real prototype, Kim Peek; using the obtained results, to evaluate the credibility of depicting people with autistic spectrum disorders in cinema discourse.

This study is based on two movies, namely *Rain Man*, a 1988 drama film directed by Barry Levinson depicting an autistic savant Raymond Babbitt, and *The Real Rain Man*, a 2006 documentary created by Focus Production.

To conduct an accurate research it is reasonable to apply the methods of *analysis* and *synthesis* in order to create a complete portrayal of people with developmental disorders based upon isolated features; and the *method of psycholinguistic text analysis* to examine speech peculiarities and psychical reasons for their formation

2. FINDINGS AND DISCUSSION

Autism (Greek *"autos"* — «self»; autism — «an isolated self») – is a neurodevelopmental disorder characterized by problems with social interaction, verbal and non-verbal communication. It affects a person's language skills, ability to take part in imaginative play, and causes a tendency toward various types of repetitive activities and fixated interests. Autism individual symptoms can be divided into three major groups: communication, social interaction and emotional disorders [4].

The first group is manifested in problems with verbal and non-verbal communication. Children with autism have poor vocabulary. They cannot establish the logical connection between a word and its denotation and, as a result, are able to remember only those words that have clear sense. Figurative language and implicit meanings also appear to be hard for them to understand. These children cannot initiate or sustain a conversation and instead of sharing their thoughts would rather repeat others' words or use indistinctive phrases or sounds to respond. Trying to avoid excessive attention, they might pretend to be deaf or keep silence for a while. A few tendencies can be distinguished in the behavior of adults with autism: inclination to isolation and taciturnity, relative activity, passiveness, friendliness and a sufficient level of language development [1].

Social interaction disorders become apparent in the absence of reaction to every-day objects or events, avoiding eye-contact, speaking too loud or too fast. Children with autism communicate with parents or peers only to get something or find out some certain information. They may have good memory for names or other trivial information, but they cannot discuss a topic in depth and usually keep up only those conversations that are interesting for them. They have difficulty with understanding what is socially appropriate in each given situation and, as a result, might use improper language or make impolite statements. People with autism have difficulty with physical contact, like handshake or patting on the shoulder, especially when communicating with strangers [1].

Emotions of autistic people are very unstable. They can be extremely calm or excessively active. Sharp changes in the environment may cause discomfort, anxiety, or stress. Children with autism fear new objects or people; they feel difficulty with adapting to a new situation. People with autism also have problems in recognizing and identifying complex emotions of others; however, simple basic emotions like fear, happiness, sadness cause no difficulties. Sometimes they behave quite egoistically neglecting others' feelings, ideas, or needs. These people often act like perfectionists, which means they do not like to make mistakes and get upset or depressed if anything goes wrong [4].

Another characteristic feature of autists is their behavioral model, a so-called stereotyped behavior. It means that a person repeats certain words or movements unconsciously. The most typical stereotypies are body rocking, snapping fingers, head banging, marching in place and others. There are also verbal stereotypies that include repeating certain sounds, words or utterances. Most autists live

according to a strict schedule and stick to certain everyday "rituals", for example, repeating certain actions before having meal, going out or going to bed. In general, the mobility of people with autism is quite limited which is manifested in the awkward behavior and repetitive movements [4].

Sometimes autism is accompanied by mental retardation, though usually children with autism have no deviation from brain development. In special cases, these people may demonstrate exceptional abilities in one or several spheres. This phenomenon is called *savant syndrome* (Fr. *savant* — «learned, clever»). It is a very rare syndrome and only one in ten people with autism may have such an "island of genius" [6]. The most typical savant skills can be found in five major categories: art, music, calendar calculating, mathematics and mechanical or spatial skills.

The most famous savant was an American, Kim Peek. He was called a "living encyclopedia", a "walking GPS" and known as a "megasavant" for his extraordinary memory and erudition. He remembered the content of about 8,600 books, area and zip codes, television stations and telephone networks of each American city; he had exquisite knowledge of geography, music, literature, history, sports, and other nine areas of expertise. It was he who became an inspiration for the movie *Rain Man*. The director decided to create a story about an autistic savant who lives in a special institution and learns how to socialize. To make the story more comprehensible, the film creators made some changes in the diagnosis, and, thus, the main character's savant syndrome was entailed by autistic spectrum disorders. Unlike the screen character, Kim Peek's savant skills were caused by FG syndrome. This syndrome is characterized by the absence of social interaction problems, but includes significant mental retardation. The substitution of the disease in the film story can be explained by the fact that autism is more familiar to an average audience, but this caused some contradiction between the character and its prototype.

