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Models of Generation of Statements of Various Genre Types According to Data of Early Speech Ontogenesis: Imperative vs. Informative Genres



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SUMMARY

- We have obtained computational models for different types of speech genres.
- Only non-linguistic parameters of the statement are used in the analysis.
- Here we compare the models of production of **imperative** and **informative** genres by children of the 2nd year of life.
- The differences between these two models are primarily related to motivational complexes that determine the production of speech.

INTRODUCTION

Speech is the most complex socio-communicative and intrapsychic phenomenon.

It is required to obtain models of non-linguistic constituents for statements of different genre types.

The **problem of the intentionality** of speech is connected, first of all, with the theory of needs - motives - goals of speech.

We identified 11 types of needs that form the motivational basis of speech activity in their various configurations. Those are: the need for a social being; the need for attention; the need for positioning; the need for information, and some others.

APPROACH

This study of **non-linguistic parameters** of statement is conducted in line with psychological theory and neurocognitive data on the difference between speech and language processes [1, 2].

In addition to communicative needs, such components as gender, type of addressee (human or anthropomorphic object/animal), type of situation (natural communication or game), communicative status of the speaker, initiative or response speech behavior, speech reflection were analyzed.

The parameters of language behavior are presented, but are not analyzed here.

Malanchuk I.G. Speech as a mental process. Krasnoyarsk, 2009.

Malanchuk I.G., Orlov V.A. et al. // Hum. Physiol. 2023. V.49(3)

METHODS

- 1) Primary psychological analysis of a sample of more than 300 statements of children of the 2nd year of life. The full list of analysis parameters is presented in the caption to Figure 1.
- 2) Multinomial logistic regression for qualitative data on speech genres that have more than 3 values in the sample: imperatives, informative, expressive and ritual genres. Evaluative genres are rare for this age, a speech generation model has not been built for them.