The main character in the movie is portrayed by Dustin Hoffman. To understand a person with autism better, the actor met Kim Peek and spent a day with the famous savant imitating all his movements. Due to this experience, Dustin Hoffman managed to create a believable and true image of the main character, Raymond Babbitt.

The movie *Rain Man* occupies a special place in the American cinema discourse. According to Darold Treffert, this film "in its first 101 days, accomplished more toward bringing savant syndrome to public attention than all the efforts in the 101 years following Dr. Down's 1887 description of the disorder" [6]. This fact proves the significance of the film both for directors who want to develop the topic in cinema discourse and scientists who want to spread the information among larger audiences. Hereby, this movie is important for examination of portraying people with autism on the screen in order to study the veracity of the fictional character with a disorder.

Raymond Babbitt has all extralinguistic traits peculiar to autistic savants. He is offish, silent, and passive. Raymond spends each day according to a certain schedule. He gets acquainted with new people with difficulty and cannot adapt to any changes in his everyday schedule or environment. When the usual order of his day changes, he feels much stress and starts repeating the passage from his favorite film, which helps him to calm down. In some cases, when changes evoke unpleasant memories or sore associations, Raymond starts screaming or striking himself on the head in order to get rid of the irritant or to avoid following some orders. His general psychic development corresponds to that of a child of the junior school age. Nevertheless, Raymond, as well as his prototype, has some exceptional abilities, namely infallible memory and remarkable arithmetic skills [7].

Autistic spectrum disorders influence not only Raymond's behavior and character but also his speech. Thus, to carry out a complete psycholinguistic analysis of the character, it is also necessary to examine his intralinguistic traits.

Psycholinguistics is widely used in text analysis. Unlike linguistics that concentrates on studying language means, psycholinguistics studies language personality, because text creation and perception is the result of an individual's speech and thinking activity [3]. Hereby, we can apply psycholinguistic methods to examine both the behavior and mental abilities of the main character of the drama *Rain Man* in order to create a better understanding of his personality.

Raymond's speech can be characterized by limited vocabulary, uniformity, and a number of different mistakes, namely phonetic, grammatical, and stylistic. Since Dustin Hoffman wanted to portray a person with autism as truly as possible, he made the speech of his character somehow indistinctive by devoicing some sounds, using incorrect stresses, and altering the pronunciation of some words. When he feels uncomfortable or under stress, he starts speaking faster and louder, which serves as an emotional release for him.

Another peculiar feature of the character's speech is the presence of grammatical mistakes. Raymond's speech is spontaneous, uncontrolled; he often repeats some parts of a sentence and stutters. His sentences are incomplete and lack main parts, e. g. *Definitely gonna be a long journey*. The subject and a part of the predicate are missing here, so the correct variant is: *It's definitely going to be a long journey*.

He cannot agree subject and predicate correctly, e.g. *Hot water burn baby.* As the subject is expressed by a singular abstract noun, the predicate should be in singular as well, so this sentence should be written as follows: *Hot water burns baby.*

The correct variant of the sentence *Of course, there's no bookshelves* would be *Of course, there are no bookshelves*, because the subject is expressed by a noun in plural.

Very often Raymond answers in short elliptic sentences, e. g. *Not to touch books. Should be near the window,* which indicates both his irresponsiveness and lack of vocabulary and knowledge of grammar rules.

During the whole film, Raymond occasionally repeats certain phrases that help him to relax, e. g. *I'm an excellent driver. V-E-R-N. Vern, my main man. Uh-oh.* Though they have little sense, they perform a necessary emotive function and are relative to the situation, which helps us to understand the character's actions better.

The use of stylistic devices is limited to quotes from favorite TV shows, e. g. the comic passage from the sketch performed by Bud Abbott and Lou Costello about baseball: *Then who's playing first. – Yes. – I mean the fellow's name on first base. – Who. – The fellow playing first base for St. Louis. – Who. – What are you asking me for?* This fragment consists of a humorous play of words, but Raymond does not understand it. He repeats it because of the off-screen laughter, which indicates that the situation is comical, and the fact that he remembers the lines properly. But Raymond does not laugh himself; thus, it means that he cannot comprehend the figurative meaning of the dialogue.

When Raymond tries to describe something on his own, he often makes stylistic mistakes, e. g. *My boxer shorts have my name. It says 'Raymond.'* To avoid some ambiguity and misunderstandings about the subject and the object, it would be better to say: *My name is written on my boxer shorts.* He also uses numerous repetitions of some parts of the sentence that are the most important for him, e. g. *I'm definitely not supposed to be off the grounds for more than two hours. Definitely have to be back in two hours. Have to be back in two hours.* In such a way he emphasizes his needs or wishes or makes a request.

Although Raymond's speech contains many mistakes, it describes the character's feelings and emotions better that anything else, because each word has a certain affective component. In order to examine this implicit information, it is necessary to use methods of psycholinguistic text analysis, namely, the psychographological (psycholinguistic) text analysis. It studies verbal matter of the text by examining such factors as: size of the text, number of sentences and their average size, lexical variety quotient, verb/aggression quotient and embolism quotient. Each of these characteristics describes a person in a different way.

The average size of the sentence helps to evaluate verbal skills of a person and the dynamics of his/her emotional state: the shorter the sentences are, the more emotional the speaker is. For an average English speaker this factor equals approximately 15 words [5, c. 188].

Lexical variety quotient helps to detect possible mental deviations, e. g. schizophrenia, or propensity to such disorders. It also evaluates a person's mental abilities. This quotient is calculated according to the following formula:

$$Q_{\text{lexical variety}} = \frac{N \text{ different words}}{2N \text{ all words}} \times 100\%$$

Verb quotient (or aggression quotient) characterizes emotional tension of the text, the dynamism of the course of events and a person's emotional state. If it is more than 60%, it indicates the high level of excitement and readiness for immediate actions. The formula for calculating this quotient is the following:

$$Q_{verb} = \frac{N \text{ verbs}}{N \text{ all words}} \times 100\%$$

Embolism quotient measures the level of verbal intelligence and a person's emotional state. Emboli are words that have no semantic load. They include different interjections (*oh, ha-ha, ugh*), obscene words and unnecessary repetitions. This quotient characterizes a person's general level of culture, speech habits and etiquette [2, p. 60]. It is calculated by the formula:

$$Q_{embolism} = \frac{N \text{ emboli}}{N \text{ all words}} \times 100\%$$

To compare the speech of Raymond Babbitt and his prototype with the help of psychographological analysis, we used the main character's lines from the film *Rain Man* in the number of 861 words and Kim Peek's lines from the documentary *The Real Rain Man* in the number of 525 words. The results of the analysis are presented in Tab. 1.

Factor	Raymond Babbitt	Kim Peek
1. Size of the text, words	861 words	525 words
2. Size of the text, sentences	178 sentences	77 sentences
3. Average size of the sentence	4.8 words	6.8 words
4. Lexical variety quotient, according to the formula	16.8%	24%
5. Verb quotient, according to the formula	23.1%	24.8%
6. Embolism quotient, according to the formula	3.1%	1.3%

Tab. 1. Psycholinguistic analysis of Raymond Babbitt's and Kim Peek's speeches

As we can see from the table, there is a visible difference between savants whose exceptional abilities were caused by autism and by FG syndrome.

The Raymond Babbitt's average size of sentences equals 4.8 words, which means that he uses short sentences that usually consist of interjections or separate phrases. It shows the high level of his emotional sensitivity, his intent to express different shades of emotions and dynamism of the speech. Kim Peek expresses his thoughts more thoughtfully, in detail, though his factor is about two times below the normal.

Lexical variety quotient of the fictional character is 7.2% less than that of his prototype. This difference shows that the film creators diminished the character's intelligence paying more attention to extralinguistic features of savants rather than to their speech characteristics.