RESULTS

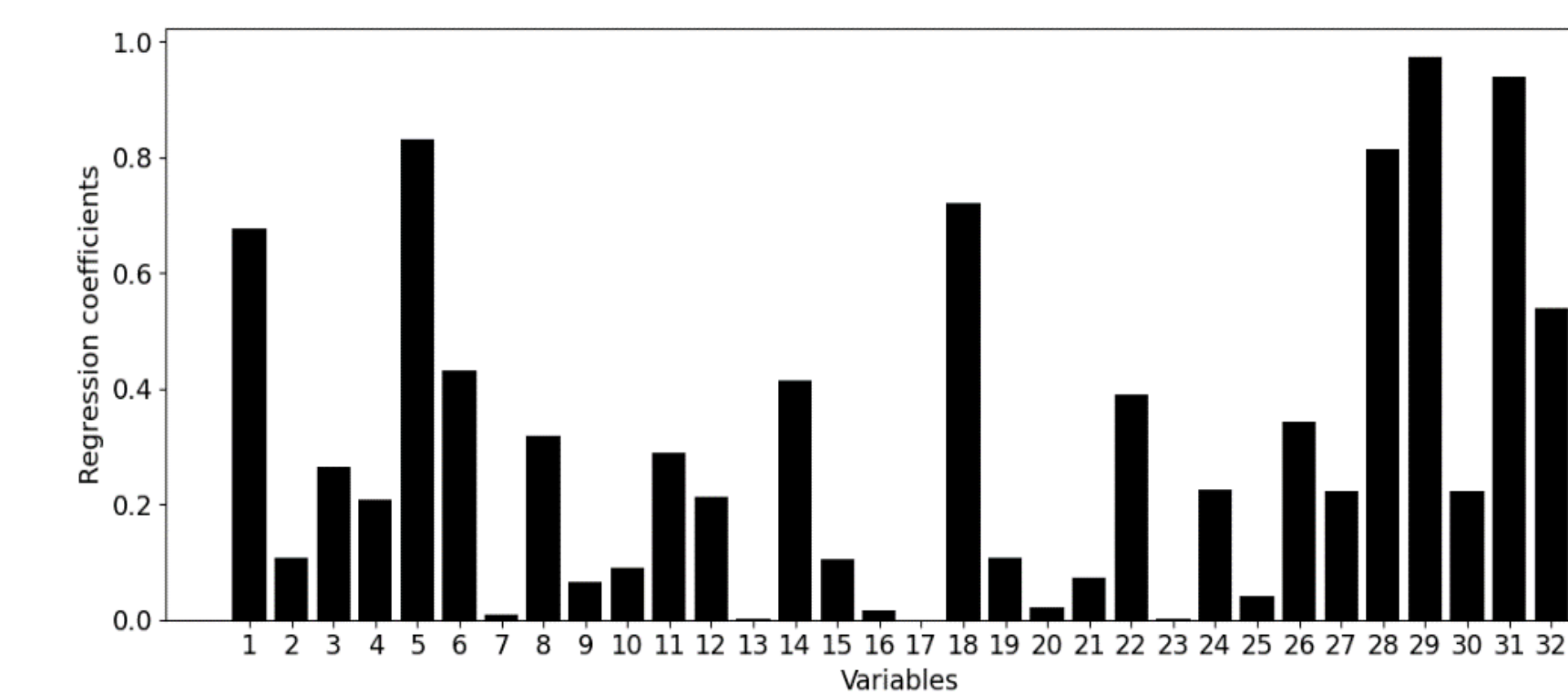


Fig. 1. The model of producing imperative statements: second year of life. The contribution of independent variables 1-32 to the production of imperative statements. The values of the coefficients in the figure are given modulo. Variables: 1 – gender, 2 – type of addressee, 3 – communicative status of the speaker, 4 – situation (natural communication / game), 5 – speech behavior (initiative / response), 6 – language errors, 7 – speech errors, 8 – logical errors, 9 – communication errors (pragmatics), 10 – communication errors (communicative level), 11 – communication errors (semantics), 12 – automatism / lack of automatism, 13 – language reflection (phonetics), 14 – language reflection (vocabulary), 15 – language reflection (word formation), 16 – language reflection (syntax), 17 – language reflection (grammar in the aspect of inflection), 18 – reflection of speech strategy, 19 – speech genre reflection, 20 – reflection of communicative rules, 21 – reflection of the content of the statement, 22 – the need for a social being, 23 – the need for attention, 24 – the need for positioning, 25 – the need for information, 26 – the need for a material object, 27 – the need to prevent potential damage, 28 – the need to change one's emotional state, 29 – the need to change an objective situation, including social reality, 30 – the need to express one's state / thought, 31 – the need for cooperation, support, 32 – the need for identification.