The level of hidden aggressiveness is low in both cases, though Kim Peek has a bit higher rate than his fictional prototype. It can be explained due to the fact that real savants are more unpredictable and often fall under the influence of the situation, other people and their own emotions; their feelings change more rapidly. Different things may cause different reactions of savants, and it is hard to predict their actions, while in a movie script writers can control these processes and possible consequences.

Raymond's embolism quotient is 1.8% more than that of his prototype. This characterizes the character's manners and etiquette quite negatively. It means that Raymond's speech is full of

meaningless words, like interjections or unnecessary repetitions which perform mainly emotional function and emphasize the low level of his verbal intelligence. Such a tendency may distort the audience's idea about people with savant syndrome and autism, their mental abilities and behavior.

3. CONCLUSIONS

In this research we studied the notion of autism and savant syndrome, and the main characteristics of people with autistic spectrum disorders. The comparison between a savant and his prototype in the American discourse was made on the basis of the films *Rain Man* and *The Real Rain Man* that both show the life of the famous American savant, Kim Peek. With the help of psychographological analysis, we examined the speech of the man and his fictional prototype. The analysis showed that the filmmaker managed to create a credible image of a person with savant syndrome, but the difference between the two persons is indubitable. The main reason is that the savant syndrome was caused by different disorders (Raymond Babbitt was an autistic savant and Kim Peek had FG syndrome), thus the characters have differences in behavior, mental abilities and actions. Raymond Babbitt has lower intelligence and culture levels; he cannot distinctively express himself and effectively communicate with other people. He is more aloof and has considerable difficulties with social interaction. On the contrary, his prototype has fewer problems with socialization and shows remarkable intelligence. This fact negatively affects people's idea of the real prototype, Kim Peek, and all savants in general.

Despite the present mistakes in creating a fictional character with savant syndrome, the film *Rain Man* is very important for informing people about autism spectrum disorders and spreading this information among larger audiences. The fact that it was dubbed into many languages, including Ukrainian, contributed to its popularization in many countries and among people of various social classes. In the future, the idea of this film could be used as a ground for creating a movie about savant syndrome and/or autism in Ukraine or for educational courses and books dedicated to this issue.

REFERENCES

[1]   Gilberg K., Peters T. *Autism: Medical and Pedagogical Aspects.* Deryaeva O.V. (Translated from English), Shypitsyna L. (Ed.) M. ISPP, SPb, 1998. Available at: http://www.autism.ru/read.asp?id=61&vol=0 (In Russian).

[2]   Zasyekina L.V., Zasyekin S.V. *Introduction to Psycholinguistics.* National University «Ostroh Academy» Publishing House, Ostroh 2002. (In Ukrainian).

[3]   Zor'kina O.S. On Psycholinguistic Approach to the Study of a Text. *Language and Culture.* Novosibirsk, 2003, 205-210. Available at: http://www.philology.ru/linguistics1/zorkina-03.htm (in Russian)

[4]   Mamaychuk I.I. Psychologist's Aid for the Autistic Children. Rech', SPb, 2007. Available at: http://ibib.ltd.ua/pomosch-psihologa-detyam-autizmom-spb-rech.html (in Russian)

[5]   Kornai A. *Mathematical Linguistics*. Springer, London, 2010.

[6]   Treffert A. Savant Syndrome: An Extraordinary Condition. A synopsis: past, present, future. *Philosophical Transactions of the Royal Society B*. May 27, 2009. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2677584/

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Ікалюк *Л.М.*, Кузьмин *О.В.* Психолінгвістична характеристика аутистів і їхніх прототипів в американському кінодискурсі (на матеріалі фільмів «Rain Man» і «The Real Rain Man»). *Журнал Прикарпатського університету імені Василя Стефаника*, **2** (2) (2015), 87–93.

Стаття присвячена вивченню основних характеристик людей з розладами аутичного спектра. Здійснено порівняння між відомим американським савантом Кімом Піком та його прототипом в американському кінодискурсі на матеріалі фільмів «Rain Man» і «The Real Rain Man». За допомогою психографологічного аналізу досліджено мовлення саванта та його прототипу. Аналіз показав безперечну різницю між двома героями, що можна пояснити різними причинами виникнення синдрому саванта

Ключові слова: психолінгвістика, аутизм, савант, американський кінодискурс, психографологічний аналіз.