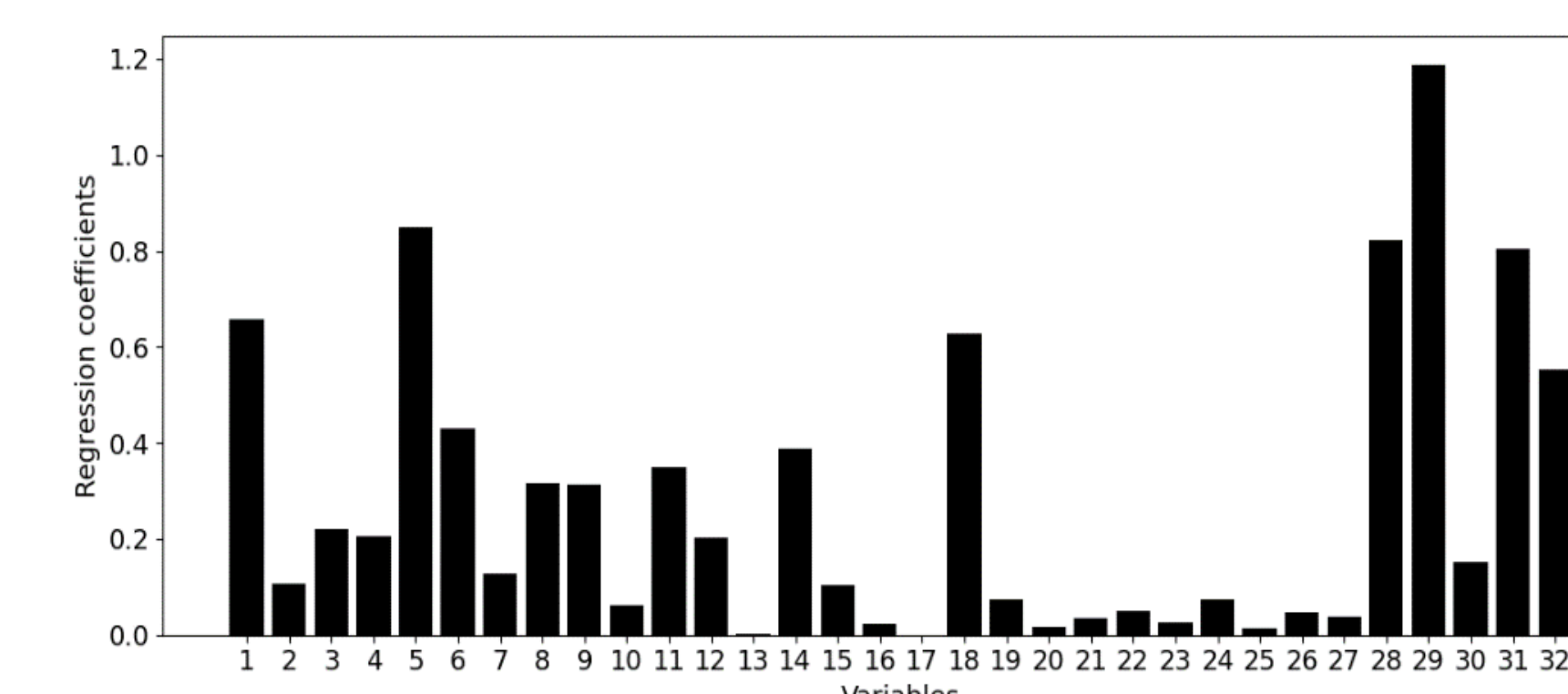


Fig. 2. Model of producing informative statements (second year of life). The contribution of independent variables 1-32 (see the caption to Fig. 1) in the production of informative statements. The values of the coefficients in the figure are given modulo.

ANALYSIS

The first data on non-linguistic constituents of statements of two genre types - imperatives and informatives have been obtained.

General needs-constituents: the need to change the objective situation (0.97/1.19); the need for cooperation, support (0.94/0.81); the need to change one's emotional state (0.81/0.82); the need for identification (0.54/0.55).

The widest range of needs is characteristic of imperative genres.

Other non-linguistic features: reflection of speech strategy (0.72/0.63); addressee type (human + autocommunication / non-human + anthropomorphic addressees) (0.11/0.11); initiative/response speech behavior (-0.83/-0.85); gender (-0.68/-0.66); speaker's communicative status (-0.26/-0.22); a situation of natural communication/play (-0.21/-0.21).

DISCUSSION

There is a significant similarity of speech communication systems in girls and boys in the 2nd year of life.

The data support the idea of a diffuse psychological boundary due to its lack of formation in natural communication and play.

Reflection of the speech strategy in terms of the success/failure of the genre increases the possibility of more accurate categorization of statements in genre sub-samples.

The tendency to take into account the type of addressee is associated with the adaptation of the basic cognitive-communicative scheme to different types of addressees and the choice of the optimal signal system.

CONCLUSIONS

- The key topic of empirical speech research is the assessment of the contribution of non-linguistic factors to the production of speech genres.
- The data of regression analysis using the method of multinomial logistic regression show differences in the systems of formation of imperative and informative speech genres at an early age. In the future, we will present comparative models of other types of genres and analyze the dynamics of systems of constituents of speech as speech throughout the early ontosocio-genesis.
- The socio-cognitive content of communication, its recognition in the forms of speech and language is significant for the development of age-specific artificial intelligence.

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